



City of Salem Open Space and Recreation Plan Update 2007 - 2012



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Contents

01. Plan Summary	4
02. Introduction	8
2.1 Statement of Purpose	8
2.2 Planning Process and Public Participation	9
03. Community Setting	14
3.1 Regional Context	14
3.2 History	15
3.3 Population Characteristics	18
3.4 Growth and Development Patterns	23
04. Environmental Analysis	34
4.1 Geology, Soils, and Topography	34
4.2 Landscape Character	37
4.3 Water Resources	39
4.4 Vegetation	41
4.5 Fisheries and Wildlife	42
4.6 Scenic Resources and Unique Environments	45
4.7 Environmental Challenges	47
05. Inventory of Lands of Conservation and Recreation Interest	52
5.1 Types of Open Space and Recreation Land Protection	53
5.2 Inventory of Lands	54
06. Community Goals	70
6.1 Description of Process	70
6.2 Statement of Open Space and Recreation Goals	71
07. Analysis of Needs	74
7.1 Summary of Resource Protection Needs	74
7.2 Summary of Community's Needs	75
7.3 Management Needs – Potential Change of Use	76

08. Goals and Objectives	86
8.1 Vision Statement and Open Space and Recreation Goals and Objectives	86
09. Five Year Action Plan	90
9.1 Introduction	90
9.2 Five Year Action Plan	91
10. Public Comments	108
11. References	117

Appendices

A. ADA Policies

B. Community Development

C. Source Documents

A photograph of a paved path in a park. The path is made of light-colored concrete or asphalt and is flanked by green grass. Large, dark shadows of trees are cast across the path, suggesting a sunny day. In the background, more trees and a fence are visible.

Section 1

Plan Summary

*Photo Courtesy of Salem Planning and
Community Development*

Plan Summary

The City of Salem is a highly developed and densely populated community with an interesting array of open spaces and parks remaining within its borders and limited direct access to open space resources in adjacent municipalities. The need to improve and upgrade park facilities, and preserve and protect existing open spaces is widely recognized and deeply felt by Salem residents.

Changing demographics in Salem over the past decade have altered the needs for and demands on limited public resources for outdoor recreation, physical fitness and sports, such as playing fields, playgrounds, and other active and passive recreational facilities.

The City faces serious management, staffing and financial challenges to address these diverse needs for conservation land, parks, playgrounds and outdoor sports facilities. Although some progress has been made over the past five years to enhance several key sites, and a couple of volunteer Friends groups have been formed to advocate and raise funds for specific parks, it is recognized that more efforts to supplement City resources are needed. However, the City also needs to develop a stronger open space management program and incorporate regionwide solutions, where feasible, to meet the competing demands of many different constituencies.

This document is Salem's first Open Space and Recreation Plan since 1996. It presents an updated inventory of Salem's open spaces, documents open space and recreation needs, and establishes an ambitious program to expand and modernize its park and recreation system. Overall, this Plan reaffirms Salem's desire to meet the following goals:

1. Maintain public spaces and recreational facilities
2. Protect open spaces
3. Develop and implement a capital improvement program
4. Improve public access and awareness

Salem's open space and park system is a precious and limited resource that has been difficult to acquire and maintain and needs to be protected ardently. This Plan presents open space goals, objectives and actions that will guide Salem's open space and recreation philosophy, planning, improvement, maintenance, and management through 2012.



Salem Common
Photo Courtesy of Salem Planning and Community Development



Springtime on the Common
Photo Courtesy of Salem Planning and Community Development

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



Section 2

Introduction

Salem Common
*Photo Courtesy of Salem Planning and
Community Development*

Introduction

2.1 Statement of Purpose



Salem Common
Photo Courtesy of Salem Planning and Community Development

In this Plan, “open space” was defined as “publicly or privately-owned parks, forests, trails, playgrounds, and fields of significant size owned and managed for recreation, agriculture, or conservation uses.” Additionally some special landscaped areas (e.g. near St. Mary’s on Hawthorn Blvd.) are included in this definition.

Salem’s 2007 Open Space and Recreation Plan is an update of the 1996 Plan and comes at a time when the City’s park and recreational facilities are facing increasing use to meet the demands of City residents. This updated Plan will assist Salem in making intelligent decisions about its future open space and recreation policies, particularly with respect to maintenance and enhancement of existing facilities. The purpose of this Plan is to make those decisions clear and prioritize them relative to the City’s needs. This document is dynamic and meant to affect change in Salem.

Salem’s first Open Space and Recreation Plan was prepared for the Conservation Commission in 1973 and focused especially on an environmental inventory. The Community Development Master Plan of 1979 included a detailed and extensive section on the environment (including recreation) and numerous recommendations. Many of the recommendations of these two previous Plans have been carried out, particularly the addition of land to the Forest River Conservation Area and the park and playground improvement program. Some recommendations remain on the City’s agenda, awaiting the convergence of opportunity and funding. The 1996 Open Space and Recreation Plan was prepared to conform with the requirements set forth at that time by the Division of Conservation Services (DCS), which have since been updated. It was a detailed Plan that provided information on demographics, land use, environmental analysis, recreation and community needs, and a matrix of all open space and recreational facilities in the City. It included a five-year action plan.

This Plan uses the information from the 1996 Plan and substantially updates it in conformance with the revised Open Space Planners Workbook. Although this 2007 Plan recommends specific actions, its flexibility accommodates a realistic and practical approach to preserving, enhancing, and expanding the City’s open space and recreational resources. Thus, the contents of this Plan include an updated and revised inventory of open space parcels, an open space and recreation strategy in the new five-year action plan, an implementable program for administering and achieving the Plan’s goals and objectives, and a prioritization of those recommendations.

The City of Salem has many valuable existing open space and recreation and natural resource areas spread throughout the community. Natural habitats, coastal areas and their contribution to biodiversity of plant life and wildlife, and numerous open spaces and recreational areas all characterize a unique setting for Salem. The purpose of this Open Space and Recreation Plan update is to:

- ☞ Utilize the Salem Open Space and Recreation Plan from 1996-2001 and update its information to create a document that outlines a five-year plan of action with the City agencies and Salem's community organizations for the protection, care taking, and enhancement of its park facilities and other open space,
- ☞ Make the City eligible for Self Help and Urban Self Help funding from the Commonwealth,
- ☞ Increase awareness and educate residents who live in Salem and other nearby communities about the open space and recreation amenities and needs that exist, and
- ☞ Formulate a stronger community base that will take charge of administering and implementing the Open Space and Recreation Plan and sustain a commitment to the protection and enhancement of the City's open space and recreation resources.

The Open Space and Recreation Plan is organized to provide an overall baseline of information regarding what physical resources exist in Salem regarding properties, facilities and infrastructure. The Plan also discusses the organizational structure of Salem (for maintenance, management, and overall decision-making related to open space and recreation) and serves as an informational resource that inventories and describes resources, opportunities and challenges. Salem should consider this Open Space and Recreation Plan a blueprint to follow for the next five years that will help the City attain some of its goals and objectives regarding open space and natural resources.

2.2 Planning Process and Public Participation



Ralph Willmer giving a presentation during the first Public Forum in January 2007

Vanasse Hangen Brustlin, Inc. (VHB), the consultant selected to prepare this plan, worked closely with the Salem community throughout this planning process. Ralph Willmer, AICP served as Project Manager for the revised and updated plan. Monthly meetings were held with the Open Space and Recreation Committee, which consisted of local residents and members of: the City Council, Park and Recreation Commission, Conservation Commission, and environmental and park advocacy organizations. The Open Space and Recreation Committee was staffed by Carey Duques of the Planning and Community Development Department. A site visit and "community immersion day" was conducted in November 2006 during which VHB staff spent a morning with committee members and City staff touring the community and taking photographs of key open space, playgrounds,

fields and natural resource areas. Meetings were held with relevant City staff members and key stakeholders.

Two public forums were held – the first on January 8, 2007 and the second on May 14, 2007 at the City Hall Annex to inform residents about the project and to discuss goals and objectives regarding open space and recreation opportunities in Salem.

The first draft of the Open Space and Recreation Plan was presented to the Committee in June of 2007. The committee reviewed the plan and provided comments on what additional information should be gathered and they helped define what some of the unidentified open space on the maps was.

The update of the Salem Open Space and Recreation Plan was a collaborative effort that focused heavily on how best to implement the Plan. Moving forward, residents and visitors will have numerous open space and recreation opportunities to look forward to as this Plan is implemented.



Scenes from the two Public Forums held while compiling the Plan

Section 3



Community Setting

*Photo Courtesy of Salem Planning and
Community Development*

Community Setting

3.1 Regional Context

Salem, a city of 8.1 square miles in area, is located in Essex County, approximately 16 miles northeast of Boston. It is one of the oldest urban centers on the North Shore, a sub region of the greater Boston area which stretches along the coast from the Mystic to the Merrimack Rivers. Salem is bordered on the north by the Danvers River, Beverly Harbor and the City of Beverly beyond. The eastern shore of Salem faces the Beverly and Salem Harbors and the Town of Marblehead. The southern land boundary of Salem abuts the towns of Marblehead and Swampscott and the City of Lynn. To the west is the City of Peabody.

Salem is a member of the North Shore Task Force, one of eight subregions of the regional planning agency, the Metropolitan Area Planning Council (MAPC), collaborating with neighboring communities in open space activities and discussions of regional planning issues and opportunities. The Task Force consists of two representatives from each of the 15 member cities and towns appointed by their respective Mayor or Board of Selectmen. Task Force meetings take place on the second Thursday of each month in a different member community.

Compared to other urban communities in its region, Salem has exceptional open space resources, both in size and quality. The coastal lowlands between Boston and Beverly have been modified in many places to accommodate an almost unbroken expanse of urbanized environments. Salem is lucky to have one of the most significant natural open space interruptions along this densely-occupied coast: the combination of Thompson's Meadow, the Forest River Conservation Area, the coastline itself, and significant portions of the Salem Woods located within Highland Park.

Socioeconomic Context

Salem's residents tend to be less wealthy than residents in many of the surrounding communities, the county and the state. According to the 2000 US Census, nearly 10% of Salem's total population have incomes below poverty. The majority of those living below poverty are adults, under 64, and children. The 2000 US Census reports that the median household income (MHI) in Salem is \$44,033 and ranks 286 out of 351 cities and towns in the Commonwealth, representing a modest decline in state rank since 1990. Of Salem's neighboring communities only one has a lower MHI than Salem, Lynn's MHI stood at \$37,264 in 2000. Salem's other neighbors each had significantly higher MHIs: Peabody - \$54,829, Danvers - \$58,779, Beverly - \$53,984, Swampscott - \$71,089, and Marblehead - \$73,968. The per capita income (PCI) in Salem is \$23,857 again ranks low comparatively, statewide in Massachusetts the PCI is nearly \$2100 above Salem at \$25,952. The same story told with the MHI holds true here. Except for Lynn, all of Salem's neighbors rank above it in PCI.

Salem's unemployment rate of 5.4% is a little above the state average of 4.6%. Comparatively Salem's rate is higher than all but two of its neighboring communities. Both Lynn and Beverly top Salem's rate with 6.2% and 6.9% respectively. Salem's other neighbors come in with much lower numbers as follows: Peabody - 3.8%, Danvers - 3.3%, Swampscott - 2.0%, and Marblehead - 2.1%. (See Table 3.1 Socioeconomic Context)

In addition, the 2000 US Census reports that racial minorities comprise 14.9% of Salem's total population. Hispanics are the largest minority group in Salem today, representing 11.2% of the City's total population and 7.4% of its households, with nearly 48% of this population originating from the Dominican Republic. The Census also reports that 3.2% of the minority population is black and 6.2% is some other race. Of the total population, 11.9% are foreign-born with nearly 50% of this population reporting Latin America as the region of birth.

TABLE 3.1 SOCIOECONOMIC CONTEXT
SOURCE: U.S. CENSUS BUREAU

Town	Median Household Income	Unemployment Rate
Salem	\$44,033	5.4%
Lynn	\$37,264	6.2%
Beverly	\$53,984	6.9%
Peabody	\$54,829	3.8%
Danvers	\$58,779	3.3%
Swampscott	\$71,089	2.0%
Marblehead	\$73,968	2.1%

3.2 History



Salem in 1814
Courtesy of Peabody Essex Museum

Salem’s founding and subsequent history have been strongly marked by its location and environment. Its estuaries provided rich fishing grounds for the Native Americans who made their summer camps in the area. One of the first English settlements in North America, Salem was established in 1626 by a group of colonists from Cape Ann looking for a new site for a fishing station and trading post. Salem is probably most well known as being the site of the witchcraft trials in 1692 that were conducted after three women were accused of being witches.

Plan Summary

Introduction

Community Setting

Environmental Analysis

Inventory of Lands

Community Goals

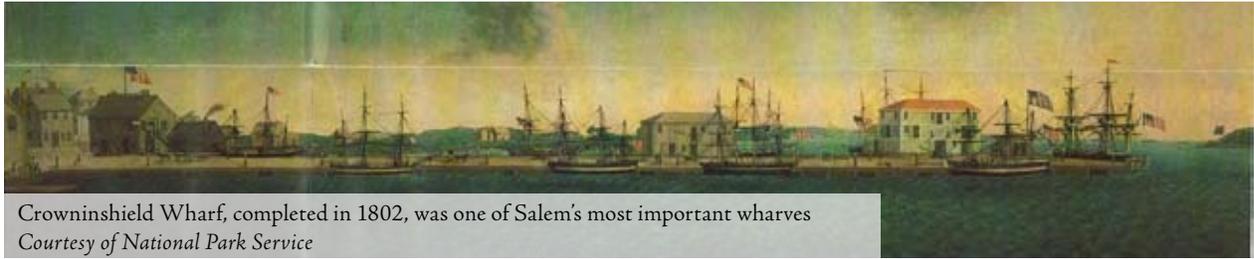
Analysis of Needs

Goals and Objectives

Five Year Action Plan

Public Comments

References



During the seventeenth and eighteenth centuries Salem became a center of fishing, shipbuilding, and trade with the West Indies, the Mediterranean, and East Asia. By the early nineteenth century, the port of Salem was second only to Boston in New England trade volume. Rich merchants built mansions in the Chestnut Street area and around the newly landscaped Common.

Salem's golden age of international trade was permanently disrupted by the War of 1812. In addition, as merchant ships increased in size over the course of the nineteenth century, Salem's shallow inner harbor was unable to accommodate them. Salem residents then turned to industry, succeeding particularly in shoe-making, leather-processing, and textile production. As the City grew in population, residential districts expanded. Immigrant workers lived in cramped tenements along the waterfront and in industrial districts, but in the second half of the nineteenth century more spacious residences extended up North Street in North Salem, along Lafayette Street towards South Salem, and along Bridge Street. Development in the Salem Highlands and the southern part of the city remained very limited. Juniper Point, the oldest residential section of Salem Neck, originated in 1870 with a subdivision of lots for summer cottages.

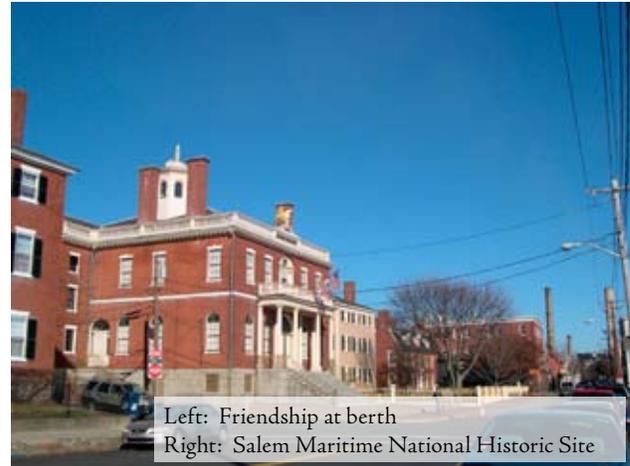


The Great Fire of 1914 accelerated the development of downtown. The fire started with a warehouse explosion in Blubber Hollow and raged until it reached the harbor, incinerating some four hundred businesses, including the Naumkeag Cotton Mill, and nearly three thousand homes. The mansion districts escaped destruction, but millworker housing in the Point and the Lafayette Street area up to Leach and Holly Streets were in ashes. The mills and their housing were quickly rebuilt but the formerly residential district of lower Lafayette Street took on a more commercial character with the construction of hotels, commercial blocks, and auto salesrooms.

Salem's population peaked in the 1930s when it was the business, legal, and retail center of Essex County. Since the decline of rail and the opening of Route 128 in the 1950s, Salem has become one of several centers on the North Shore. The City is known as a tourist destination but still continues to support an industrial sector. In addition to Salem State College, founded in 1854, the City is home to the Peabody Essex Museum, and the Salem Maritime National Historic Site, the first National Historic Site in the National Park System.

In recent years the Park Service has constructed a new visitor center and made improvements to Derby Wharf and other sites. The Salem Maritime National Historic Site, a 9.2 acre site, operated by the National Park Service, (NPS) is comprised of several buildings, including the original Customs House, as well as several wharves and homes. The NPS has restored the wharves and buildings. The tall ship "Friendship", a full size replica of

one of Salem’s historic trading ships, completed in the late 1990s, is berthed at Derby Wharf, the main wharf owned by the NPS. This \$6 million project was 75 percent federally-funded and is expected to become a major cultural attraction and educational tool.



Left: Friendship at berth
Right: Salem Maritime National Historic Site

The NPS will be relocating the historic Pedrick’s Warehouse from Marblehead to Derby Wharf and installing a pile supported dock adjacent to the building, in order to facilitate interpretive display of historic maritime functions. The warehouse will be a 2 ½ story building with an associated dock structure extending over the water. The building will serve as a working rigging loft for the Friendship as well as provide meeting room space for NPS as well as interpretive space for visitors.

In 2002 the Peabody Essex Museum completed Armory Park on the former site of the Armory Head House. The park was dedicated to the veterans of Essex County who have served their country since the first voluntary militia formed in 1629. This site provides Salem with a contemporary interpretation of a traditional New England green. The park utilizes materials and flora indigenous to the area and provides a place for relaxation by residents and tourists alike. Together with the museum’s other project, the Garden Walkway, these two public spaces tie the museum’s facilities together as a whole to the waterfront of Salem.

Early environmental, park and open space history

In Salem’s early history, its coastal location and riverine environment were the keys to the City’s development. However, over the centuries the pressure of increased population and new industrial and transportation-related activities modified the coastline and the extent and configuration of the North and South Rivers. As the City became more densely-populated and industrial, residents created a strong park system.

At the time of colonization, the South River formed a tidal basin and harbor at the present site of Riley Plaza. Over the eighteenth and nineteenth centuries, the tidal basin and the downstream shores of the river were filled to provide land for warehouses, wharves, railroad yards, and a train station until nothing remained of the original river except a short channelized stream which today emerges from a culvert under Lafayette Street near its intersection with Derby Street. The channel originates in the wetlands at Old Mill Pond. The last fill project on the river was completed in 1941.

The North River is one of the oldest industrial rivers in North America and originally had a wide estuary stretching between present Mason and Federal Streets nearly to Pope Street. Industrial pollution made the river so noxious during the nineteenth century that the City dredged and filled the river as part of a sewage system construction project. The North River still flows from its origin in Peabody into Salem, but it is now a narrow, channelized river until it emerges from under the Route 114/North Street overpass into downtown Salem. There

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

remains one naturalized section along Harmony Grove Road.

Salem citizens participated in the public parks movement which emerged as a reaction to intense industrialization in the nineteenth century. Salem Common was the City's first urban park. The swampy pasture was drained and landscaped by public subscription and renamed Washington Square in 1802. Greenlawn Cemetery was laid out in 1807 and Harmony Grove in 1840. This time period also saw the beginnings of Salem as a summer tourist destination. Visitors to Salem were transported by the first rail line to the North Shore. Their end destinations included the Salem Willows Park and also the resort hotels on Salem's islands.

The public parks movement resulted in over 350 acres of public parks created in just a few decades: Salem Willows (1883), Liberty Hill Park (1883, now the Bates School), Ledge Hill/Mack Park (1886), Highland Park (1906), Forest River Park (1907), and Gallows Hill Park (1912). Most of these lands were estates that had escaped subdivision and the City saw the value of preserving them for public use. The City obtained these lands in a variety of ways: the bequest of public-spirited residents, purchase, and eminent domain. For example, Highland Park had been pasture land (Salem Great Pastures) since at least the mid-eighteenth century. The City purchased the land to build the high school, and the remaining land became Highland Park.



Forest River Park
Photos Courtesy of Salem Planning and Community Development

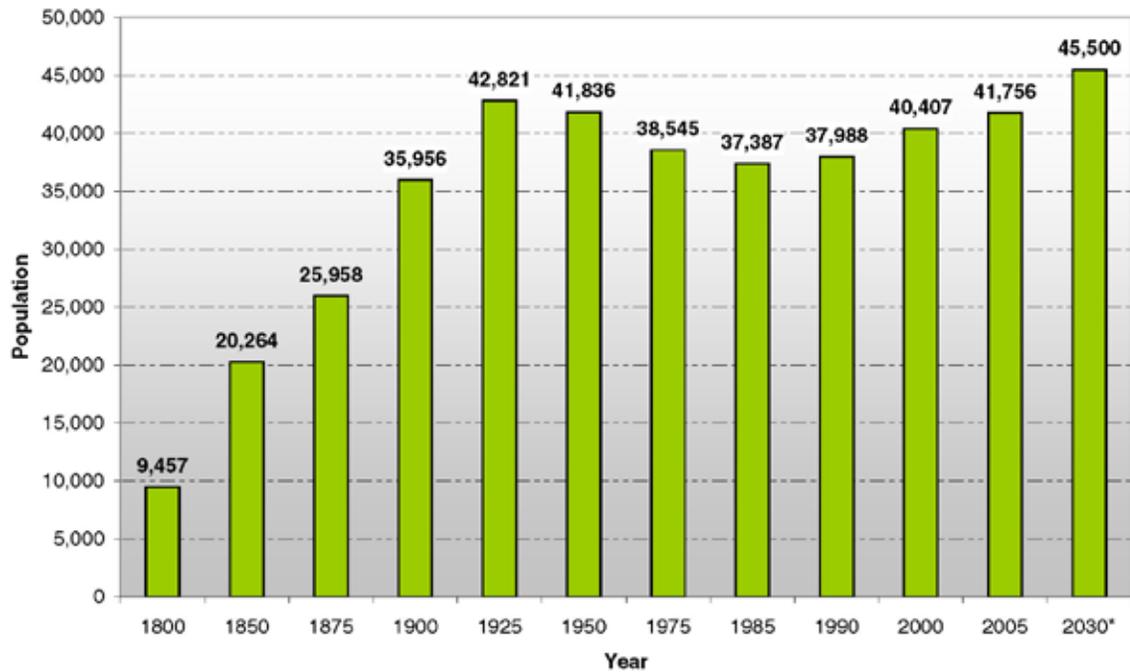


In succeeding years the City continued to add to Salem's park and playground network. Highlights include the opening of the municipal golf course in 1933 and the creation of five neighborhood parks and playgrounds in the 1940s (Pickman, McGlew, Splaine, Juniper Point, and McGrath). Kernwood Marina opened in 1961 and the special playground for handicapped children at the Willows also dates from the sixties. Creation of new parks and playgrounds continued into the 1970s. In recent times this tradition has been carried on in Salem. The addition of Cabot Farm playground, Gonyea Park, and Leslie's Retreat Park are three examples of parks added during the last ten years.

3.3 Population Characteristics

Salem's population reached 36,000 by 1900 and has fluctuated relatively little since. According to the Salem City Census, the population peaked at over 43,000 in the 1930s. By the 1960s the population was approximately 40,000 and began to decline in the 1970s, early 1980s, and the early 1990s. In recent years however, the population has been on an upward swing. Total Salem population at the time of the 2000 U.S. Census was 40,407, an increase of 2,419 people from 1990, approximately a 6 percent increase. The U.S. Census Bureau also estimated the 2005 population at 41,756 people. In addition to all this, MAPC estimates that by 2030 the total population of Salem will reach 45,500. This all means that from 1990 to 2030, a forty year time frame, there is a projected population increase of 7,409 people, or 19.4 percent.

FIGURE 3.1 POPULATION CHANGE 1800 – 2030*
*MAPC ESTIMATE, SEE APPENDIX C FOR SOURCE DOCUMENT



Population distribution and density

As one of the oldest urban centers in the nation, Salem is very densely populated in its historic core: the Historic Districts, downtown, and the Point. Bridge Street Neck, which has many tightly packed two- to four-family buildings, is the next most densely populated area of the city. Where the housing stock is primarily single family or large two-family houses: North Salem, South Salem, and Witchcraft Heights, the population density is correspondingly lower. Finally, the southwestern and south central parts of the City, which contain extensive open spaces and areas unsuitable for development, have the lowest overall population densities in Salem.

Sex and age composition

The 2000 population had a small majority of females over males: 21,662 females to 18,745 males. The median age was 36.4, slightly older than the 33.5 median in 1990 and even older than the 32.1 of 1980. This increase in median age was mostly due to the loss of population in the 17 and under age group. Compared to the 1990 census the population of Salem aged 17 and under comprised 19 percent, but in 2000 that percentage dropped down to 6.1, or by roughly 13 percent. On the opposite end of the spectrum is the 65 and older cohort. In 1990 this group made up 12.3 percent of the population but by 2000 that number had increased very slightly to 14.1 percent. In 1990 the 18-64 segment of the population made up 70 percent and by 2000 that number increased by about 10 percent to reach 79.8.

FIGURE 3.2 MEDIAN AGE 1980-2000

SOURCE: U.S. CENSUS BUREAU

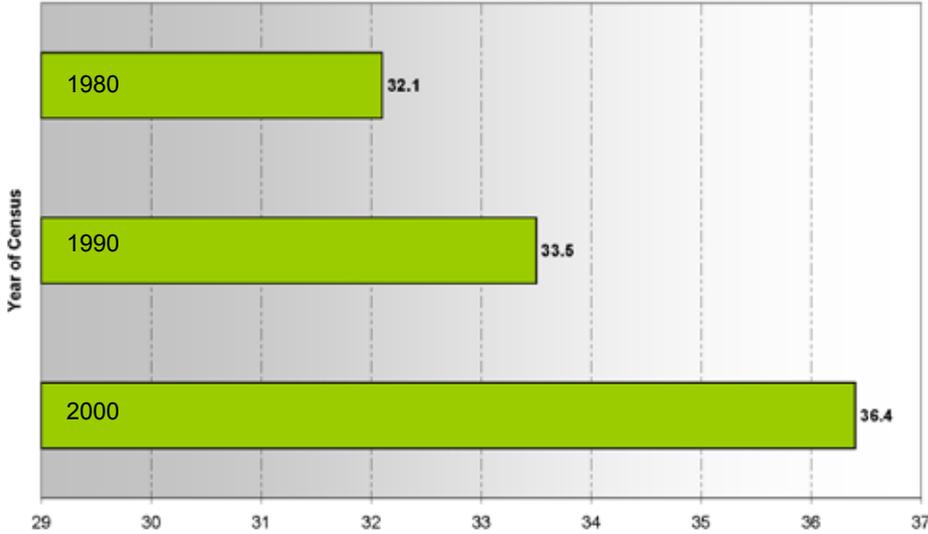
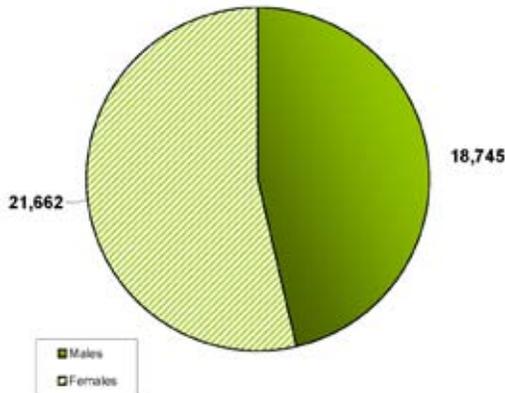


FIGURE 3.3 MALE VS. FEMALE POPULATION IN 2000

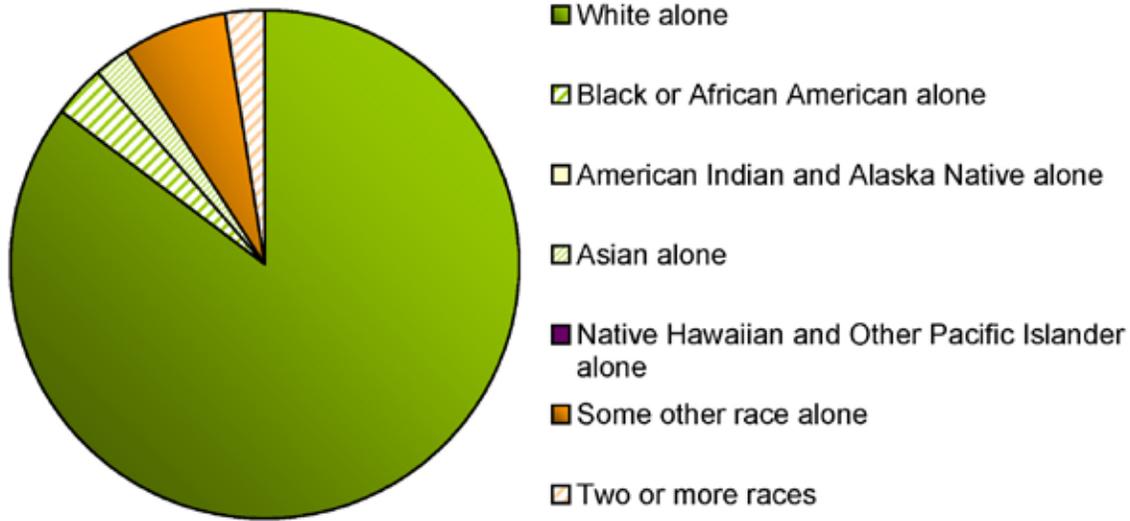
SOURCE: U.S. CENSUS BUREAU



Race and ethnic composition

The Salem population in 2000 was 85.4 percent white, 3.2 percent black, 2.0 percent Asian or Pacific Islander, 0.2 American Indian, Eskimo or Aleut, 2.5 percent with two or more races, and 6.7 percent “Other.” Within these numbers those possessing Hispanic heritage make up the largest minority population, with 11.2 percent of the total population. The majority of Hispanics in Salem are of Dominican origin, with significant numbers from Puerto Rico as well. The Hispanic population tends to be younger than the overall population, with a median age of 23.1 years in contrast to the overall median of 36.4. Nearly 37 percent of the Hispanic population was under 18 years old and only 3 percent was 65 or older in 2000. The majority of the Hispanic population lives in the Point Neighborhood.

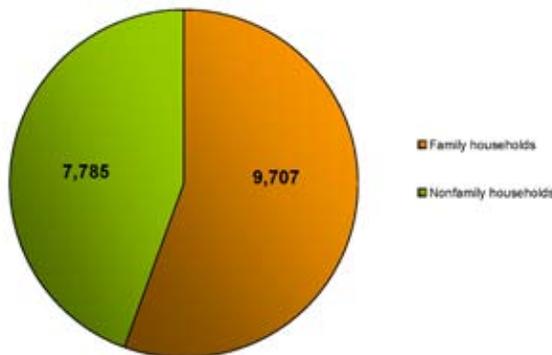
FIGURE 3.4 RACE AND ETHNIC COMPOSITION OF SALEM IN 2000
SOURCE: U.S. CENSUS BUREAU



Household composition

In the 2000 Census Salem’s total number of households was 17,492. Fifty-five percent of these contained two or more people and as such were classified as “family households.” Eight percent of these were female –head of household families with children. In contrast to the family households, 35 percent of all Salem households were made up of a single person. Twenty-five percent of Salem households contained one or more persons aged 65 or older. Consequently, Salem’s recreational facilities must mutually serve single people, families with children, the elderly, and youth.

FIGURE 3.5 HOUSEHOLD COMPOSITION OF SALEM IN 2000
SOURCE: U.S. CENSUS BUREAU



Housing

Much of the housing stock in Salem can be found in multi-family buildings, ranging from two-family homes to condominiums and large apartment buildings. In 2000 only 49 percent of occupied housing units were occupied by their owners. Nearly 51 percent were renter-occupied and the rest were vacant. For a regional comparison, in 2000 approximately 62 percent the total housing units in the area comprising the North Shore Task Force were

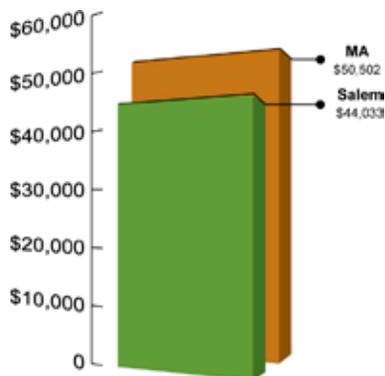
owner occupied units and those available for rent stood at 38 percent.

Income characteristics

Salem is a middle-income community. In 2000 the median household income was \$44,033, moderately below the state median of \$50,502. Nearly ten percent of the population in 1999 had incomes below the poverty level (\$16,700 for a family of four in 1999 as set by the U.S. Department of Health and Human Services). Poverty levels were particularly marked among households with female heads, 30 percent of whom had incomes below the poverty level.

FIGURE 3.6 MEDIAN HOUSEHOLD INCOME FOR SALEM IN 2000

SOURCE: U.S. CENSUS BUREAU



Journey to work

In 2000, 72 percent of Salem residents drove to work alone. About 6 percent took the train, < 1 percent the ferry, and 1.5 percent took the bus. The average travel time to work was 27.3 minutes. These data imply that the majority of employed Salem residents work outside the city. For those who work in Boston and other points south the MBTA commuter rail offers a viable alternative to the automobile. The trip into Boston takes about 40 minutes and a monthly pass runs \$163. In the near future the MBTA is constructing a parking garage which will expand parking capacity by about 1000 spaces at Salem’s station, thus allowing more park and ride opportunities.

FIGURE 3.7 MODE OF TRANSPORTATION TO WORK IN 2000

SOURCE: U.S. CENSUS BUREAU



Major employers

The most significant employers in Salem include: North Shore Medical Center, Salem State College, the Peabody Essex Museum, Dominion/NEGT Salem Harbor Station, and collectively, city, county, state, and federal governments.

FIGURE 3.8 TOP EMPLOYERS IN SALEM
SOURCE: CITY OF SALEM



Tourism

As a major tourist center on the North Shore, Salem draws almost one million visitors every year. Although they are essential to the City’s economy, their presence also contributes to residents’ perception of population density, especially downtown and in the historic districts during the summer and fall seasons.

There are a number of reasons tourists choose Salem as a destination. When the fall season arrives, the big attraction is Haunted Happenings. A month long celebration of the Halloween season is Salem’s biggest draw of the year. It has been occurring for over 25 years and brings in tourists from around the country. Salem is also home to the Peabody Essex Museum, which is America’s oldest continually operating museum. The museum’s collections include over 2.4 million works of art and culture. In addition to all these attractions there is also: the House of the Seven Gables, Salem Witch Museum, the Salem Maritime National Historic Site, the First Church, Salem Common, and many more.

Implications of population composition and trends

To meet the needs of its population, Salem must offer recreational amenities and open space resources for a complex urban population: single persons as well as families, youth and the elderly, households with their own backyards and those which depend on public parks. Ward One, in particular, may need more neighborhood-based recreation and open space resources because it includes dense neighborhoods with the highest proportion of children and low-income households and a large number of renters. The bottom line is that Salem’s open space and recreation resources must remain varied and flexible in their scope and implementation. The complexity of Salem’s urban population necessitates it.

3.4 Growth and Development Patterns

Patterns and Trends

Salem conforms to the historic pattern of settlement on the North Shore: coastal lowlands and lowland valleys first, river basins second, and uplands last.

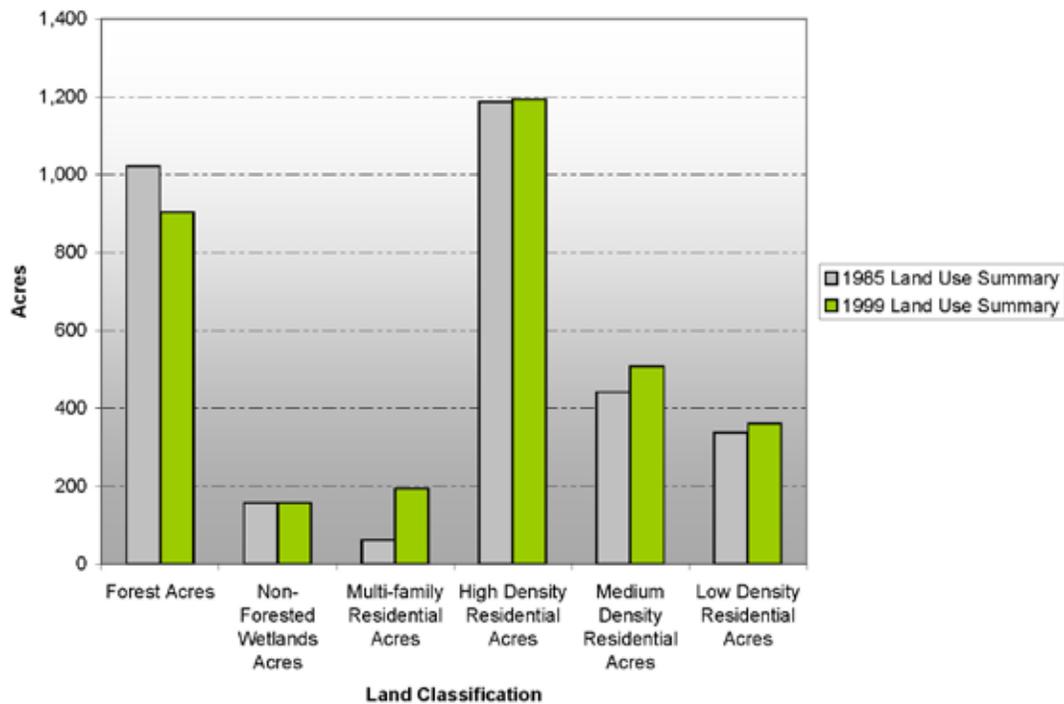
After World War II, Salem’s population had already passed its peak and residential development pressures were not strong enough to overcome the high cost of development in the ledge- and marsh-filled southern part of the City. In the center-west part of the City, the Witchcraft Heights subdivision was built in the 1960s and in the southeast the Pickman Park subdivision appeared in the 1970s. When the first urban renewal plan began in the 1970s with the demolition of several historic buildings, citizen outcry redirected the process towards adaptive reuse and infill projects. The Essex Street pedestrian mall and the Pickering Wharf complex were products of the downtown revitalization movement of the 1970s.

The regional real estate boom of the late 1970s and the 1980s fueled limited residential and commercial growth in Salem. The existing commercial development along Highland Avenue and Loring Avenue expanded, attracting shoppers who formerly patronized downtown stores. New infill condominium developments and condominium conversions of existing buildings proliferated in the already built-up parts of the City. In addition, new condominium complexes in South Salem were built off Highland Avenue and Loring Avenue.

Infill development has continued in recent years as Salem has seen the influx of many new residents from Boston seeking affordable housing and a lower cost of living. These residents tend to be younger, want more value for their dollar, and are willing to commute to Boston via car, train, bus, or ferry.

As stated earlier, MAPC predicts the population of Salem will grow 20 percent above its 1990 level by the year 2030. If such growth is realized, it is likely that not all new residents will be content living in a downtown loft or renovated condominium. Salem will have to provide adequate housing choice. The consequences of this may be enormous in scope because Salem has limited land available for development and it needs to balance development pressures and preservation of open space. According to MassGIS, between 1985 and 1999 Salem saw an increase in multi-family residential acres (68%), high density residential areas (.5%), medium density residential acres (13%), and commercial acres (7%). Forested acreage (already limited) decreased 13 percent, and wetland acreage stayed the same.

FIGURE 3.9 LAND USE CHANGE 1985 v. 1999
SOURCE: MASSGIS



Infrastructure

Transportation

The major regional highways, I-95 and Route 128, are both within 4.5 miles of the city limits. The arterial roads

servicing Salem are state Routes 1A, 107, and 114, and the Boston Street entrance corridor from Peabody which links with Route 128. Public transit is provided by MBTA buses and commuter rail service to Boston and other North Shore communities. An MBTA-subsidized private bus line also runs within the City. Salem also has a bike trail which connects it to Marblehead. The first phase of the trail was completed in 2002 with funding provided by MassHighway's Enhancement funding program. The current trail begins at Lafayette Street and runs northwest terminating at Canal Street. The entire current trail, approximately 3000 feet within Salem, is paved with bituminous concrete. In June of 2006 Salem established the Bike Path Committee to help in expanding the bike path throughout the City and connect it to surrounding communities.



Salem's bike trail
 Courtesy Salem Planning and Community Development

Water supply.

Salem's primary water source is Wenham Lake which is recharged by the Putnamville Reservoir, the Ipswich River, and Longham Reservoir. Currently an additional reservoir is being considered in Topsfield. Water supplies for Salem and Beverly are administered by the Salem-Beverly Water Supply Board. The total storage capacity of the Salem-Beverly Water System is 3.5 billion gallons. The average daily water use by Salem is 5.143 million gallons per day (MGD), approximately 135 gallons a day per capita. Today, the system's maximum treatment capacity is 24 MGD with possibilities of expanding up to 32 MGD; however, due to a raw water supply problem, expansion capabilities are limited.

Sewer service.

Almost all residences and businesses in Salem are served by the municipal sewer system. No new septic systems are permitted. The Salem sewer system is tied into a regional treatment plant operated by the South Essex Sewerage District (SESD) serving Salem, Peabody, Danvers, Beverly, and part of Middleton. There are only a handful of remaining septic systems in the city.

Scheduled and proposed developments

Salem is in the midst of a large investment by private industry back into the City. In the past seven years the City has seen approximately 250 million dollars of investment. Rich in history and building stock Salem is attracting a lot of interest among developers and businesses. The City is successfully attracting major retailers such as: Walmart, Home Depot, Staples, and Petsmart. The industrial segment is going strong with the existing facili-

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

ties at Technology Way housing Salem Glass and Thermal Circuits. Business outside of downtown is strong as well. Shetland Park, a business park adjacent to downtown, is home to more than 70 businesses. The following projects are just a sampling of the major developments going on in Salem.

Transportation and Parking



Salem Ferry - The Salem to Boston Ferry is a new transportation option connecting two great cities. Named the Nathaniel Bowditch, after the founder of modern maritime navigation and Salem native son, the ferry is a high-speed catamaran that carries 149 passengers, is entirely ADA accessible and makes the trip from Salem to Boston – where it docks next to the Aquarium – in less than 45 minutes. At its peak, the ferry runs eight round trips a day from May 25 – October 31st. The City of Salem is one of only a few municipalities to own a ferry vessel, which it purchased with a \$2.3M grant from the

MA Executive Office of Transportation in 2006.

MBTA Garage - The Massachusetts Bay Transportation Authority (MBTA) is expected to build a new parking garage at the Salem Train Station creating 700-1,000 parking spaces for commuters. The project will also upgrade the station into a Regional Intermodal Transportation Center.

North Street Improvement Project - Reconstruction of North Street, including roadway, sidewalk, signalization and period lighting has commenced.

Salem/Beverly Transportation Project/Bridge Street Bypass Road - The Salem-Beverly Transportation Project is a multi-phase roadway project that will provide improved vehicular access between Salem and Beverly. The Bridge Street Bypass Road is a component of this project and is currently under construction.

Community Development

Salem, like many other communities, has seen its share of new development projects, many of which are infill or redevelopment projects. Being a densely built-out city, most of them do not directly impact open space resources directly, but may be located near parks. Some development sites require remediation prior to new construction and therefore may play a beneficial role in the overhaul health of the urban fabric. See Appendix B for a description of key development projects in Salem.

Open Space

Bike Path - The city received over \$200,000 through Mass Highway's Enhancement funding program for the first phase of the city's bike path, which was completed in 2002. In June 2006, the City of Salem established the Salem Bike Path Committee to assist in expanding the bike path throughout the City and connecting it to our surrounding communities. The committee also advocates for bike safety, alternative transportation, and bicycling as a whole.

Salem/Beverly Transportation Project/Bridge Street Bypass Road - As mitigation for this project described above, the state Chapter 91 licensed required that MassHighway establish a park to be located at the end of Bridge Street, at the site of the old Beverly/Salem Bridge. This would provide access to the waterfront and allow for water dependent uses such as fishing.



15 Peabody Street - The City of Salem was awarded a \$200,000 EPA Brownfields Cleanup Grant in May, 2007 to cleanup and revitalize an abandoned lot on Peabody Street along the South River into a City park. The City will provide a 20% match. Graduate students from Tufts University completed an initial design (concepts above) for the park with the help of local residents and City staff. The City plans to apply for an Urban Self Help Grant in July, 2007 to assist in the design and construction.

Congress/Peabody/Ward Street Intersection - The EPA awarded the City \$125,000 to cleanup the site at 61 Ward Street. The City will provide a 20% match. Funding will be used to cleanup the site and CDBG funds will be used to undertake safety improvements at the intersection at Congress, Peabody and Ward Streets. A pocket park will also be created as a result of the new design.

Waterfront Planning and Development

Salem Harbor Plan Update - The City's 5 year Municipal Harbor Plan, created in 2000, is undergoing a review and update as required by guidelines provided by the Commonwealth's Executive Office of Energy and Environmental Affairs (EOEEA). The City and the Salem Harbor Plan Implementation Committee are currently working with the hired consultants to update the 2000 plan in compliance with the municipal harbor planning regulations at 301 CMR 23.00. A 15 member Committee is working with a team of consultants and various state departments, including Coastal Zone Management (CZM) and the Waterways Regulation Program of the Department of Environmental Protection (DEP). Once approved locally, the City will submit the new 2007 Salem Harbor Plan, which will outline a 5-year strategy for port development that guides the future use and character of the Port of Salem, to the EOEEA for approval. This is expected by the end of 2007.

Winter Island U.S. Coast Guard Administration Building Reuse Study - Utilizing a Survey and Planning Grant from the Massachusetts Historical Commission, the City retained a consultant to undertake a feasibility study to develop recommendations for implementation of a reuse plan, and provide a long-term guide for the building's preservation and maintenance. The study was completed in June, 2007. The City also applied for grants from Massachusetts Historical Commission and the National Park Service and is awaiting notification.

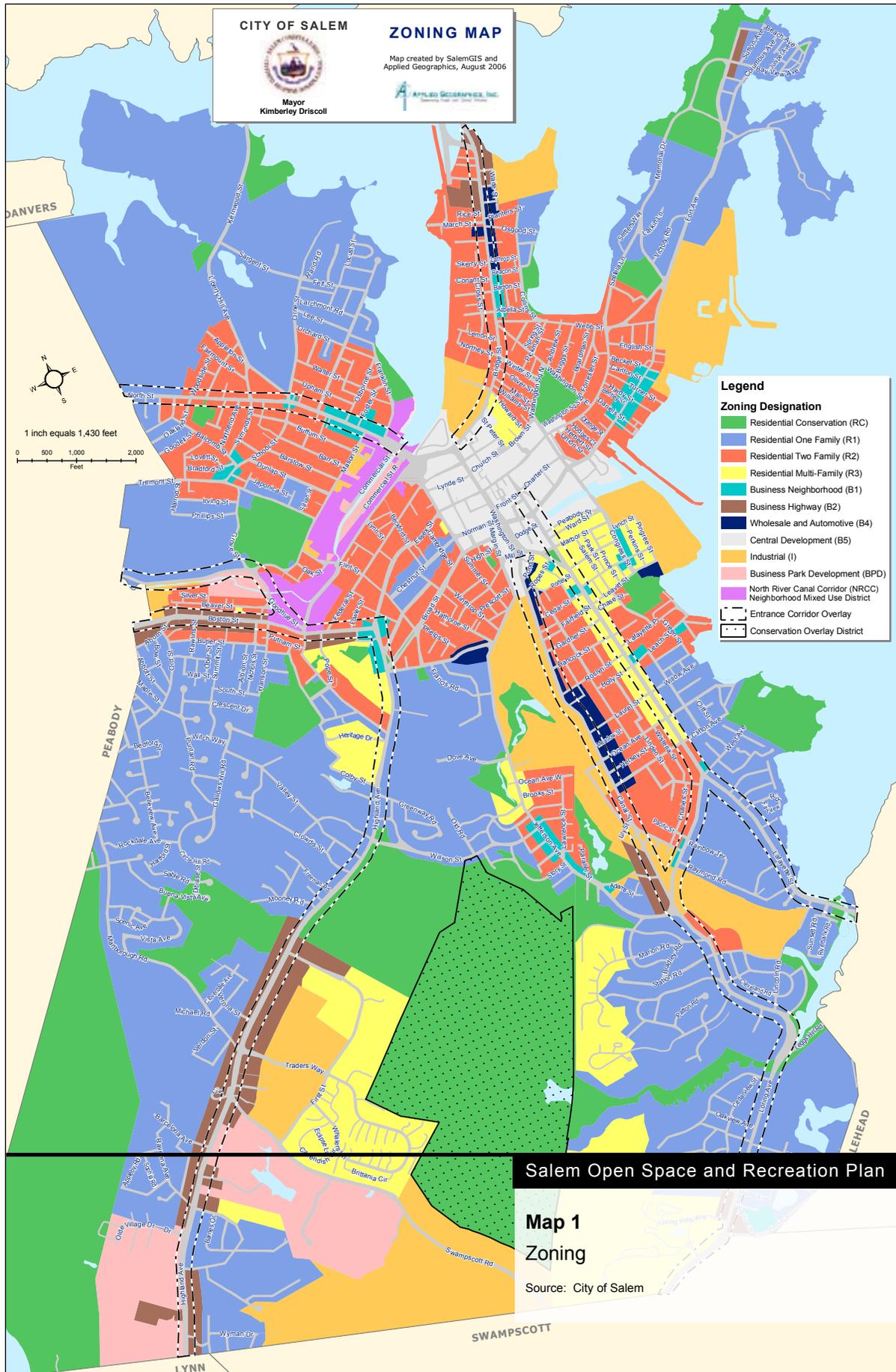
Port of Salem Expansion - This planned \$12M to \$15M project calls for construction of a concrete steel pier with utilities and amenities for docked cruise ships, berthing facilities for fishing, transient and charter vessels, a multi-use terminal building and a support building for the City's commercial fishing fleet off Blaney St.. Successful development of this facility will provide an economic boost for Salem and the region by creating broader markets and by establishing innovative marine-related industry.

Salem Ferry – See discussion above.

Salem Ferry Pier - In spring of 2006, the City completed construction of a \$500,000 steel float and aluminum dock at Blaney Street for use by the new Salem Ferry. Since then, the City has made numerous improvements to the Salem Ferry Pier including the installation of sure power, dry fire line, potable water lines, and a fuel line. This temporary facility will be integrated into the permanent Salem Wharf structure.

South River Harborwalk - The City is developing design plans for the construction of a Harborwalk along the

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



west and south sides of the South River. The Harborwalk is included as a recommendation in the Salem Harbor Plan. The Harborwalk will include a fully accessible public walkway, pedestrian amenities and landscaping along the South River Basin. In addition to creating a Harborwalk, improvements will be made to existing seawalls. The project is currently in the permitting phase. In addition, the state has already appropriated the funds for construction of the walk and construction is expected to begin Fall of 2008.

Salem Willows Seawall - Reconstruction of a 75 year old seawall has been designed and recently permitted. In 2007, the City obtained a \$156,500 Municipal Seawall Repair Grant from the State Department of Conservation and Recreation (DCR), a contractor was recently hired and work is underway. This work supplements other significant improvements to Salem Willows Park undertaken earlier.

Kernwood Marina at McCabe Park - The City has received a \$350,000 earmark in the state budget for reconstruction of Kernwood Marina. The project is scheduled to commence this year.

Salem Harbor Maintenance Dredge Project - The U.S. Army Corps of Engineers (USACE) completed the maintenance dredging of the 32 foot Federal Main Ship Channel, the 10 foot South River Entrance and the 8 foot Derby Wharf Channel and Anchorage Basin in January 2007. The USACE is also responsible for the maintenance dredging of the South River Federal Channel inward of the Derby Wharf Lighthouse. That dredging operation has not occurred yet because the sediment from that area is unsuitable for unconfined offshore disposal. The USACE is working with various State agencies to identify an offshore location to construct a CAD Cell to dispose of the South River Federal Channel dredge spoils. As an offshoot of this maintenance project, the City of Salem has met with the USACE and asked if they would consider dredging the South River Canal Basin, (non-federal Channel portion of the South River) the area west of the Congress Street Bridge.

Long-term development patterns

Salem’s long-term development is regulated through the city’s zoning ordinance and subdivision regulations by the Planning Board and the Zoning Board of Appeals in conformance with the 1996 Master Plan. The zoning districts include the following: residential conservation (RC), residential one family (R1), residential two family (R2), residential multi-family (R3), business neighborhood (B1), business highway (B2), wholesale and automotive (B4), central development (B5), industrial (I), business park development (BPD), North River Canal Corridor – neighborhood mixed use district (NRCC), an entrance corridor overlay, and a conservation overlay district. (See Map 1: Zoning)

Site plan review by the Planning Board is required for all nonresidential projects over 10,000 square feet and all residential projects over 5 units. According to the 2000 build-out prepared by the Executive Office of Environmental Affairs (EOEA – now known as the Executive Office of Energy and Environmental Affairs), which is based upon current zoning, there is a potential for 1,004 new residential lots and up to 1,205 new dwelling units. Additionally, it is conceivable that over 4 million square feet of new commercial/industrial space could also be developed. However, there may be a number of local (zoning or environmental constraints) and economic factors that were not addressed in the EOEA analysis that would temper those numbers.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

TABLE 3.2 EOEa BUILD-OUT ANALYSIS

SOURCE: MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

Category	Totals
Developable Land Area (Sq ft)	38,887,963
Total Residential Lots	1,004
Commercial/Industrial Buildable Floor Area (Sq ft)	4,360,986
Comm./Industrial Water Use (Gal/day)	327,074
Dwelling Units	1,205
Future Residents	2,747
Residential Water Use (Gal/day)	206,038
Municipal Solid Waste (Tons)	1,409
Non-Recycled Solid Waste (Tons)	1,002
Students	362
New Roads (Miles)	13

With demand for new housing corollary to the projected increase in Salem’s population, the City’s Master Plan remains the leading land use policy statement although it was written in 1996. The Master Plan encourages infill construction of single-family homes, adaptive reuse of existing structures, and cluster development. Likewise, City policy emphasizes retail development in existing downtown or corridor sites, and industrial development in the Swampscott Road industrial park or existing industrial sites. Some, but not all of these policies have been incorporated into the zoning ordinance.

Salem’s development issues include the need to preserve and upgrade the existing housing stock, encourage and enhance economic development opportunities (particularly in the downtown area), and brownfield redevelopment. These are typical of older, small scale cities with an industrial past. The City seeks to balance needed economic development with the preservation and enhancement of neighborhood quality of life. Salem has a wide variety of open space and recreational opportunities available throughout the City, although greater awareness of them is one focus of this planning effort. Improvement and creation of neighborhood parks is another key point in enhancing quality of life for Salem residents. Value should be placed on possible and current open space and recreation resources.

Implications for Community Setting

Salem’s densely-populated Ward One, which includes the neighborhoods with the highest proportion of children and low-income households, as well as large numbers of renters, lacks sufficient neighborhood-based recreation and open space facilities. This is contrary to the southern part of Salem where the City’s concentrated population pattern has permitted substantial open space readily available to all residents. This plan will propose additional facilities to better meet existing needs. One example is the proposed new pocket park at 15 Peabody Street, which is described in more detail in Section 7.

Building constraints on remaining open land in Salem are severe given the combination of environmental conditions and large areas of protected land. Future residential development in Salem is likely to focus on adaptive reuse of existing buildings and infill development. Commercial or industrial development will be directed to existing commercial corridors, underused industrial sites, or designated industrial parks.

Section 4



Environmental Analysis

*Photo Courtesy of Salem Planning
and Community Development*

Environmental Analysis

4.1 Geology, Soils, and Topography

Bedrock Geology

Salem is located within the eastern margin of the deeply eroded northern Appalachians. The bedrock of Salem is almost exclusively igneous, formed from multiple episodes of rifting and intrusion occurring over 420 million years ago during the assembly of the supercontinent Pangea. Anyone caring to look at the rocks exposed in any of Salem's parks and islands will see a complex of black dioritic and gabbroic intrusions associated with lighter intrusions of syenite and granite. This belt of igneous rock cuts northeast across the composite Avalon Terrane, a microcontinent that collided and welded to North America during the formation of the Northern Appalachians. The collision of Avalon is responsible for the strongly metamorphosed rocks that look like swirling marble ice cream, seen west and north of Route 128. Geologists hypothesize that while the microcontinent was attaching to North America it experienced an extended period of intercratonic rifting and intrusion. The igneous rocks of Salem lie within the exposed core of this ancient volcanic rift zone. Because Salem's rocks are located east of the Appalachian collision front they experienced little metamorphism. However, the rocks are extensively fractured as a result of stresses induced since their formation.

There is no local geologic record detailing the events occurring between the time the igneous bedrock was emplaced and the latest episode of glaciation. What is clear however is the during the Mesozoic Era Pangea rifted apart forming the present Atlantic seaboard, and thousands of feet of rock and sediment were eroded, reducing the landscape close to its current level. The preglacial landscape was probably not much different in elevation than it is now, but was covered by a mantle of deeply weathered bedrock (saprolite) blanketed by coastal plain sediments.



Forest River estuary

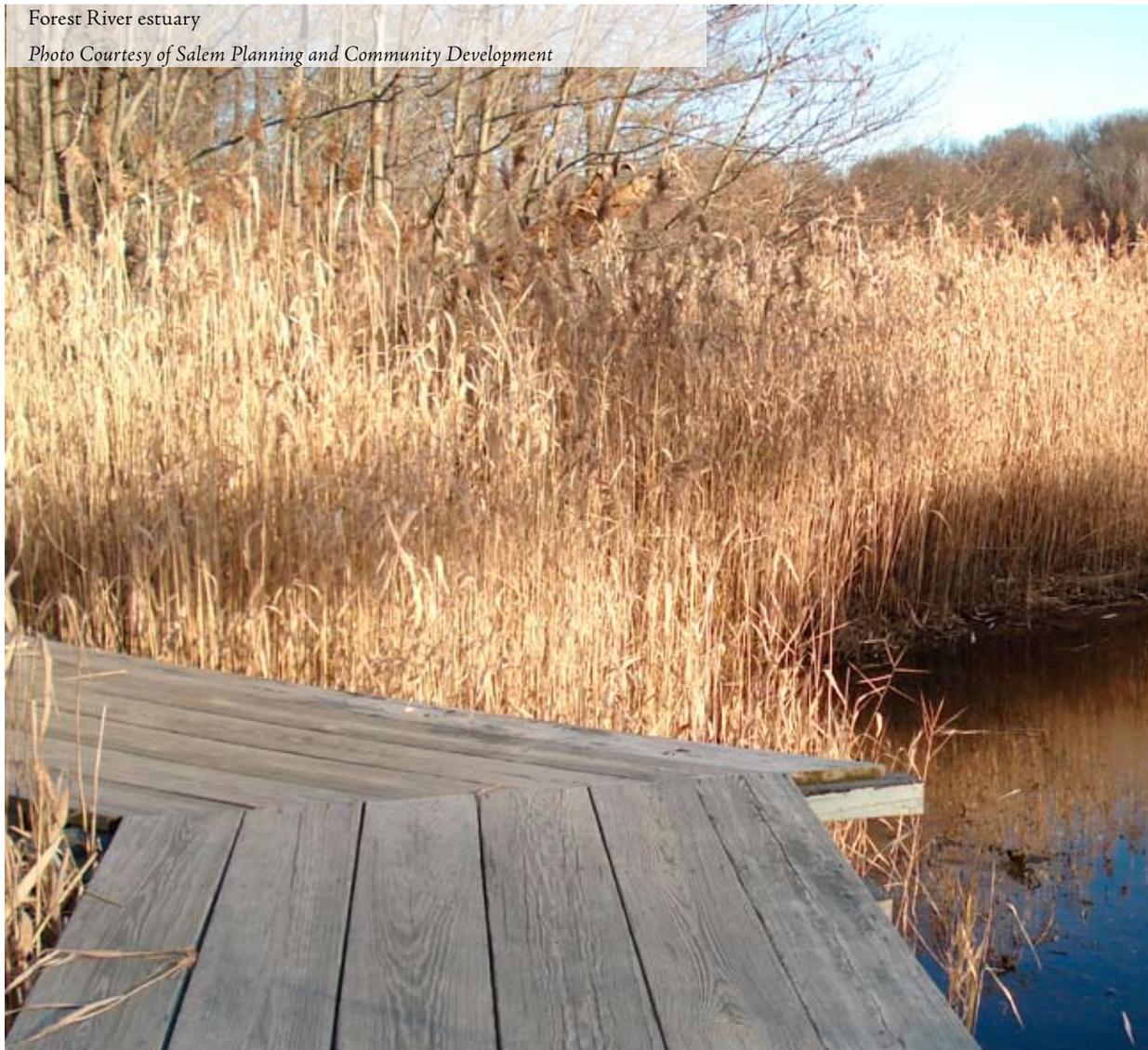
Photo Courtesy of Salem Planning and Community Development

Glacial Geology

Glaciation further shaped the landscape through erosion and deposition. Although the marine record shows no less than 13 glaciations during the Pleistocene Period, there is only evidence for two advances into eastern Massachusetts. These glaciers removed all coastal plain sediments and saprolitic cover existing at the time. Rock surfaces were plucked and polished and valleys were excavated along trends weakened by ancient jointing and

faulting. Glacial features, such as roche moutonnees and striated pavements, are well preserved on Ledge Hill, Gallows Hill, the ledges by Upton School, Forest River Park, the Willows, Winter Island, and on numerous ledges in and around Highland Avenue.

When the last ice sheet retreated 12,000 years ago it left in its wake scattered deposits of mixed clay, sand, gravel, and boulders (glacial till), glacial fluvial sand and gravel, and glacial marine deposits of sand and clay. Sandy glacial fluvial sediments were deposited beneath Salem State College. Most cemeteries in Salem are located on well-drained and easily excavated glacial-fluvial sediments. For a brief time during deglaciation, sea level transgressed inland and deposited marine clay and sand. These deposits can be found at elevations as high as 30 feet above current sea level, and underlie most of downtown Salem, and the lower South, North and Danvers river valleys. Glacially streamlined hills of drift (drumlins) are absent in Salem, although common in the Boston Basin and areas northwest of Salem in Danvers, Beverly and Middleton. Instead, the highlands in Salem are underlain by shallow fractured bedrock. Water flows through fracture systems and bedrock valleys into the Forest River estuary and various wetlands surrounding the highlands.¹



¹ Professor Lindley Hanson Ph.D., Department of Geological Sciences, Salem State College contributed information for this section.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



Legend

- | | | |
|--------------------------|-----------------------|------------|
| Surficial Geology | Fine-grained deposits | NRCS Soils |
| Sand and gravel deposits | Floodplain alluvium | |
| Till or bedrock | | |



Salem Open Space and Recreation Plan

Map 2

Soils and Surficial Geology

Data Sources: MassGIS

Soils

Soils in Salem are rocky and shallow and have been modified for urban development in many places. Natural coastal areas consist of sandy beaches, rock-bound outcroppings, and tidal marshes, while the harbor and the South and North River basins have been modified by fill. Lowland areas are typically peat and muck or meadow, and bedrock outcroppings (ledge) are interspersed at high elevations. Hinckley gravelly sandy loam deposits are found in pockets on outwash plains. Coarse fragments are found in the upper soil layers. Sand and gravel lies below the second layer. Gloucester soils developed from glacial tills are found on gently sloping areas to steep uplands. Stone fragments make up to 35-37 percent of the soil volume. Other soils include Orono silt loam, Merrimac fine sandy loam, and Essex fine sandy loam, stoney phase. (See Map 2: Soils and Surficial Geology)

Topography

Salem is situated in the New England Seaboard Lowlands and shares common natural features with its neighboring towns and cities: coastal lowlands of varying width, irregular rocky or marshy coastlines, diverse stream and river basins, and scattered small hills and upland areas. Most elevations are well below 400 feet, and the average elevation is below 100 feet. Land surfaces generally slope from the interior to the coast. The two major drainages are the North River, which drains into Beverly Harbor, and the Forest River, which drains into Salem Harbor.

The highlands and uplands of Salem consist of several steep hills with 100-200 foot elevations located in southwest Salem. These steep slopes historically presented the most enduring constraints on urban development, and the area has been undeveloped until recently.

The topography of Salem is the product of deep erosion and glacial scouring of brittly deformed igneous rock. The valleys and harbors have distinct linear trends that are both structurally and glacially controlled. Danvers River is parallel to a common northwest-southeast joint trend excavated by southeasterly flowing glacial ice. Another southwest-northeast structural trend controls the orientation of Salem Harbor, Beverly Harbor, Collins Cove and the North River estuary. The natural drainage pattern in Salem is best described as a deranged rectangular pattern that reflect fracture patterns in exhumed igneous rock, glacial scouring, and local infilling by glacial fluvial and marine sediments. In summary, over 400 million years of geologic history are evidenced in Salem's landscape.

4.2 Landscape Character

Salem's landscape today is typical of older Eastern Massachusetts communities containing mixed vintages of distinctive cultural landscapes with intermingled natural landscapes that are significantly shaped by the surrounding urbanized residential and industrial areas.

The Salem city boundary stretches out approximately seven miles into the Salem Sound and contains approximately 10 square miles of aquatic environment in both Salem Harbor and Salem Sound. Salem Sound itself measures approximately 14 square miles at an average depth of 30 feet. Within Salem's oceanic environment are more than a dozen small islands and a federal deep water channel. Noteworthy islands in the Salem Sound include the Misery Islands, a pair of islands off the coast of the City of Beverly, MA. Great Misery Island features several miles of trails that provide access to beaches, fields, overlooks, and ruins. The many islands are accessible by boat and provide natural open space for hiking and exploration.

Salem has 11.2 miles of coastal frontage and has three tidal rivers — the North River, Forest River, and the South River — that flow into Salem Harbor. Much of the natural coastline and inland water bodies have been filled to accommodate centuries of development, and very few of the original plant and animal communities have been left untouched by the same forces. However, within its small area, Salem retains a variety of natural landscapes: wetlands, rivers and streams, ponds, tidal flats, coves and harbors, rocky shores, upland ledges, and scrub forest.

Plan Summary

Introduction

Community Setting

Environmental Analysis

Inventory of Lands

Community Goals

Analysis of Needs

Goals and Objectives

Five Year Action Plan

Public Comments

References



Salem's Juniper Cove on a crisp fall day

There are several significant expanses of relatively natural wetland and wooded upland in Salem. The Forest River Conservation Area contains 138 acres of wetlands, dense forests, an estuary, and tidal coves, which perform an essential ecological role for fisheries and wildlife, and provide a sense of natural open space close to the densely-built city center. Wooded swamps extend along the tributaries of the Forest River, the edge of Strongwater Brook west of Highland Avenue, and the border of Thompson's Meadow, a large wet meadow (owned by the Town of Marblehead) adjacent to the Conservation Area and Highland Park.

Natural areas of thick, woody vegetation are rare in Salem, both because of development pressures over the centuries and because the shallow or nonexistent soils of much of the Salem Highlands will not support woody plants of significant size or density. Remaining areas of this type that contribute to the variety of Salem's landscape include:

- ☞ The slope facing Spring Pond,
- ☞ The area west of Strongwater Brook,
- ☞ The hill directly between the Forest River salt marshes and Thompson's Meadow,
- ☞ Areas in Highland Park and between Highland Park and Thompson's Meadow, and
- ☞ Areas south of Swampscott Road surrounding the Prophet Elias Monastery near the Salem-Swampscott line.

Development of 162 acres west of Strongwater Brook for housing began in 2006, which will affect the wooded area. However, approximately 93 acres of the site will be permanently-protected open space with a connecting trail network. Part of the area near the Prophet Elias Monastery is owned by Lynn Sand and Stone (Aggregate Industries) which operates a large quarry in this area.

Due to Salem's variable natural landscape and its long history, the City has developed unique cultural landscapes. The sites associated with Salem's colonial and federal history are the most well-known, though residents also value the pockets of Victorian residences in South and North Salem and emblematic sites such as the Salem Willows. Less often acknowledged as distinctive are the landscapes of Salem's industrial and immigrant history: Blubber Hollow, the area around the Russian Orthodox Church, the mills and worker housing in the Point. These also contribute to the experience of Salem's historic landscape.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

As a result of Salem’s historic importance as a shipping port, much of the City’s urban development (both residential and industrial) has occurred along its 11.22 miles of coastal frontage. Nevertheless, 50.2 percent is still publicly owned by local, state, or federal government or by nonprofit land conservation organizations. This is a significant percentage that limits development options along the shore, and presents opportunities for the City to take advantage of this valuable resource.

Although half of Salem’s coastal frontage is publicly owned, access is not always easy because many coastal areas, such as harbor islands, are remote and difficult to access. The main streets are inland from the water, and much of the downtown shoreline has traditionally been occupied by residential or industrial development, offering at best only a few glimpses of the sea. The Dominion Energy plant, the South Essex Sewer District sewage plant, and Shetland Office Park interrupt many views of Salem Harbor, overwhelming by their size both the historic buildings on the shore and the boats in the harbor. The Keyspan Energy gas tanks in Collins Cove and the junkyard and MTBA Commuter Rail and Bus parking lot on the North River have a similar effect on the visual character of these shorelines.

There are, however, many points of public access to the water, especially outside of downtown:

- ☞ **Access to Salem Harbor** - Forest River Park, Palmer Cove, Derby Wharf, Winter Island.
- ☞ **Access to Beverly Harbor/Collins Cove** - Salem Willows, Collins Cove Park and Walkway, McCabe Park/Kernwood Marina.
- ☞ **Access to the North River** - Furlong Park (no formal boat access) and Leslie’s Retreat Park.

In addition, Great Misery and Little Misery Islands, owned by the Trustees of Reservations, offer harbor views, meadows, specimen trees, stands of pines, and ruins of a turn-of-the-century casino hotel to those with access to private boats or the summer weekend excursion boat that leaves from Beverly.

4.3 Water Resources

Surface water

In addition to the saltwater expanses of Salem Harbor and Beverly Harbor, major water bodies in the City include the Forest River, the Danvers River, the North River, the South River Canal, Strongwater Brook, Spring Pond, and the Gravel Pit Pond. Old Mill Pond and Rosie’s Pond are slowly being filled in by their surrounding marshes. There are also small ponds at Peter’s Point.

The three rivers — the North, South, and Forest Rivers — define the City’s major watersheds. The Gravel Pit Pond is owned by Marblehead for an emergency water supply. Spring Pond, which straddles the Salem-Peabody line, is part of the water supply system for the City of Peabody.

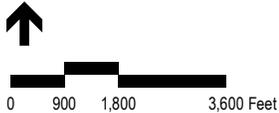
Flood hazard areas

The boundaries of the one hundred year floodplain are shown on Map 3: Water Resources. Floodplain and shoreline areas in Salem are necessary to conservation because of their role in flood control. Beyond the floodplains, wetland and stream areas are periodically flooded. Many areas affected by seasonal flooding (such as the North River) have characteristics of both freshwater wetlands and tidal flats.



Legend

- Flood Zones
- Wellhead Protection Areas
- Outstanding Resource Waters
- Zone-A
- Zone-B
- Zone-C
- Zone-II
- Bog
- Beaches
- Marshes
- Wetland
- Open Water
- Tidal Flats
- Subbasins



Salem Open Space and Recreation Plan

**Map 3
Water Resources**

Data Sources:
City Parks - City of Salem
Protected and Recreational Open Space - MassGIS

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Wetlands

There are approximately 171 acres of inland wetlands (i.e. freshwater marshes and swampland) in Salem. Freshwater marshes in Salem include Spring Pond (owned by the City of Peabody), Thompson’s Meadow (a marsh in Highland Park), a marsh on Strongwater Brook, and marshes along the Forest River and South River. Freshwater marshes provide habitat for birds and marsh animals, replenish groundwater, and store surface runoff, slowing the progress of flood waters.

Wooded swamplands in Salem are located along Forest River tributaries, north and south of Swampscott Road, along Strongwater Brook tributaries west of Highland Avenue, and opposite Thompson’s Meadow east of the B & M railroad tracks. Wooded swamps recharge groundwater areas by absorbing water during spring rain periods and gradually releasing it during summer months. Moreover, because of their water holding abilities, swamps are also excellent flood control areas.

According to the Natural Heritage and Endangered Species Program of the MA Division of Fisheries and Wildlife, Salem has three certified vernal pools.

There are approximately 37 acres of salt water marshes in Salem, including the Forest River estuary and small areas surrounding Peter’s Point in the Danvers River. Salt marshes are highly productive ecosystems which form the basis of the food chain and protect marine life during spawning and growth periods. For example, rainbow smelt are now spawning in the North River. Salt marshes also protect inland areas from ocean storm damage. Because of their flushing abilities, salt marshes also clean inland waters.

Aquifer recharge areas

Groundwater recharge takes place in the Forest River estuary and other wetlands. The high percentage of impermeable surfaces in Salem, both natural and man-made, results in a high rate of precipitation runoff.

4.4 Vegetation

Forest land

Wooded vegetation found today in Salem is “secondary growth” and includes oak, birch, hickory, and white pine in the forest areas. Because thickly-wooded uplands, which serve as habitat for both birds and mammals, are rare, Salem’s Salem Woods located within Highland Park is critical habitat.

Wetland vegetation

In freshwater marshes, the predominant vegetation is narrow-leaf cattail and phragmites, an invasive reed. Invasive exotic species such as purple loosestrife and Japanese knotweed are also evident. Wooded swamps typically contain trees and shrubs such as alder, willow, dogwood, and red maple. Vegetation typical of the salt marshes includes saltwater cord grass, high water cord grass, spike grass, and sea lavender.

Rare plant species

The Massachusetts Natural Heritage and Endangered Species Program, an agency of the Department of Fisheries, Wildlife, and Environmental Law Enforcement, has listed five rare plant species as historically documented in Salem. The last documented observation of any of these species was in 1888, but habitat for them continues to exist, and individuals may still be extant. (See Table 4-1)

4.5 Fisheries and Wildlife

The combination of aquatic, wetland, upland environments, and their edges give Salem an unusually wide variety of habitats for such an urbanized place. Salem's parks, "urban wilds," and suburban residential areas support a fairly diverse number of species.

Wildlife Corridors

Wildlife corridors connect two or more wildlife habitat areas, allowing the movement of wildlife. In the densely populated coastal region of the lower North Shore, wildlife may be forced to use train tracks, rail trails, bike paths, or power lines as corridors as well as streams, rivers, undeveloped wetlands and riparian buffers.

Thompson's Meadow, a Natural Heritage Program Biomap Core Habitat, is surrounded by the Biomap Supporting Natural Landscape of Salem Woods (Highland Park). When combined, these two open spaces in the center of Salem cover over 166 acres of wetland and upland vegetation. Thompson's Meadow is the headwaters of the Forest River, an important estuarine river that flows easterly to Salem Harbor. The Forest River Conservation Area forms a wildlife corridor from Thompson's Meadow and Salem Woods to the ocean. The commuter rail runs north - south intersecting Thompson's Meadow and the Forest River Conservation Area. Wildlife following the rail line could possibly travel north to the North River or south to the Rumney Marsh/Pines River estuary. Across the North River, wildlife habitat exists in North Salem in the two cemeteries, a large country club, and other privately owned open space.

On a larger regional scale, there still exists the possibility of wildlife corridors from Thompson's Meadow and Salem Woods to natural areas west and southwest of Salem. Thompson's Meadow is fed by streams and wetlands to the southwest (between Swampscott Road and Highland Ave). This area is currently undeveloped. Across Highland Ave is Camp Lion of Lynn, 68-acres of open space owned by the Campfire Girls. This open space borders Peabody's Spring Pond water protection area. To the southwest is the 2,200-acre Lynn Woods Reservation.

The North River extends from east to west and links Salem to Peabody. The environment of this tidal river changes from being very wide near the Beverly/Salem Bridge to historically filled channelized sections, and finally closer to the Peabody line, the river exists with naturally vegetated embankments. The North River's tidal nature provides habitats for a diversity of marine, brackish and fresh water plants and animals. The North River is used by anadromous fishes including American eel and rainbow smelt. The smelt travel upstream in the spring to lay their eggs where the River becomes fresh at the Salem/Peabody line.

Rare animal species

The Massachusetts Natural Heritage and Endangered Species Program, an agency of the Department of Fisheries, Wildlife, and Environmental Law Enforcement, has listed nine rare animal species as historically documented in Salem. Only three species of birds on this list have been observed in the past 25 years. The most recent documented observation of any of the other listed animals dates from 1952. However, as in the case of listed plants, the habitat for these species remains, and undocumented individuals may exist. (See Table 4-1: Rare and Endangered Species in Salem for more detailed information.)

TABLE 4-1 - RARE AND ENDANGERED SPECIES IN SALEM
MESA (Massachusetts Endangered Species Act) and Federal Status for Salem²

E = Endangered T = Threatened SC = Special Concern

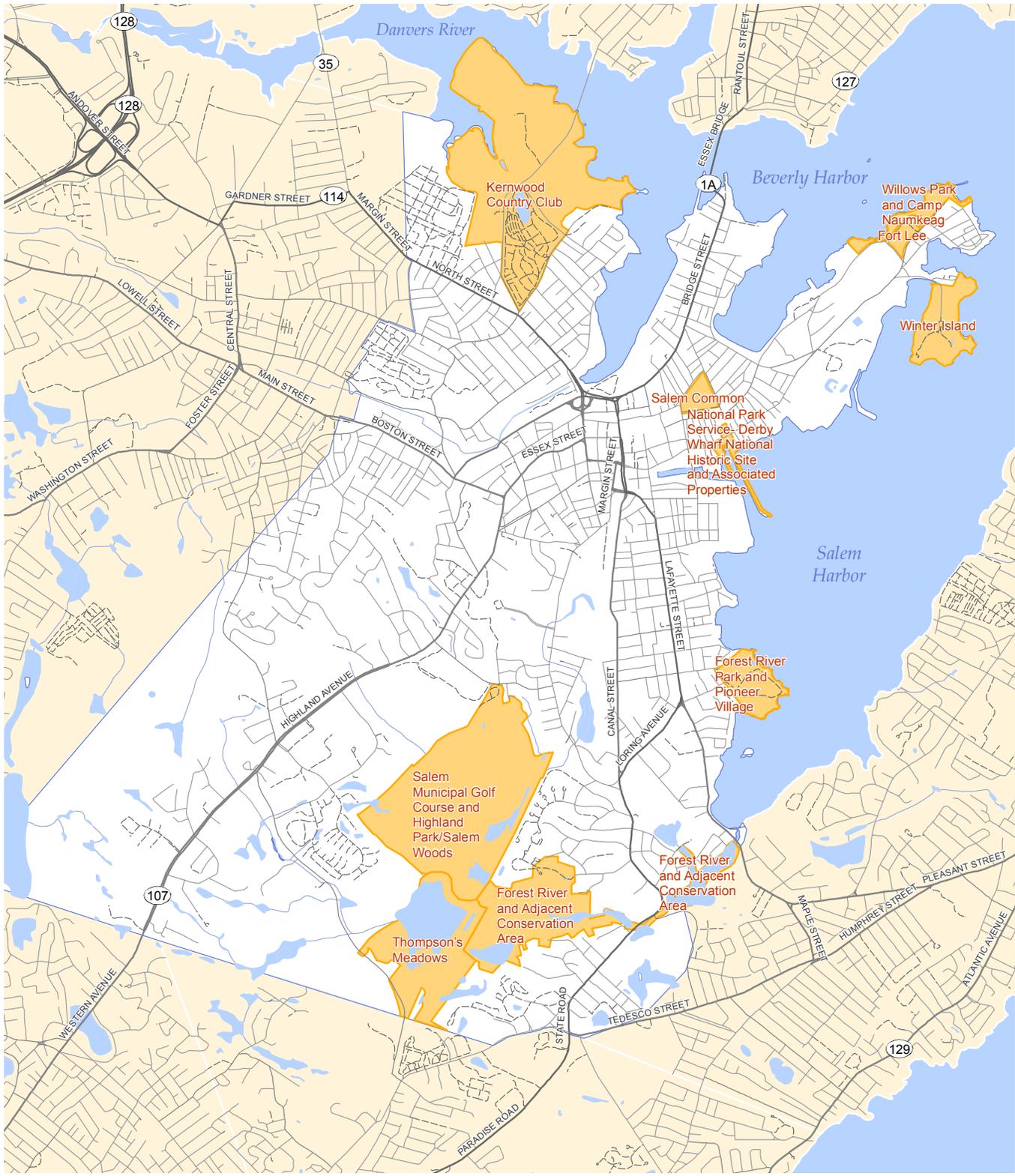
Most Recent Observation

This field represents the most recent observation of that species in a town. However, because they are rare, many MESA-listed species are difficult to detect even when they are present. Natural Heritage does not have the resources to be able to conduct methodical species surveys in each town on a regular basis. Therefore, the fact that the 'Most Recent Observation' recorded for a species may be several years old should not be interpreted as meaning that the species no longer occurs in a town. However, Natural Heritage regards records older than twenty-five years historic.

Town	Taxonomic Group	Scientific Name	Common Name	MESA Status	Federal Status	Most Recent Observation
Salem	Amphibian	Ambystoma opacum	Marbled Salamander	T		1800's
Salem	Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	T		1868
Salem	Bird	Podilymbus podiceps	Pied-billed Grebe	E		1952
Salem	Bird	Botaurus lentiginosus	American Bittern	E		1990
Salem	Bird	Ixobrychus exilis	Least Bittern	E		1990
Salem	Bird	Bartramia longicauda	Upland Sandpiper	E		1929
Salem	Bird	Sterna hirundo	Common Tern	SC		2001
Salem	Butterfly/ Moth	Metarranthis apiciaria	Barrens Metarranthis Moth	E		1934
Salem	Reptile	Glyptemys insculpta	Wood Turtle	SC		1858
Salem	Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	T		1872
Salem	Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	E		1888
Salem	Vascular Plant	Rumex pallidus	Seabeach Dock	T		1800's
Salem	Vascular Plant	Liatis scariosa var. novae-angliae	New England Blazing Star	SC		1885
Salem	Vascular Plant	Boechera missouriensis	Green Rockcross	T		1861

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

² <http://www.mass.gov/dfwele/dfw/nhesp/towns.htm#salem>



Legend

Scenic Resources and Unique Environments



Salem Open Space and Recreation Plan

Map 4

Scenic Resources and Unique Environments

Data Sources:
 City Parks - City of Salem
 Protected and Recreational Open Space - MassGIS

4.6 Scenic Resources and Unique Environments

Scenic landscapes

Salem has a number of scenic natural and historic landscapes which are themselves attractive and/or provide scenic views. These include but are not limited to:

- ☞ Salem Willows Park and Camp Naumkeag
- ☞ Derby Wharf Salem Maritime National Historic Site
- ☞ Winter Island
- ☞ Salem Common
- ☞ Forest River Park
- ☞ Ledge Hill (Mack) Park
- ☞ The Salem Woods located within Highland Park
- ☞ Gallows Hill Park
- ☞ the Forest River Conservation Area
- ☞ the Misery Islands Reservation.

Among the benefits are water views of the harbor and islands, as well as access to the water via the public dock. (See Map 4: Scenic Resources and Unique Environments)

Major characteristics, unusual geologic features, and any other resources for potential protection and exploration

Many of the most important unique natural and cultural environments in Salem are already preserved. Improvement of downtown waterfront redevelopment, waterfront access and associated amenities is a priority of the City government. To that end, the City is updating the Salem Harbor Master Plan and has established an Implementation Committee to oversee the plan. Permanent conservation protection for the Salem Woods located in Highland Park is needed, and preliminary discussions are also underway to explore means of preserving the entire Forest River corridor or estuary and river valley between the Salem Woods and Forest River Park.

Cultural, archeological and historic areas

Salem has a long tradition of historic preservation and consciousness.

Prehistoric significance of Salem's park lands

Although the City of Salem did not acquire many of its public park lands until the 19th or 20th centuries, due to the antiquity of Salem, and the earlier Naumkeag settlement which existed here, many of the city's park properties are historically significant. For example:

- ☞ Forest River Park and adjacent territories in South Salem are known to have been seasonally occupied by Native Americans between about 2,000BC and 1615AD.
- ☞ Winter Island was a significant Native American settlement and trade site, as well as Colonial fishing site.
- ☞ The Salem Willows was used as a place for Native American stone tool manufacture and camping.
- ☞ The Salem Woods possesses an important Native American history.
- ☞ Many of the high lands and hills in Salem, such as the original Castle Hill (since reduced in height) were evidently used as places for Native American military observation, signaling and fortification before the arrival of the English in the 1620s.



View of Cat Cove from Winter Island

The early establishment of the Peabody Museum and Essex Institute (now the Peabody-Essex Museum) testifies to Salem residents' concern for their cultural heritage. Founded in 1799, it is the oldest continually operating museum in the country and is still one of the main tourist destinations in Salem. The Salem Maritime National Historic Site was the first urban historic site designated by Congress for preservation and administration by the National Park Service. Historic Salem, Inc. is also among the oldest of community preservation advocacy groups in the nation. Salem 1630: Pioneer Village at Forest River Park is the oldest living history museum in the United States. Although the continuing maintenance of historic properties requires substantial attention and resources, both private owners and public institutions focus considerable efforts in this direction.

Salem's historic resources include:

- ☞ Fine examples of over ten historic styles of American architecture, ranging from mid-17th century through early 20th century;
- ☞ Arguably the finest collection of Federal Style and Federal Period architecture in the United States
- ☞ One of the best collections of Samuel McIntire designed building in the United States (McIntire Historic District Walking Trail).
- ☞ Some of the earliest established and best preserved urban parks in the nation;
- ☞ One of the few remaining colonial period wharves in the country;
- ☞ Many seventeenth and early eighteenth century structures from the Puritan and early maritime periods;
- ☞ Four local historic districts (Derby Street, Lafayette Street, McIntire, and Washington Square)encompassing approximately 550 17th-, 18th -, and early 19th-century structures;
- ☞ A large early cotton textile factory, immigrant settlement houses and neighborhoods, and leather industry archeological resources; and
- ☞ Historic sites associated with the late 17th-century witchcraft trials.
- ☞ Prehistoric Native American archaeological resources dating back approximately 4,000 years, ranging from the Late Archaic through Early, Middle, and Late Woodland Periods to Contact Period.

Salem has 24 National Register Individual Properties and 9 National Register Historic Districts. A multi-million dollar improvement project was recently completed at the Salem Maritime National Historic Site which included the construction of a replica tall ship moored at Derby Wharf.

The archeological survey of Salem prepared for the City in 1988 lists preservation priority areas for prehistoric sites and historic sites based on previous archeological findings and historic documentation.³

³ John Goff, Salem Preservation Inc. contributed to the information in this section.

Areas of critical environmental concern

Salem is not located within any state-listed Areas of Critical Environmental Concern. (See Map 4: Scenic Resources and Unique Environments.)

4.7 Environmental Challenges

Hazardous waste sites

State-listed confirmed hazardous waste sites are shown in Appendix C. Salem has no Federal Superfund sites. Most are relatively minor oil releases that have been or will be soon cleaned up. However, several other sites listed as reportable releases by DEP are currently being addressed but may require more DEP scrutiny. In May 2007, the City received a \$325,000 EPA brownfields cleanup grant to remediate 15 Peabody Street and 61 Ward Street, turning the former into a park and the latter into an improved intersection with a pocket park attached. Other sites, such as 4 Szetela Lane and 297 Bridge Street are being considered for redevelopment.

Landfills

No landfills currently operate in Salem. The last landfill was closed approximately 50 years ago and was located at the present site of the Bentley School. Solid waste is collected at the curbside by a private contractor once a week and is taken to Northside Hauling Inc., which disposes of waste in Peabody and Haverhill. Salem also operates a successful curbside recycling program and is a member of the North Shore Regional Recycling Committee.

NorthSide Carting operates a transfer station in Salem, owned by the City of Salem. Household waste is collected from residents and stored at the transfer station. The City is in the process of selling the transfer station to a new owner who will be obligated to remediate the property and maintain the site as a transfer station.

Erosion

Natural erosion occurs along the Danvers River from Cabot Farm northward, in the northwestern section of Collins Cove, and the east side of Winter Island. There are many examples of seawall erosion on public and privately owned land. Removal of natural vegetation along the banks of the North River, parts of Memorial Drive, and the areas near March Street and the Salem-Beverly Bridge makes these areas vulnerable to erosion.

Chronic flooding

According to the City Engineer, there is periodic flooding at the following locations:

- ☞ Canal Street
- ☞ Brook Street
- ☞ Areas along the North River near Leslie's Retreat Park, Furlong Park
- ☞ Parts of Jefferson Avenue near Rosie's Pond.

As part of its drainage and road improvement plans, the City will be addressing these flooding problems. In order to gain additional knowledge on flooding in Salem the City is working with a consultant to identify flooding concerns and potential solutions. The City recently formed a Citywide Flood Control Committee to work towards finding solutions for City wide flooding.

Sedimentation

Sediment is carried into Salem's rivers and harbor by stormwater drains and runoff. This sedimentation only exacerbates the already extremely shallow depths of the undredged portions of these bodies of water.

Invasive Species

Invasive species are a persistent problem and challenge in Salem as is the case throughout the Commonwealth. Japanese knotweed and phragmites are just two examples of invasives that are prevalent in Salem, especially around Winter Island. Additionally, the City has worked to remove phragmites from the Forest River.

Development impact

Because of the paucity of easily developable land in Salem, the City is not under severe development pressure. However, the new development that does take place is carefully monitored by the Planning Board and Conservation Commission to avoid environmental damage. For example, approval of proposed drainage systems routinely requires gas and oil separators in catch basins which must be cleaned out regularly. Restricted use of salt as a de-icing agent on roadways and parking areas proposed for construction is also a condition of approval.

Many wetlands along Highland Avenue have been lost to development or have been filled, and the water quality of the lowlands and coastal plains is still unsatisfactory, threatening recreation land in these areas. Efforts are being made to maintain existing open spaces and improve access to them, such as in the upcoming housing development west of Strongwater Brook, which will protect 93 acres of open space permanently and add a low-impact, publicly-accessible trail network intended for passive recreation such as hiking and bird watching.

Ground and surface water pollution: point and non-point

Water pollution in Salem includes historic pollution from industrial uses which can affect water if sediments are disturbed, boat waste, and stormwater runoff. All shellfish beds (836 acres) have been closed for harvesting in Salem since the 1960s. The state goals for water quality in Salem Harbor, the North River, and the Forest River are to make those water bodies fishable and swimmable. A 1995 report by the Massachusetts Bays Program indicated that none of these bodies were swimmable, but quality has improved significantly since then due to the combined efforts of the local communities.

The South Essex Sewerage District (SESD) was recognized in 2006 by EPA for an “Operations and Maintenance Wastewater Excellence Award.” The rehabilitation, repair, and replacement of the City’s water, sewer, and drainage systems has virtually eliminated combined sewer outflows and cross-connections and has greatly improved water quality, pressure, and flow, although extreme flood conditions can cause occasional problems. Both stationary and mobile boat waste pump-out stations have been established to ameliorate pollution from boats.

Non-point pollution from stormwater runoff remains the most significant source of pollution to Salem waters. Salem Sound Coastwatch started a Clean Beaches and Streams program that identifies contaminated discharges near swimming areas and works with the City on measures to improve water quality. An annual Salem Harbor Swim began in the summer of 2006 as a benefit event for Salem Sound Coastwatch, this serves as a community gesture towards the improved water quality in Salem Harbor and the desirability of further improvements.

Implications for open space and recreation

Much of the remaining undeveloped land in Salem is marked by the presence of ledge (bedrock at or near the surface), steep slopes, or wetlands. Water quality is improving as a result of programs to control point pollution. Salem’s cultural landscapes receive significant protection (as do many of the City’s natural landscapes) in particular the City’s last remaining natural estuary, the Forest River. Preservation, if not restoration, of other wetlands is essential and more visual and physical access to the water is needed. The rarest natural landscape resources in the City that need preservation are wooded upland areas, such as those surrounding Thompson’s Meadow, Salem Woods, Forest River, and Fort Lee.

A photograph of a park scene. In the foreground, there is a large tree trunk on the left and a grassy area with fallen leaves. In the middle ground, there is a paved path, a green trash can, and two white benches. In the background, there is a gazebo and more trees. The sky is blue with some light clouds.

Section 5

Inventory of Lands of Conservation and Recreation Interest

*Photo Courtesy of Salem Planning and Community
Development*

Inventory of Lands of Conservation and Recreation Interest

This section details information about open space and recreational lands in the City of Salem. The inventory is inclusive of land that is owned by the National Parks Service, the City of Salem, land under private ownership, and land owned or managed by organizations such as the YMCA or the Trustees of Reservations. The entire inventory is categorized by ownership. Determinations of each site's condition, recreational potential, and public access were made based on observation by City staff and members of the Open Space and Recreation Committee.

Preservation of open space is extremely important to the residents of Salem, the region, and the Commonwealth from several different perspectives. In addition to the typical open space and recreation facilities, Salem places a great deal of value in its historic and cultural resources. The National Park Service owns and manages some of these features. Additional land is owned and protected by abutting communities including the Town of Marblehead and the City of Peabody.

Much of the land listed in this inventory provides extensive passive and active recreational opportunities. The City has numerous park facilities, although short- and long-term maintenance is a significant issue. There are a number of existing open space, natural resource, and trail networks among the preserved parcels and with careful planning and additional acquisition, these networks can be further enhanced. The City will continue its efforts to determine where conservation restrictions may be appropriate to further protect valued open spaces.

The Open Space Matrix column headings are defined below.

- ☞ Map/Lot - Identifies the map and lot numbers on the City assessor's maps.
- ☞ Name/Location - Names the open space site and its street address.
- ☞ Zoning - Identifies the zoning district in which the parcel is located.
- ☞ Acres - Gives the site's acreage or an approximation in cases of the non-park and playground parcels. One acre is 43,560 square feet or 1/640 of a square mile.
- ☞ Ownership - Indicates the owner of the property and the agency or department responsible for managing and maintaining the parcel.
- ☞ Management - Agency or entity charged with managing the site.
- ☞ Use - Details the main uses for the site.
- ☞ Condition - Identifies the site condition (excellent, good, fair or poor).
- ☞ Recreation Potential - For land not used for recreational purposes, potential for recreational activities is identified or constraints are listed. Conservation land is generally deemed to have limited recreation potential except for passive recreation such as hiking and walking. Traffic islands, medians, cemeteries and other similar lands are presumed to have no recreational potential.
- ☞ Public Access - Indicates if the public can access the site on a good, fair, or poor rating scale.
- ☞ Grant or Funding Source - Where applicable, identifies the source of funding for that particular parcel, which could be from a public grant, private donation, City-owned land, deed restriction, etc.
- ☞ Degree of Protection - Indicates if the site, either by virtue of its zoning or by the fact that it has received state or federal funding, is protected from sale and building development (see below).

Note that the information contained in the inventory is based on Assessor's data updated through fiscal year 2007.

5.1 Types of Open Space and Recreation Land Protection

Determining where the open space and recreation land is located in Salem is the beginning stage of fully understanding what resources the City has and where they are located. Once they have all been identified, it is important to ensure their protection and maintenance in the future so as to help guarantee that many more generations or residents can enjoy them. For reference, according to the Division of Conservation Services, land within a community is protected (or in perpetuity) if it is owned by the local Conservation Commission, a state conservation agency, a nonprofit land trust or if the City received state or federal monies for the improvement or purchase of the land. Private property can also be permanently protected if there is a deed restriction, if the land is listed as having an Agricultural Preservation Restriction or if the Department of Environmental (“DEP”) has placed a restriction on the property for wetland conservation. Typically, land owned by other agencies like the Recreation Commission and the local school system may not be presumed to be permanently protected.

Listed below are details about different types of protection that either are or could be available to open space and recreation land in Salem.

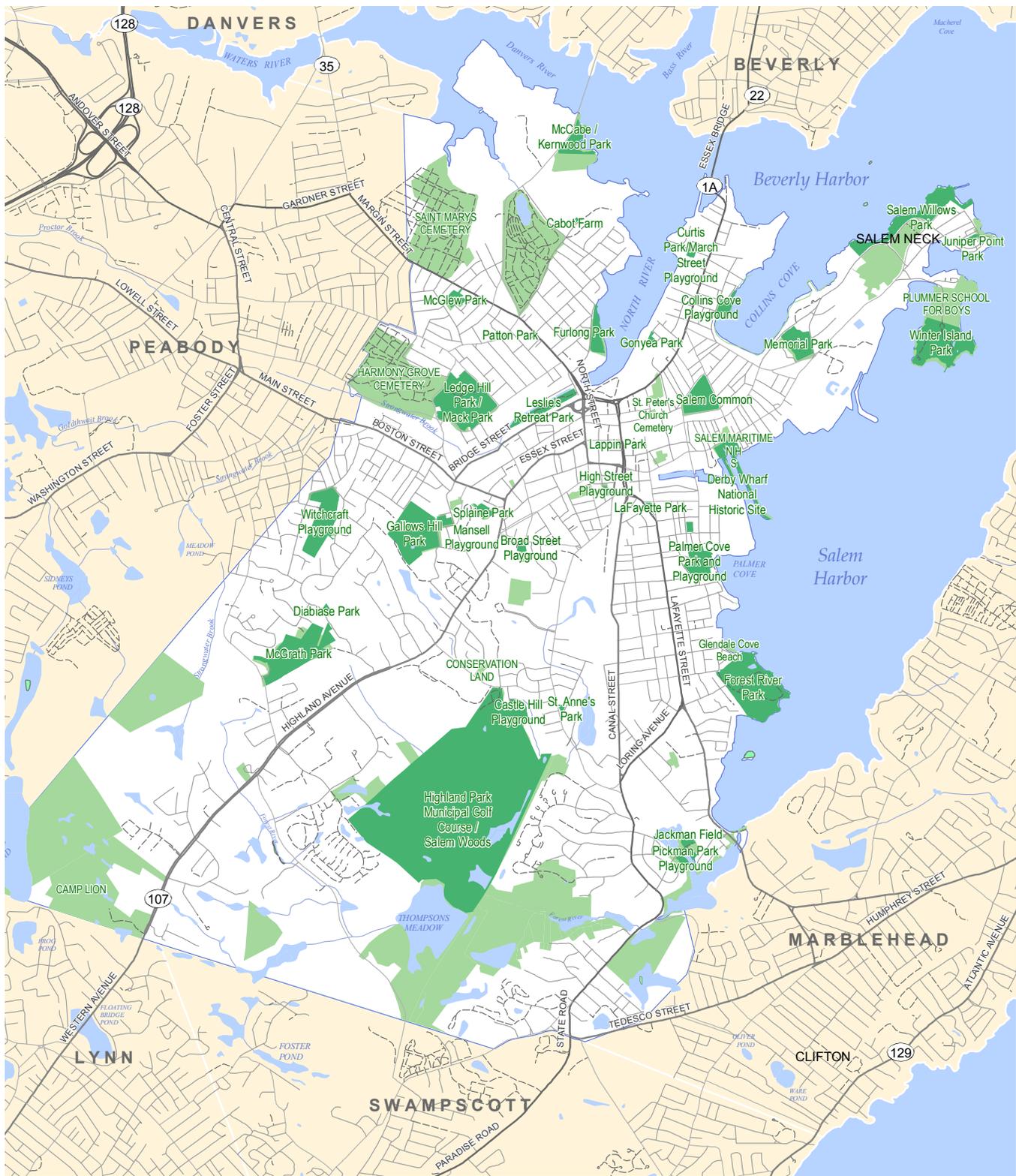
- ☞ Land & Water Conservation Fund Protection / Urban Self-Help Funding Protection – With the receipt of grant funding, Salem playgrounds and other parcels may afford protection as parklands, essentially in perpetuity. Note that for these properties, the protection of Article 97(below) would apply as well and if federal Land and Water Conservation Fund money has been obtained, P.L. 88-578 applies (The Land and Water Conservation Fund Act).
- ☞ Article 97 Protection - Article 97 of the Massachusetts Constitution protects all publicly owned lands used for conservation or recreation purposes. This provision protects lands acquired for natural resources purposes, meaning “conservation, development and utilization of the agricultural, mineral, forest, water, air, and other natural resources”. Before these properties can be sold, transferred, or even converted to a different use, this amendment requires action by the Conservation Commission and Parks and Recreation Commission, a 2/3 vote of the City Council as well as a roll-call 2/3 vote of the State House of Representatives and Senate.
- ☞ Protection through Ownership (“Fee”) - In some cases in Salem, the open space in question has been acquired in its entirety (“in fee”) by a public or private conservation interest or a State or Federal agency (such as the National Park Service). In many cases, such ownership will trigger other forms of protection, such as Article 97. If the owner is a nonprofit organization (such as the Trustees of Reservations), the land could in theory be sold and/or developed, but doing so could contradict the group’s conservation purpose.
- ☞ Protection through Conservation Restrictions, Easements, or other Deed Instruments - Due to the high costs of acquiring land, it has become increasingly popular to acquire conservation restrictions limiting future development. Similarly, access easements can provide permanent public access to a property. In certain situations, deed restrictions or easements may be granted by a private party as part of a development approval process. As with any matters involving real property, care must be taken in the drafting of the restrictions to ensure the rights and interests of all parties are represented and clearly documented. Conservation Restrictions must be approved by the municipality and the Massachusetts Division of Conservation Services.
- ☞ Chapter 61 - This program, through tax incentives, can help protect forest, agricultural and recreation land in Massachusetts through encouraged preservation. Landowners who wish to ensure the long-term protection of such land may be offered tax benefits as an incentive to manage the land for those purposes. Should the owner wish to end the agreement, the municipality has the authority to recover tax benefits given and has first right of refusal on the purchase of the land if it is to be sold for non-Chapter 61 purposes.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

- ☞ Chapter 91 Tidelands – Land that falls under the jurisdiction of Chapter 91 (Commonwealth tidelands) must include provisions for public use and access and this is an important element for the Harborwalk and other potential passive recreational and open space areas along the waterfront.

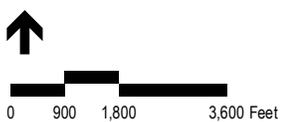
5.2 Inventory of Lands

Source:



Legend

- City Parks
- Protected and Recreational Open Space



Salem Open Space and Recreation Plan

Map 5
Open Space Inventory

Data Sources:
City Parks - City of Salem
Protected and Recreational Open Space - MassGIS

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Land Inventory Matrix – Lands of Conservation and Recreation Interest

MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
PUBLIC LANDS												
<i>Parks and Playgrounds</i>												
25	659	Broad Street Park/ Broad St.	R2	0.5	Salem City of (School Dept.)	Parks & Recreation	recreation	good		good	CDBG	none
23	51	Castle Hill Playground/14 Story	RC	3.8	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
36	473	Collins Cove Playground/ 31 Collins St.	RC	4.2	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
35	79	Common/Washingt on Square	RC	10.05	Salem City of	Parks & Recreation	recreation/historic	good		good		Article 97
36	181	Curtis Park/19 March St.	R2	0.62	Salem City of	Parks & Recreation	recreation	good		good	CDBG,JPARR	Article 97
9	257	Dibiase Park/46-48 Dell St.	R1	0.47	Salem City of	Parks & Recreation	recreation	fair		fair		Article 97
35	209	East India Sq./158 Essex St.	B5	0.2	Salem Redev. Authority	Cemetery/Shade Tree	Fountain and benches	fair		good		none
33	743	Forest River Park/38 Clifton Ave.	RC	29	Salem City of	Parks & Recreation	recreation	good		good	CDBG,LWCF	Article 97
27	471	Furlong Park/20 Franklin St.	RC	5.5	Salem City of	Parks & Recreation	recreation	poor		good	CDBG	Article 97
15	366	Gallows Hill Park/53 Hanson St.	RC	21.83	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
36	6	Gonyea Park/41 Northey Street	R2	.14	Salem City of	Parks & Recreation	recreation	good		good		none
25	594	High St. Park/2 High St. Court	RC	0.51	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
23	1	Highland Park./75 Willson St.	RC	270.63	Salem City Of	Parks & Recreation	recreation	good		good		Article 97
44	73	Juniper Park/28 Beach Ave.	R1	0.50	Salem City of	Parks & Recreation	recreation	excellent		good	CDBG	Article 97
28	18	Kernwood Marina & McCabe Park	R1	4.30	Salem City of	Parks & Recreation	recreation	good		Good/seasonal access to marina	CDBG,LWCF	Article 97
34	303	Lafayette Park/124 Lafayette St.	RC	0.50	Salem City of	Department of Public Works	recreation	poor		good	CDBG	Article 97
35	5	Lappin Park/112 Washington St.	B5	0.11	Salem Redev. Authority	Parks & Recreation	downtown park	good		good	CDAG	none
34	212	Mary Jane Lee Park (Prince St.	R3	0.73	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97

MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
		Playground/41 Palmer St.										
16	333	Mack Park/29-37 Grove St.	RC	25.80	Salem City of	Parks & Recreation	recreation	fair		good	CDBG	Article 97
17	276	McGlew Park/North St.	R2	2.40	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
9	38	McGrath Park/46 Marlborough Rd.	RC	22.30	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
15	329	Mansell Park/50 Proctor St.	RC	1.50	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
41	248	Memorial Park (Irzyk) /17 Fort Ave.	RC	7.40	Salem City of	Parks & Recreation	recreation	good		good	CDBG	none
34	455	Palmer Cove/30 Leavitt St.	RC	7.20	Salem City of	Parks & Recreation	recreation	good		Good/access to public ramp limited	CDBG	Article 97
27	54	Patten Park/41 Buffum Street	R2	0.08	Salem City of	Parks & Recreation	recreation	good		good	CDBG	none
31	286	Pickman Park/20 Lincoln Rd.	RC	3.01	Salem City of	Parks & Recreation	recreation	good		good	CDBG	Article 97
25	50	Splaine Park/23 May St. (rear)	RC	1.85	Salem City of	Parks & Recreation	recreation	good		good	UPARR	Article 97
41	1	Swinich Park/128 Derby St.	B1	0.03	Salem City of	Department of Public Works	urban park	good		good	...	none
45,42	1,89; 20	Willows Park/200 Fort Ave ¹	RC	24.62	Salem City of	Parks & Recreation	recreation	poor		good	CDBG,UPARR	Article 97
43	1	Winter Island/50 Winter Island Rd.	R1	27.10	Salem City of	Parks & Recreation	recreation	good		good	CZM,USH	Article 97
10	217	Witchcraft Heights/ Frederick St.	RC	15.00	Salem City of	Parks & Recreation	recreation	good		good	CDBG	none
42	1	Collins Cove/50 Webb St. (rear)	RC	18.20	Salem City of	Parks & Recreation	recreation	fair		good		...
36	472	Collins Cove/96 Webb St.	R2	2.10	Salem City of	Parks & Recreation	recreation/bike path	fair		good	CDBG	none
36	474	Collins Cove/2 Collins St.	RC	12.30	Salem City of	Parks & Recreation	recreation	fair		good		none
42	20	Fort Lee/100 Memorial Drive	RC	16.03	Salem City of	Parks & Recreation	passive recreation	poor		fair		Listed on national register of historic places
42	43	Camp Naumkeag/56 Memorial Drive	R1	4.7	Salem City of	Parks & Recreation	recreation	fair		fair/seasonal	...	none
15	317	33 Proctor St (abuts Mansell PK)	R3	0.44	Salem City of	Parks & Recreation		fair		good		none
24	217	0 Powder House	R1	1.5	Salem City of	Parks & Recreation	practice field	fair		good		none

1. There is a playground located within the Willows Park, adjacent to Camp Naumkeag called Waterfront Park. It was created in the 1930s and is an ADA accessible park, but is fenced off from the general public. It can be reserved for use through the Park and Recreation Department.

References	Public Comments	Five Year Action Plan	Goals and Objectives	Analysis of Needs	Community Goals	Inventory of Lands	Environmental Analysis	Community Setting	Introduction	Plan Summary
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MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
21	90	24 Riverview St. 28	R1	0.79	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	91	20 Riverview St.	R1	0.22	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	92	18 Riverview St.	R1	0.12	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	93	16 Riverview St.	R1	0.12	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	95	11 Riverview St.	R1	0.63	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	97	17 Riverview St.	R1	0.81	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	102	19 Riverview St.	R1	0.36	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
21	103	27 Oakview Ave.	R1	0.22	Conservation Comm.	Forest R. Cons. Area	conservation	fair	limited	fair	State Self-Help Funding	perpetuity
21	111	23 Riverview St.	R1	0.14	Conservation Comm.	Forest R. Cons. Area	conservation	fair	limited	good	State Self-Help Funding	perpetuity
21	238	0 Cedarcrest Ave. (rear)	R1	34.33	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	good	State Self-Help Funding	perpetuity
21	239	0 Cedarcrest Ave. RR	RC	2.05	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	fair	State Self-Help Funding	perpetuity
21	240	30 Riverview St. (rear)	R1	1.29	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	71	9 Riverview Street	R1	0.40	Conservation Comm.	Forest R. Cons. Area	conservation	Fair/potential encroachmen	limited	good	State Self-Help Funding	perpetuity
30	72	14 Riverview Street	R1	0.50	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	73	12 Riverview Street	R1	0.25	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	good	State Self-Help Funding	perpetuity
30	74	10 Riverview Street	R1	0.08	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	fair	State Self-Help Funding	perpetuity
30	75	8 Riverview Street	R1	0.09	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	good	State Self-Help Funding	perpetuity
30	76	4 Riverview Street	R1	0.20	Conservation Comm.	Forest R. Cons. Area	conservation	good	limited	good	State Self-Help Funding	perpetuity
30	78	14 Riverview Street (rear)	R1	0.50	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	79	12 Riverview Street (rear)	R1	0.50	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	80	10 Riverview Street (rear)	R1	0.04	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	81	8 Riverview Street (rear)	R1	0.02	Conservation Comm.	Forest R. Cons. Area	conservation	good	no	poor	State Self-Help Funding	perpetuity
30	82	402 Loring Avenue	RC	0.70	Conservation	Forest R. Cons.	conservation	good	no	good	State Self-Help	perpetuity

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MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
14	31	23 Dell Street 35	R1	1.30	Salem City of							
14	33	28 Dell Street 36	R1	3.70	Salem City of							
14	35	22 Dell Street 24	R1	0.44	Salem City of							
14	54	16 Dell Street 18	R1	0.35	Salem City of							
14	144	6 Dell Street 10	R1	0.46	Salem City of							
14	203	115 Highland Ave.	R1	2.12	Salem City of	School Department						
2	1	1 Wyman Sl.	R1	0.18	Salem City of		wooded, steep, underbrush		very limited	street		
2	26	16 Wyman Sl.	R1	0.28	Salem City of		wooded, gentle slopes		residential best	undev. street		
2	28	12 Wyman Sl.	R1	0.28	Salem City of		wooded, gentle slopes		residential best	undev. street		
2	37	10 Wyman Drive	R1	0.41	Salem City of		rough, scrubby		very limited	street		limited - wetland
8	8	0 Ravenna Ave. (rear)	R1	4.00	Salem City of		Mostly wetland surrounded by steep/moderate slopes		nature views from adj. lot	very limited		
46	92	Bakers Island Lot	R1	0.15	Salem City of					very limited		
46	128	Winnegan Ave., Bakers Island	RC	0.10	Salem City of					very limited		
46	94	Bakers Island Lot	R1	0.20	Salem City of					very limited		
46	14	Winnegan Ave., Bakers Island	R1	0.20	Salem City of					very limited		
3	3	460 Highland Avenue	B2	4.05	Salem City of							
3	75	411-415 Highland Avenue	R1	0.66	Salem City of							
3	80	9 Clark Street	R1	0.11	Salem City of							
6	18	0 Robinson Road	I	0.60	Salem City of		triangular parcel N of Lynn S & S7					limited - wetland
7	1	46 Clark Street	R1	0.78	Salem City of		wetlands in back					
9	130	18A Sable Road	R1	0.12	Salem City of							
9	259	38-42 Dell Street	R1	0.8	Salem City of		near Dibiase Park					limited - wetland
10	160	1 A Hilton Street	R1	0.30	Salem City of		pond/labuts school					limited - wetland
10	161	2A Hilton Street	R1	0.25	Salem City of		pond/labuts school					limited - wetland
11	5	0 Loring Avenue (rear)	R1	38.00	Salem City of		east of RR; wetland					limited - wetland
14	7	23 Mooney Road	R1	0.55	Salem City of		abutting wetlands in back					limited - wetland
14	107	112 Highland Avenue rear	R1	0.45	Salem City of							
14	121	24-36 Alameda Street	R1	4.00	Salem City of		includes wetlands					limited - wetland
14	203	115 Highland Ave	R1	2.12	Salem City of		wetlands					wetland
15	431	41 Alameda Street	R1	0.20	Salem City of		across from G. Hill					none

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MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
15	432	43 Alameda Street	R1	1.35	Salem City of		across from G. Hill					none
16	126	7 Irving Street	R1	0.18	Salem City of							
16	278	10 Phillips Street	R1	0.14	Salem City of							
16	336	43 Grove Street	R1	0.08	Salem City of							
21	123	471 Loring Avenue	R1	0.01	Salem City of		narrow silver at Loring & Chandler					
23	138	293A Jefferson Avenue	B1	0.04	Salem City of		by bridge over RR					
23	143	17 Parallel Street	B1	0.16	Salem City of		wetlands/Rosie's Pond				limited - wetland	
24	81	200 Jefferson Avenue Rear	RC/R3	.83	Salem City of		Wetlands/flood control				limited - wetland	
24	150	13 Lawrence St. rear	R2	0.46	Salem City of		wetlands/abuts RR				limited - wetland	
		0 Brooks Street	R2	0.30	Salem City of		Flood control easement (Ch. 121A)				limited - flood control	
24	218	0 Jefferson Avenue rear	R1	2.00	Salem City of		abuts Bertram Field					
24	219	Brooks Street	R2	.46	Salem City of		Includes stream and wetlands				Limited flood control and wetlands	
26	30	64 Flint Street	BP	0.04	Salem City of		part of Linear Park					
26	37	330 Bridge Street	I	0.10	Salem City of		part of new boulev. Row					
26	38	318 Bridge Street	BP	0.19	Salem City of		same					
26	408	252 Bridge Street	B5	0.83	Salem City of		nr train station					
26	435	8 Sewall Street	B5	0.84	Salem City of		parking					
26	439	21 Lynde Street	B5	0.09	Salem City of		parking					
26	455	283+287 Essex Street	B5	0.34	Salem City of		parking					
26	470	309 Essex Street	R2	0.04	Salem City of		corner Summer					
26	506	66 Federal Street	B5	0.39	Salem City of		by cloverleaf & Bap. Church					
26	639	148 Federal Street	R2	0.25	Salem City of		silver by Flint & St. James					
33	530	54 Lafayette Place	R2	0.45	Salem City of		across from Pioneer					
33	753	80 Salem Street	R1	0.27	Salem City of		across from Pioneer					
34	84	3 Cedar Street Court	R2	0.10	Salem City of		possible lotto?					
34	420	3 Front Street	B5	0.23	Salem Redev. Auth.		parking					
34	444	315 Derby Street	B5	0.30	Salem City of		end of S. River; entrance to future Harborwalk					Easement and agreement with Bank

MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
35	196	15 Federal Street	B5	1.29	Salem Redev. Auth.		parking				none	
35	211	19 Church Street	B5	0.01	Salem Redev. Auth.		silver					
35	216	21 Church Street	B5	0.26	Salem Redev. Auth.		parking				none	
35	219	24-38 Charter Street	B5	1.00	Salem City of		parking				none	
35	409	29 Federal Street	B5	0.24	Salem Redev. Auth.		parking				none	
36	2	11 Woodbury Court rear	R2	0.02	Salem City of		triangular parcel					
36	186	20 March Street	R2	0.24	Salem City of		Adjacent to Bridge Street bypass					
36	305	19 Barton Street	R2	0.19	Salem City of		Open Space across from Collins Cove Park					
37	80	1 Bridge Street	82	0.07	Salem City of		Currently vacant, plans for MHD to develop parcel into a park					
38	1	Jeggle Island	RC	0.33	Salem City of		Passive recreation					
38	2	Island SW of Jeggle Island	RC	0.01	Salem City of							
41	235	11 Fort Avenue	R2	0.20	Salem City of		Land under agreement to be developed					
41	241	15 Fort Avenue	R2	0.03	Salem City of		Open Space/lawn					
41	244	1 Fort Avenue rear	R2	0.25	Salem City of		Land under agreement to be developed					
41	321	12 Block House Square	I	0.09	Salem City of		Open space adjacent to Dominion					
42	2	40 Webb Street rear	RC	0.71	Salem City of		Passive recreation; Coll. Cove, tidal flats		limited - wetland			
42	65	67 Memorial Drive rear	R1	2.50	Salem City of		Open space		limited - wetland			
42	67	23 Victory Road	R1	0.35	Salem City of		Open space abuts SEDS buffer zone land					
42	68	22 Victory Road	R1	0.16	Salem City of		Open space abuts SEDS buffer zone land					
44	71	31 Juniper Avenue rear	R1	0.01	Salem City of		Open space abuts playground					
44	109	30 Beach Avenue	R1	0.17	Salem City of		Parking lot					
44	113	125 Bayview Avenue	R1	0.12	Salem City of		Landscaped open space					
52	1	Ram Island	RC	2.00	Salem City of							

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MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION	
		Total Open lands		109.39									
Monuments, Medians, & Traffic Islands	25	163 431 Essex St.	RC	0.04	Salem City of		traffic triangle						
	25	176 427 Essex St.	RC	0.09	Salem City of		traffic triangle						
	25	658 0 Dalton Parkway	RC	0.27	Salem City of		Monument/median					Article 97	
	35	178 37 Washington Sq. North	RC	0.09	Salem City of		island/triangle						
	35	273 28 Hawthorne Blvd.	B5	0.10	Salem City of		island/triangle						
	35	278 20 Hawthorne Blvd.	R2	0.33	Salem City of		monument/median					Article 97	
	36	316 0 East Collins St.	R2	0.18	Salem City of		traffic island						
	44	38 0 Columbus Sq.	RC	0.16	Salem City of		traffic island						
			Witch Memorial		0.33								Article 97
			Total Traffic Island Land		1.59								
Other Public													
	35	25 242 Bridge Street	I	36.50	MBTA								
	30	77 408 Loring Avenue	R1	2.3	Marblehead Town of			RR ROW					
	31	233 463 Lafayette St.	RC	.4	Marblehead Town of			RR ROW					
	31	234 467 Lafayette St. rear	R1	0.34	Marblehead Town of			RR ROW					
	30	50:2 445 Loring Ave. (Gravel Pit Pond)	R1	26.90	Marblehead Town of								
	11	3:20 1-202 161 Swamscott Road	RC	79.00	Marblehead Town of								
	11	6 0 Swamscott Road	B2	1.80	Swamscott Town of								
4	1 Marlborough Rd. (Peabody Res.)	RC	43.60	Peabody City of				none					
1	1 Highland Ave. rear (Spring Pond)	RC	102.62	Peabody City of				watershed					
46	124 US Coast Guard, Bakers Island		8.80	U.S. Government				none					
35	408 National Historic	R2	6.75	United States of	National Park		Historic Site;						

MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
17	178	St. Mary's Cemetery	R1	86.27		private	cemetery	adequate		yes		
35	181	St. Peter's Church	R3	0.50		private	cemetery	good				
		Total Cemetery Land		225.48								
		TOTAL PUBLIC LANDS		1508.74								
PRIVATE LANDS												
24	211	B & M Railroad ROW		23.50	Guilford Transportation	private	railroad track		pedestrian/bike trail			none; city purchase underway
31	196	IB & M Railroad ROW		1.40	Guilford Transportation	private	railroad track		pedestrian/bike trail			none; city purchase underway
31	323	B & M Railroad ROW		0.19	Guilford Transportation	private	railroad track		pedestrian/bike trail			none; city purchase underway
6	12	0 Robinson Road	I	29.11	Lynn Sand & Stone (Aggregate Industries)	private			recreation			none; potentially developable
6	5	4 Wyman Place	R1/1	1.96	Cornick, James	private	wetlands		recreation			limited - wetland
6	16	140 Swampscott Road	I	51.88	Lynn Sand & Stone (Aggregate Industries)	private	mining		recreation			none
8	29-201-202	296 Highland Ave	RC	12.04	Amenta Messina Deschamp	private	old farm, road/paths, dumping		nature value w/ lots 8, 102, 69			none; potentially developable
8	68	27 Marlborough Rd.	R1	0.31	New England Power Co.	private	ridge and wetland		buffer, conservation	street		Undevelopable
8	69	3 Michael Rd.	R1	5.70	New England Power Co.	private	very steep & wetland		buffer, conservation	limited		none; potentially developable
13	5	199 Highland Ave	RC	34.50	New England Power Co.	private			conservation			electricity ROW
42	25	70 Memorial Drive	R1	5.20	New England Power Co.	private			conservation			electricity ROW
42	87	41 Fort Ave	R1	.16	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	88	43 Fort Ave	R1	.16	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	89	45 Fort Ave	R1	.16	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	90	47 Fort Ave	R1	.18	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	91	49 Fort Ave	R1	.18	South Essex Sewerage District	private	Open space buffer		Conservation			none

MAP	LOT	NAME/LOCATION	ZONING	ACRES	OWNERSHIP	MANAGEMENT	USE	CONDITION	RECREATION POTENTIAL	PUBLIC ACCESS	FUNDS USED	DEGREE OF PROTECTION
					Sewerage District		to SESD					
42	92	51 Fort Ave	R1	.19	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	93	53 Fort Ave	R1	.25	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
42	95	59 Fort Ave	R1	.23	South Essex Sewerage District	private	Open space buffer to SESD		Conservation			none
23	2	0 Story Street	RC	5.80	Leo Higgins	private	wooded hillside		conservation	limited		Undevelopable
23	131	3 Parallel Street	RC	0.05	Amy Workman	private	mainly wetland		conservation value	none		limited - wetland
23	144	282 Canal Street	RC	9.77	Esther Realty Trust	private	mainly aquatic		conservation value	road; path		Limited - wetland
28	16:3 01-3	Ome Street	R1	27.74	Cabot Farm Trust	private	none		scenic/ recreation	none		none; potentially developable
31	237	485 Lafayette Street	R1	1.39	Glover Estates, LLC	private			scenic ("Chadwick Lead Mills")			none; scheduled to be cleaned up and developed in 2007
36	87	24 Saunders Street	R2	2.66	W & G Realty Trust	private			scenic/ recreation			none; developable
41	259	SHAPE Park/16 Derby Street	R2	0.37	Morrissey Brooke D. et. Alii	private, Friends group	Open space/passive recreation		recreation			none; developable
		Total Private Land		215.08								
<i>Chapter 61 Land</i>												
28	19	Kernwood Golf Course/1-9 Kernwood Street	R1	136.80	Kernwood Country Club	private	recreation	good	golf n'hood sledding/skiing			Ch. 61 B
28	2	Kernwood Country Club/2 Kernwood Street	R1	24.00	Kernwood Country Club	private and Parks & Recreation	recreation	good	.51 ac. is Cabot Farm Playground	Goodfair		Ch. 61 B
		Total Chapter 61 Land		160.8								
		TOTAL PRIVATE LANDS		375.88								

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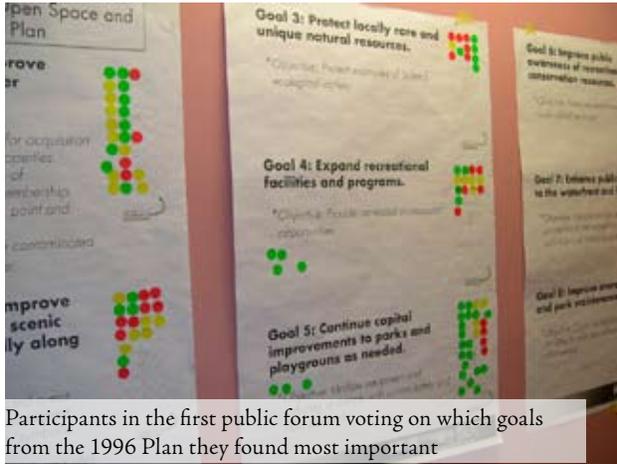
Section 6



Community Goals

Community Goals

6.1 Description of Process



Participants in the first public forum voting on which goals from the 1996 Plan they found most important



The goals and objectives for this 2007 Open Space and Recreation Plan update were derived from a series of meetings and opportunities for public input. The basis for this effort was the previous 1996 OSRP goals and objectives. During the drafting of this plan, a variety of methods, as described in Section 2: Introduction Planning Process and Public Participation, were undertaken to gather information about the City’s Open Space and Recreation areas and goals the community has for maintaining and improving these areas.

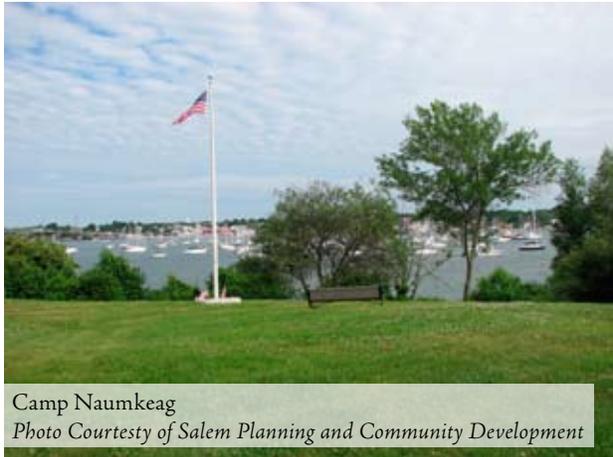
Two public forums were held, one in January 2007 and the second in May 2007, to gather input from the community. Both were held at the City Hall Annex. In attendance were all the parties involved in writing the plan: the Salem Open Space and Recreation Committee, members of the City Council, key City officials and staff, representatives of VHB, and interested citizens. During the first public forum in January, the 1996 OSRP goals were presented to citizens. A dialogue ensued where the participants at the forum provided their suggestions on amendments and additions to the goals and objectives as they were worded in the previous plan.

In addition to this, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) exercise was conducted. The purpose of a SWOT is not to dictate what the public sees as important in the planning process, but rather to hear them out and work from their opinions. During the SWOT exercise held in January a few major themes emerged. They were:

- ☞ **Strengths** – Salem has a vast and varied stock of open space and recreation resources, public interest in what happens with said resources, and an extensive waterfront with adequate access
- ☞ **Weaknesses** – The park system does not present opportunities for all age groups, maintenance of current facilities is lacking, playing fields are overused, and boating access to the water is limited
- ☞ **Opportunities** – Creation of organized winter activities, ally with Salem Public School for nature education, mailing to new residents introducing them to open space and recreation resources in Salem, post the map of Open Space in Salem on the City’s webpage to inform residents of the City’s resources
- ☞ **Threats** – Encroachment onto parkland by adjacent property owners, fees as a barrier for users, imbalance in park usage, invasive flora and fauna, vandalism

Prior to the SWOT exercise the participants had an opportunity to vote on which goals and objectives they found most important. This was accomplished through a straightforward process that used stickers and large

print outs of the goals. Each participant was given four stickers and simply affixed them next to the goals they valued most. The stickers were then tallied up and all data gathered from the dialogue prior to this exercise was recorded and analyzed.



The second public forum was held in May and was less attended than the first. However, the crowd at the second forum participated actively and provided more valuable input into the plan's creation. This meeting included a presentation by graduate students in the Tufts University Urban and Environmental Policy and Planning program. Their project for the Salem Sound Coastwatch, focused on the reuse of the 15 Peabody Street parcel in the Point neighborhood of Salem. The presentation included a proposal for a new park linking to the Harborwalk around downtown Salem. More on this project can be found in Sections 7 and 9 of this plan. This forum was more informal than the first and centered on conversation with the attendants. Through this exchange, some key issues were brought out:

- ☞ Pervious pavement and other sustainable technologies should be the norm when it comes to upgrades and future parks and recreation projects
- ☞ Preserving and increasing the tree canopy in Salem should be a goal
- ☞ Parking at Fort Lee/The Salem Willows Park needs to be addressed
- ☞ Make sure the 2007 OSRP melds with the Salem Harbor Plan from May 2000
- ☞ Creation of a 501(c)(3) to generate funding for parks and open space, mirroring the Friends of Boston Parks model
- ☞ Include the park proposed by MassHighway as mitigation for the Bridge Street Bypass – the park shall be located at the end of Bridge Street, at the site of the old Beverly/Salem Bridge

6.2 Statement of Open Space and Recreation Goals

The Committee took this work and weighed in on which goals they felt were feasible and high priority issues. They met monthly and a representative of VHB attended all meetings, some of which focused on certain areas of the plan, i.e. recreation with the Parks and Recreation Director. Through this process the Committee honed in on a final set of policy and action plan imperatives. The end product of this process was used as a baseline to formulate the new goals and objectives for the 2007 - 2012 Plan. These discussions resulted in the final set of goals and objectives listed below. More details on the specific objectives under each goal can be found in Section 8.

1. Maintain public spaces and recreational facilities
2. Protect open spaces
3. Develop and implement a capital improvement program
4. Improve public access and awareness

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



Section 7

Analysis of Needs

Collins Cove
*Photo Courtesy of Salem Planning and
Community Development*

Analysis of Needs

7.1 Summary of Resource Protection Needs

As described in previous sections, Salem is essentially a built-out community with little additional open land available to add to its inventory of protected land. The City, through several of its departments and the Salem Re-development Authority own or control approximately 115 acres of land classified as open land. However, many of these parcels are scattered, very small inholdings that have little potential for any open space or recreational use. Others have wetlands or are serving a flood protection purpose, so while they have a needed resource protection use, they cannot provide public access.



A path leading up the the band stand in Salem Willows
Below: The band stand up close

There are 376 acres of land held by private parties, 161 acres of which are owned by the Kernwood Country Club as a golf course. The three parcels that comprise Kernwood are the only lands held under Chapter 61 B in Salem – there are no other Chapter 61 holdings in the City. Another 72 acres are held by utility and railroad interests and have limited use for open space or recreational purposes. An additional 81 acres is owned by Lynn Sand and Stone (Aggregate Industries) and is deemed as possibly developable land that may have some recreational potential as well. However, that land is currently being mined for sand and gravel and will likely require substantial restoration before any other use can be contemplated on the site. The remaining 62 acres of privately owned land have some potential for recreation or could be developable, although there are some small parcels that are predominantly wet.

Thus, in order to expand upon possible open space and recreation opportunities, the City may want to focus its attention on the Lynn Sand and Stone (Aggregate Industries) parcels, as well as some of the land owned by individuals or real estate trusts.

Salem's primary water source is Wenham Lake which is re-charged by the Putnamville Reservoir, the Ipswich River, and Longham Reservoir. These all lie outside the City's border. It also is served by public sewer. Thus, open space and recreational planning in Salem has little direct impact on the City's water supply.



7.2 Summary of Community's Needs

The City of Salem is in a unique situation with regards to its location and amenities. The community is located in close vicinity to the City of Boston and almost all of its developable land has been used, yet there is a wide array of recreational opportunities in the City. Much of this is due to the historic nature of Salem and there are numerous outlets to learn about Salem's history and the impact it had on the region over time. Much of this history has been defined by the witchcraft trials of the early 1600s, but the City has a rich maritime heritage as well. This was recognized by the National Park Service when it established the Salem Maritime National Historic Site.

The Forest River Park, Winter Island Park, and Salem Willows Park stand out as breathtaking natural resources and good examples of the City's shoreline resources, but other parks including Mack Park and the Salem Common hold an equal amount of affection with local residents. The City has a wide diversity of park and recreational opportunities and facilities, but the underlying concern voiced by residents has been the need to ensure better maintenance to these facilities and to provide enhancements at a number of them.



Enhancing, maintaining and preserving the recreation amenities in Salem is a major goal of this Open Space and Recreation Plan. The community is fortunate to have a number of playgrounds and parks as well as passive recreation areas. However, as in all communities, there are needs, that are not being met. Extending and adding bicycle trails, playgrounds for young children, playing fields for soccer, softball, baseball and football, local neighborhood parks, more conservation areas, and family picnic areas are desired by residents of the community.

Salem has many resources including an extensive coastline stretching 11.2 miles and over 40 parks open to the public. However, access to the waterfront and open space are often difficult to find and are underutilized because of a lack of way-finding signs. There is a need to identify and provide way-finding signs to these locations to promote access to the water and encourage use of all parks located throughout Salem.

Another need that exists in Salem involves the elderly and disabled population of the community. Not all of the community's available recreation amenities are accessible, nor are they geared toward older residents. As residents continue to age, more attention needs to be given to adult recreational needs (middle aged and elderly). The City should determine how to incorporate these needs into its planning for parks and recreational activities and whether the Council on Aging has the capacity to broaden its scope and expand recreational opportunities for older residents in coordination with the Salem Senior Center.

As part of this planning process, the City undertook an extensive survey to determine compliance with the requirements of the Americans with Disabilities Act (ADA) with respect to accessibility to open spaces and recreational facilities in Salem. Except for the newest parks and playgrounds, the City generally is not in compliance with these requirements. As a result, one of the key recommendations of the plan is to establish a timetable and strategy for meeting the ADA requirements in its parks, ballfields, and playgrounds. A summary of the results of this ADA Self-Evaluation can be found in Appendix A of this plan, along with the City's ADA policies. For a more detailed assessment for each park, please contact the Salem Planning and Community Development Department at 978.619.5685.

Implementing this plan will help to ensure that future generations of residents living in Salem will be able to enjoy the open space and recreational facilities scattered throughout the community.

State Open Space and Recreation Efforts

In 2000, the Commonwealth of Massachusetts produced a document called the *Statewide Comprehensive Outdoor Recreation Plan (SCORP)* in 2000¹. The SCORP is a document that also looks at open space and recreation, but from a regional perspective. The purpose of the plan is to help direct the best investment of funds and effort towards protecting and enhancing recreation resources.

Salem is located in the Northeastern Region of the SCORP, which is generally a fairly urbanized area. One of the most important water resources within this region is the Ipswich River, which in part provides some of the City's drinking water and defines the region's coastal resources. It is interesting to note that this region ranks fifth out of seven across the state in terms of open space acreage and the percentage of regional land area in open space, while ranking second in population. On a regional basis, most of these open space resources serve conservation purposes rather than recreation.

Activities that are the most popular in some of these open space areas include swimming, walking, sightseeing and tours, hiking, and fishing. Salem is fortunate in that it can provide most of those opportunities, particularly the sightseeing and tours given the historic resources for which the City has become well-known. Regionally, high levels of activity are reported for baseball, sunbathing, horseback riding, off-road vehicle driving, snowmobiling, motorized boating and surfing. To try and address interest in Salem for sailing, a group of residents, developed Sail Salem a 501(c)(3), to offer sailing lessons to kids and adults. The City and the Park and Recreation Commission are working with Sail Salem to determine a location on Winter Island to begin this program.

After water-based activities, passive recreation was a significant activity in the region. Due to Salem's substantial coastal beaches and shorelines, it is not surprising that this type of recreation is a popular choice. Again, Salem affords these types of opportunities given the large percentage of publicly accessible shoreline in the City.

In the region, the highest level of dissatisfaction fell in the bikeway category. However, the City has made establishing more bikeways a high priority and is making progress in that regard.

7.3 Management Needs – Potential Change of Use

Communication amongst the various departments, boards and commissions in the City of Salem is imperative to the success of the Open Space and Recreation Plan. The City Council, Conservation Commission, Redevelopment Board, Recreation Department and Parks and Recreation Commission all need to coordinate regarding the implementation of this plan. Thus, there should be some entity charged with overseeing implementation of the recommendations found in the Five-Year Action Plan (see Section 9). Ideally, such an entity should be a committee of the City that would monitor progress and coordination of the actions and priorities of the various depart-

¹ Massachusetts Outdoors 2000!, *Statewide Comprehensive Outdoor Recreation Plan*, Division of Conservation Services, 2000.

ments, boards, and commissions. This is important because these public entities have numerous other responsibilities that may prevent them from focusing entirely on implementation of this Plan. Such a committee could be comprised of representatives of relevant departments, boards and commissions, and would meet as needed to address plan implementation.

The City has already begun partnerships with non-profits and encouraging the creation of “Friends of” groups. These groups typically focus on one park or open space resource to look after. These partnerships should be continued and enhanced to support the implementation of the Plan. Money donated to these organizations shall be spent specifically for the benefit of the particular park or parcel the group is focused on. This helps leverage additional maintenance and enhancement funding. Additionally, non-profit organizations are often the only groups eligible for certain types of funding sources or grants. Encouraging the creation of “Friends of” groups allows for the provision of some property management functions further assisting the City in meeting the demands for services.

At this time, given the open space parcels that are held privately, there is little potential for change of use that may result in new open space acquisitions. The only land held under the Chapter 61 program is the Kernwood Country Club and at this time there is no concern that it may change its use as a golf course since it is the only private course in Salem. However, the City should be aware that there is a national trend towards converting golf courses to other uses.

City Recreational Facilities

Bike path



The Boston & Maine Railroad right-of-way was deeded to the City on November 1, 1996 for \$220,000 (paid for by MHD Enhancement Funding Grant). On September 11, 1997 the Salem City Council voted to accept the right-of-way deed to the City of Salem for the conversion into a multi-use trail/bike path, and was approved by the Mayor on September 22, 1997. Design and engineering of Phase One of the Marblehead Branch Bike Path (now called the Salem Bike Path) began in 1998. Construction of the paved Salem Bike Path was completed and opened to the public in the summer of 2002.

The Salem Bike Path is a city-owned and managed multi-use trail. Envisioned as a public all-season trail, the Salem Bike Path is a branch off of the Town of Marblehead’s Recreational Trail. This facility is part of the City’s vision for a network of off road multi-use trails that will extend throughout Salem and regionally to its neighboring municipalities. The Salem Bike Path begins at Lafayette Street, by the City of Salem and Town of Marblehead line and continues approximately 2,500 linear feet alongside Salem State College Central Campus

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

toward Loring Avenue. Opposite Loring Avenue the bike path continues approximately 450 linear feet and ends at Canal Street. In its entirety, the Salem Bike Path is roughly 3,000 feet in length or roughly a half-mile. The entire Salem Bike Path is paved.

In June 2006, the City of Salem established the Salem Bike Path Committee to assist in expanding the bike path throughout the City and connecting it to the surrounding communities. The Committee also advocates for bike safety, alternative transportation, and bicycling as a whole. The Salem Bike Path Committee holds its regularly scheduled monthly meetings.

The City of Salem Bike Path was designated as part of the East Coast Greenway Alliance Trail System in January 2007. The East Coast Greenway Alliance is an initiative aiming to connect all the major cities of the East Coast along a continuous, off-road path, the East Coast Greenway spans 3,000 miles from Calais, Maine to Key West, Florida. With the trail now 21 percent open for public use, individuals and communities all along the East Coast are already beginning to enjoy the Greenway's many health and economic benefits.

Winter Island

Winter Island, a 38 acre, approximately ½ mile long, ¼ mile wide island located on the western side of Salem Harbor. The island is connected to the mainland by Winter Island Road which contains a small residential neighborhood on Winter Island Road; the Plummer Home for Boys which is a residential facility for youth located on a large 18 acre site, and Winter Island Park which is a city-owned 27 acre public park.

From the 1930s to the early 1970s, Winter Island was used by the federal government as the US Coast Guard Air Station at Winter Island in Salem, MA. The facility was originally staffed with 35 men and two airplanes and at one point had over 100 men at the facility. During this time there existed a campus containing various Coast Guard buildings including, a Hangar, City of Salem Harbormaster building, a function hall, the Winter Island Manger's office, store, and Barracks Building.

The City of Salem would like to rehabilitate the Barracks Building for adaptive re-use. A feasibility study was completed in July 2007 to determine the best uses for the Barracks Building on Winter Island. Potential uses were identified based on public input and interviews with various interested parties. Uses considered in the Study include a function hall, a community boating program, common office and meeting room space for public organizations and other uses. The Study recommends that the City move forward with securing grant monies to restore the building to a level that would allow leasing to one or more suitable users under a long term agreement with the City retaining title to the property and in a manner that rehabilitates the more important architectural exterior features of the building.

Winter Island has stunning view of the Salem Harbor and has been developed as a public park providing various recreational opportunities for Salem residents as well as non-residents. The island contains 14 tent camping site along the northerly side of the island near the bath house and gate house and 28 Recreational Vehicle (R/V) spaces in the main parking lot adjacent to the small function hall along the slope to the west of the gate house. There are also seven group area sites, 12 Tent/RV sites, five pop-up sites and three picnic areas.

The island contains three beach areas: Waikiki Beach, which is a long sandy beach located on the northeast side of the island is heavily used during the summer months for swimming and sunbathing activities, a cobble beach located on the easterly side of the island between the Pickering Lighthouse and the Public Pier, and a sandy/cobble beach located just south of the Hanger and west of the State Boat Ramp. The Coast Guard igloo area is used as a place to gather and play cards. There is large concrete state owned double width public boat ramp as well as a City-owned pile supported Public Pier and transit floating dock system used for short term passenger loading and drop off located along the south side of the Island.

The Harbormaster Office is at the southwesterly tip of the island south of the Barracks Building. The Harbormaster keeps its boat(s) docked at the docking system in the summer. There is also a small 1,670 sq ft single story function hall that is rented for events, as well as an outdoor covered shelter area that is also rented for functions and concerts. Fort Pickering, which is located on the northeasterly side of the island is in a state of disrepair, was placed on the National Register of Historic Places in 1973.

15 Peabody Street



In the Spring of 2007, a group of masters degree students from the Tufts University Urban and Environmental Policy and Planning program conducted a project on behalf of Salem Sound Coastwatch and the City of Salem to examine the feasibility of planning a new park on a 12,400 square foot parcel at 15 Peabody Street in the Point neighborhood of Salem. This neighborhood is currently underserved with respect to open space and park facilities and this particularly parcel was vacant although it has some contamina-

tion issues that require remediation. Given the parcel's location along the South River, it provided a unique opportunity to help in revitalizing the neighborhood while making a significant improvement to the Salem Harborwalk effort.

The Tufts group presented a preliminary design for a small pocket park on the parcel. The concept includes a small playground along with sitting areas, a mural, and game tables (chess, checkers, etc.). The City recently received a brownfields grant from the US Environmental Protection Agency to help in the site's cleanup.

Harbor Plan

The Salem Harbor Plan was completed in 2000 and is currently being updated. Implementation of the plan is phased in on a sub-regional basis, with the focus being on waterfront development and public access. The plan's vision is based upon the City's historical and maritime character and focuses on economic development, cultural and historical features, and environmental resources. The main goal is to revitalize the City's waterfront.

One of the main tenets of the plan to provide public access to the waterfront is to establish a Harborwalk connecting the downtown to the waterfront. It creates an approx. ten foot wide path with ten feet of appurtenances that links the waterfront with historic and cultural features in Salem, as well as important environmental resources.

Boating

Salem is the second deepest of the five ports in the Commonwealth of Massachusetts. International shipments of coal and oil are received by the electric power plant inside the harbor. Especially in limited visibility, recreational boats must be aware that an 800 ft. tanker and escorting tugs may transit the main ship channel without warning. These ships draw 35 feet and have the final right of way over all recreational boats, including sailboats, due

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

to their inability to maneuver or deviate from the channel. Mid-size cruise ships also drop anchor in the harbor several times a year. Construction will begin soon on a new wharf to accommodate larger cruise ships and ferry service to Boston. Scuba diving is permitted anywhere in Salem except the channels.

Transient vessels are welcome to drop anchor on the Marblehead side of the inner harbor. Pickering Wharf Marina and Hawthorne Cove Marina both have transient dockage available. Hawthorne Cove also offers transient moorings. The Salem Harbor Plan will be addressing the amount of public transient dockage available in Salem.

There are no public fuel docks in Salem and the closest is Port Marina in Beverly, which offers gas and diesel. The Salem Willows Yacht Club does sell gas to the public when in season. Palmers Cove Yacht Club, located deep inside the inner harbor, has no fuel facilities. Dions Yacht Yard, Hawthorne Cove Marina and Winter Island Yacht Yard are all equipped with travel lifts and are available for repairs.²

Park Maintenance Issues



Graffiti on a park bench in Leslie's Retreat

One of the most commonly voiced concerns relating to Salem's open space and recreational facilities is the need to make certain repairs and upgrades to specific parks, and the need to develop a comprehensive plan for long-term maintenance and enhancements throughout the system. Moreover, many playgrounds need updated equipment to enhance safety. Based upon information provided by the Recreation Director and the Parks and Recreation Commission in the drafting of this plan, the following items are high priorities for the City (in no particular order):

- ☞ Repairs to the Salem Willows Pier
- ☞ Renovate the bathrooms at the Willows, Mack Park and Forest River Park
- ☞ Replace the roof at the Witch House
- ☞ Replace the garage roof at Mack Park and the municipal golf course
- ☞ Resurface the Forest River Park Pool
- ☞ Reinstall benches at the Willows
- ☞ Restore the fence at the Common
- ☞ Playgrounds need updates and improvements
- ☞ Repair/replace seawalls at Collins Cove, Willows and Forest River (grant money available for repairs in 2007 for some of these repairs)
- ☞ Repair tennis courts
- ☞ Upgrade picnic areas at McCabe Park

² www.salem.com/pages/salemMA_Harbormaster/index

Team Sports and Fitness Programs

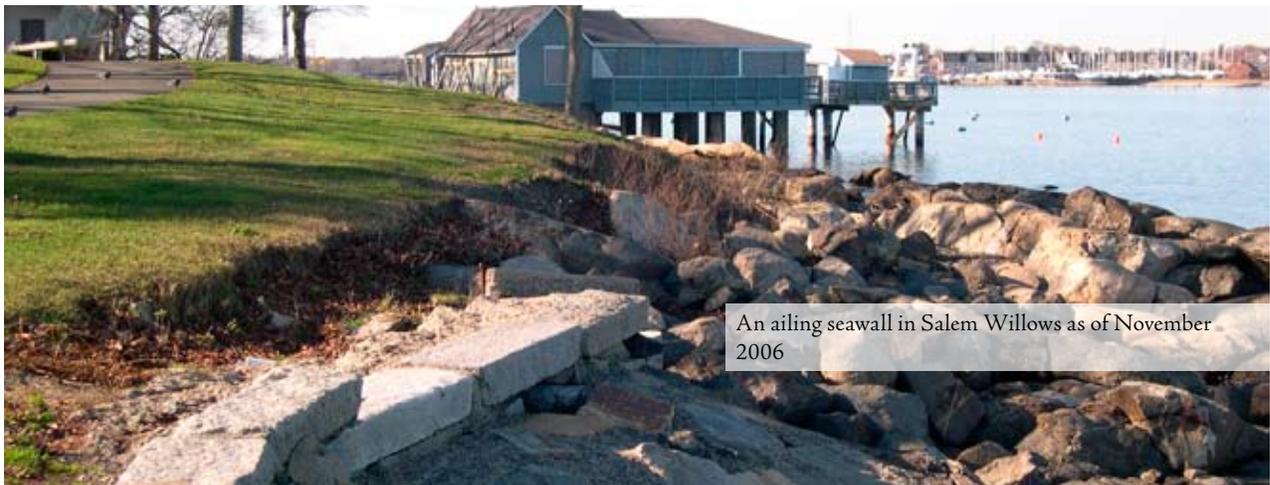
Input received at Committee meetings and public forums included interest in the following:

- ☞ More ballfields, particularly soccer fields
- ☞ Promote and support the sailing program – perhaps at Winter Island
- ☞ Consider developing a kayaking program – perhaps at the Willows, Forest River or McCabe Parks
- ☞ Establish winter sports programs such as cross-country skiing or snowshoeing at the golf course
- ☞ Furlong Park needs some serious maintenance because the park is eroding into the North River
- ☞ Create an ice skating rink at the Common or Mack Park

Funding Opportunities

Numerous funding programs exist in the Commonwealth through the Department of Conservation and Recreation (DCR) that the City of Salem may want to consider using in the future to help fund projects that will foster resource protection. Below is a list of a few of the many programs that exist.³ The programs are relevant to some of Salem’s needs pertaining to flooding, waterway protection, historic preservation, seawall repair, greenway and trail creation and maintenance and even information on urban forestry. It is also possible that if an enterprise fund were established that its funds could be used as a match if a local “Friends of” group were to apply for a grant.

Municipal Seawall Repair Grant



An ailing seawall in Salem Willows as of November 2006

Five million dollars for this program have been appropriated for the fiscal year ending June 30, 2007 to be expended for the Municipal Seawall Repair Grant Program, authorized by Chapter 122 Section 2e, through the open and competitive application process with the Planning & Engineering Division, Office of Waterways. The grants are specifically for the repair of seawalls that will reduce current threats to public safety. Existing or continuing programs for other types of coastal structures or other project aspects (planning, design, etc) are not eligible for these grants. The City has received this grant in the past and it is anticipated that this program will be ongoing.

Historic Curatorship Program

A competitive grant program where living or working in an historic building may be free in exchange for building renovation or repairs.

3 Department of Conservation and Recreation, INTERNET [http://www.mass.gov/dcr/grants.htm], June 2007

Flood Management Grants

DCR's Department of Flood Hazard Management, in coordination with the Massachusetts Emergency Management Agency, offers two grant programs to local government in order to reduce the risks and costs of natural disasters, especially floods, on homeowners and community infrastructure. These programs include pre-disaster grants through the annual Flood Hazard Mitigation Grant Program (FMA) and post-disaster grants through the Hazard Mitigation Grant Program (HMGP).

Heritage Tree Care Grant Program

This federally funded program offers competitive grants to communities with advanced tree care programs wishing to protect and enhance large or unique "heritage trees" located on public property or easements. In order to be designated a "heritage tree," the tree must have a diameter greater than 32 inches, be designated a champion in size for its species in Massachusetts, or have documented historic significance to the community or state.

Lake and Pond Grant Program

DCR's Lake and Pond grant program awards grants for the protection, preservation and enhancement of public lakes and ponds in the Commonwealth. A maximum grant of \$25,000 is available to eligible applicants on a 50/50 cost sharing basis. The grant program helps municipalities and local organizations that are struggling to meet the challenges of providing long term solutions for lake and ponds management.

MASS ReLeaf Grant Program

Mass ReLeaf is a trust fund for public tree planting projects in Massachusetts. By seeking public or private funding Mass ReLeaf is able to provide matching grants to support local projects that involve a partnership in the planting and care of trees on public land. The goals of the program are to help communities purchase trees to be planted for energy conservation, screening, community gateway or parking lot enhancement, or to offset urban pollution; and to assure long-term tree survival by emphasizing proper tree selection, planting, aftercare and maintenance.

Recreational Trails Grants

The Recreational Trails Program provides funding support for a variety of trail protection, construction and stewardship projects throughout Massachusetts. This national program makes funds available to states to develop and maintain recreational trails and trail-related facilities for non-motorized and motorized recreational trail uses. The Program is authorized and funded through the federal "Transportation Equity Act for the 21st Century" known as TEA-21. It is administered on a reimbursement basis by DCR, in partnership with the Massachusetts Recreational Trails Advisory Board and the Massachusetts Highway Department. Eligible applicants include non-profit organizations, government agencies, and municipalities.

Urban Forest Planning and Education Grants

The goal of the Urban Forestry program is to assist communities and nonprofit groups in building support for the long-term protection and management of community trees and forests. The USDA Forest Service provides the grant funds that the DCR administers with guidance from the Massachusetts Community Forestry Council. A maximum of \$10,000 is available per project.

Rivers and Harbors Grant Program

A statewide program of matching grants from DCR's Office of Waterways to towns and municipalities for design and construction to address problems on coastal and inland waterways, lakes and great ponds.

Urban Self Help and Self Help Grant Program

Both programs are offered through the Department of Conservation Services under the Executive Office of Energy and Environmental Affairs (EOEEA). The Urban Self Help Grant assists cities and towns acquire and develop land for park and outdoor recreation purposes. In order to receive funding projects need to be for the development of suitable outdoor recreation purposes, whether active or passive in nature. Grants are available for the acquisition of land, and the construction, restoration, or rehabilitation of land for park and outdoor recreation purposes such as swimming pools, zoos, athletic play fields, playgrounds and game courts. Access by the general public is required.

The Self Help Grant assists municipal conservation commissions acquire land for natural resource and passive outdoor recreation purposes. Lands acquired may include wildlife, habitat, trails, unique natural, historic or cultural resources, water resources, forest, and farm land. Compatible passive outdoor recreational uses such as hiking, fishing, hunting, cross-country skiing, bird observation and the like are encouraged and access by the general public is required.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



Section 8

Goals and Objectives

Goals and Objectives

8.1 Vision Statement and Open Space and Recreation Goals and Objectives

The natural landscape of Salem ranges from high, ledge-crowned ridges to quiet ocean coves and the wetlands of Forest River estuary. The varied nature of Salem's landscape has resulted in a City which is highly urbanized but not entirely built out. Consequently, Salem already has a rather extensive network of parks, playgrounds, and protected natural areas. In finalizing the list of goals for the 2007 OSRP the City of Salem set out to continue the traditions of protecting and augmenting these open space and recreational resources. With that in mind the goals are focused on maintenance, protection, acquisition, and improvement (Refer to Section 6, *Community Goals* to understand the process of developing the goals and objectives for this 2007 Plan). Explicitly, they are:

Goal 1: Maintain Public Spaces and Recreational Facilities

Objectives:

- ☞ Prioritize park maintenance and focus on neglected areas that experience the highest use.
- ☞ Expand facilities and recreational opportunities at City parks.
- ☞ Organize maintenance activities for maximum efficiency and effectiveness.
- ☞ Establish citizen stewardship programs to identify and rectify problems.
- ☞ Update equipment and surfacing to comply with current safety and ADA standards.
- ☞ Explore alternative means for funding park maintenance.
 - » Create endowment fund specifically for park maintenance.
 - » Pursue grant opportunities to enhance City parks.
 - » Seek to establish public/private partnership for park maintenance.
 - » Create an Enterprise Fund for maintaining waterfront parks such as Winter Island, Camp Naumkeag, and McCabe Park.

Goal 2: Protect Open Spaces

Objectives:

- ☞ Acquire key parcels and sites for multi-purpose trails, scenic views, and visual access to the water.
- ☞ Assess historic resources to prioritize protection of those that are most endangered.
- ☞ Provide consistently high standards for "symbolic landscapes".
- ☞ Protect examples of Salem's ecological diversity.
- ☞ Maintain expertise of Conservation Commission membership.
- ☞ Revise local land use regulations to address open space preservation and protection.
- ☞ Eliminate/reduce point and nonpoint pollution.
- ☞ Eliminate/reduce contaminated sediment in rivers and harbor.
- ☞ Identify and plan for acquisition of key wetland and buffer properties.
- ☞ Identify ways to replace filled wetlands and provide natural floodplain protection.
- ☞ Preserve key open parcels that provide visual access to the water.

Goal 3: Develop and Implement a Capital Improvement Program

Objectives:

- ☞ Identify key maintenance and improvement needs in City recreational facilities.
- ☞ Identify capital needs at each City owned recreational facility.
- ☞ Schedule short and long-term improvements based on maintenance plan.
- ☞ Identify potential funding sources.

Goal 4: Improve Public Access and Awareness

Objectives:

- ☞ Provide increased active and passive recreational opportunities.
- ☞ Expand bike paths.
- ☞ Increase opportunities for waterfront access.
- ☞ Make residents aware of underutilized resources.
- ☞ Develop environmental education programs.
- ☞ Utilize City website and the media to publicize programs and network of parks and recreational facilities.
- ☞ Identify needs for different types of recreational facilities.
- ☞ Improve signage to direct people to the parks and to help orient them within the parks.
- ☞ Improve resident and visitor perception of and experience of Salem's waterfront and harbor location.

At the core of all these goals is a desire to preserve and enhance Salem's open space and recreation resources for not just the current, but also future generations. A discussion of the public process involved in adopting these goals and objectives, see Section 6, *Community Goals*. For a more specific timeframe see Section 9, *Five Year Action Plan* which contains more detail on how and when these goals will be implemented.



A young tike cares for his Community Supported Agriculture plot in Mack Park, early 2007
 Courtesy Salem Planning and Community Development

An outdoor basketball court with two hoops, surrounded by green grass and trees. A playground structure is visible in the background on the right.

Section 9

Five Year Action Plan

Five Year Action Plan

9.1 Introduction

The five-year action plan is based on the goals and objectives of the previous section. To ensure the implementation on a year-to-year basis of these actions, the City of Salem should clearly identify a committee comprised of representatives from City staff and existing boards and commissions that will be in charge of ensuring this plan is used and followed. The committee will be responsible not only for overall implementation of the plan, but would also work to ensure that public outreach and education is achieved.

The Five Year Action Plan is often the most difficult component of an Open Space and Recreation Plan. Unlike the lofty goals and objectives of the previous sections, here is where the rubber meets the road, where the planning ideals are translated into concrete actions. An Action Plan can sometimes be difficult to commit to and be problematic to review over time. Items that have been accomplished fade from view, while the more intractable problems linger for years. Financial and political trends may change, advancing some items while leaving others untouched. For these reasons alone, many communities are hesitant to put in writing the full scope of their intentions.

The following action plan intends to deliver on the promise of the goals and objectives expressed throughout this process, with a program of tangible steps for the City to take over the next five years. There is a high level of activity on these issues, based upon the input received during the planning process.

These actions are targeted to address the physical as well as the organizational issues confronting the City, as described and analyzed in Section 7. The five-year action plan described below works to correct these “process” problems, while still maintaining a focus on the substantive issues of open space and recreation preservation, acquisition, enhancement, management, and maintenance.

Some of these actions may already be well underway; others are ongoing but need additional support. And while all actions listed are recognized as important, three areas in particular rise to the top as being absolutely essential for any future progress towards meeting the goals of this Plan:

- ☞ Obtaining support from City staff, commissions, and boards that open space and recreation is a central and lasting priority for Salem. While it is to be understood that there may be competing needs in the City, all groups must abide by the central tenet that these issues are extremely important to the residents of Salem. Where open space and recreational resources are concerned, the goals and policies of this Plan and the committee members and staff of the City must be consulted. Furthermore, groups must agree in advance on the proper decision making procedures to be followed in such matters.
- ☞ Creating some form of an oversight committee. If the ambitious goals and objectives of this Plan are to be achieved, there needs to be a single committee charged with overseeing progress and coordinating the actions and priorities of the various groups. Such a committee would be comprised of representatives of relevant departments, boards, committees and commissions and would meet as needed to address plan implementation. The committee would receive staff assistance from the Recreation Department, Conservation Commission, and Planning and Community Development. It also could coordinate with committees of neighboring municipalities to the extent possible on issues of regional concern (such as the bike path).
- ☞ Securing additional sources of funding, staffing, and other support for park facility maintenance and enhancement. One of the City’s main concerns is the need to maintain and enhance its existing parklands. Additionally, there is strong interest in creating additional parks. Resources to achieve these goals can be scarce and the City must be creative in how funds are raised. Several recommendations are made specifically

to identify the means for raising money for parks maintenance.

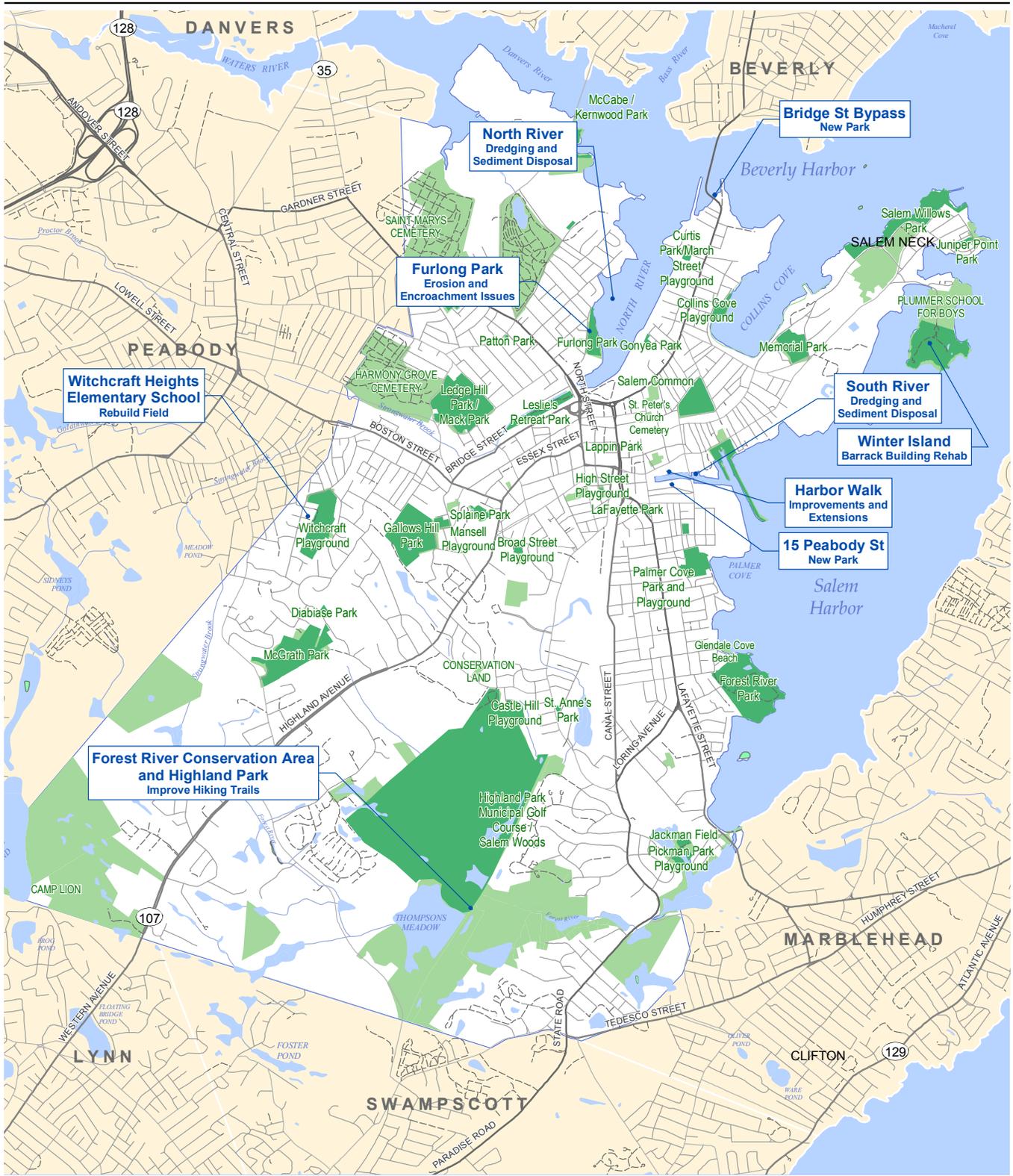
Leslie's Retreat Park



9.2 Five Year Action Plan

The following map (Map 6: Action Plan and Priorities) and table outline Salem's five year action plan.

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



Legend

- City Parks
- Protected and Recreational Open Space



Salem Open Space and Recreation Plan

Map 6

Action Plan and Priorities

Data Sources:
 City Parks - City of Salem
 Protected and Recreational Open Space - MassGIS

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
Goal 1: Maintain Public Spaces and Recreational Facilities								
<i>Prioritize park maintenance and focus on neglected areas.</i>	• Use inventory data to address parks in poor condition that pose a safety concern	Recreation Dep't., Parks and Rec. Comm.	X	X				City
	• Support rehabilitation for barracks building on Winter Island	Department of Planning and Community Development	X					City
	• Study potential uses for hangar building at Winter Island (need to address fire suppression prior to any use)	Department of Planning and Community Development			X			
	• Restore historic resources on Winter Island (as well as trails and signs)	Recreation Dep't., Parks and Rec. Comm.			X	X		City
	• Repair/improve picnic areas at McCabe Park	Recreation Dep't., Parks and Rec. Comm.	X					City, Urban Self-Help, Fed. Land & Water
	• Improve tennis courts at parks throughout the City of Salem	Recreation Dep't., Parks and Rec. Comm.			X			City, Urban Self-Help, Fed. Land & Water
	• Replace park benches on a regular basis, starting with the Willows	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	Private bench program

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	<ul style="list-style-type: none"> Request City Beautification Committee create a short list of the most important and emblematic public landscapes, such as the Common, the Willows, and Winter Island for a special priority maintenance program Address Furlong Park erosion & encroachment 	<p>City Beautification Committee</p> <p>Park and Rec. & Planning and Comm. Dev</p>	X					Urban Self Help
<i>Expand facilities and recreational opportunities at City parks.</i>	<ul style="list-style-type: none"> Study feasibility of indoor recreation center Find a location for outdoor ice skating and review control of and opportunities for skating on local ponds, such as Mack Park or the Common Improve hiking trails in Forest River Conservation Area and Highland Park Expand programming for water related activities: swimming, water safety, sailing, kayaking, and environmental awareness 	<p>Recreation Dep't., Parks and Rec. Comm.</p> <p>Recreation Dep't., Parks and Rec. Comm.</p> <p>Friends groups, Recreation Dep't., Parks and Rec. Comm.</p> <p>Recreation Dep't., Parks and Rec. Comm.</p>		X				City
				X	X	X		
							X	

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	<ul style="list-style-type: none"> Find a location, pursue funding and construct additional playing fields and playgrounds 	Recreation Dep't., Parks and Rec. Comm.		X	X			City, Urban Self-Help, Fed. Land & Water
	<ul style="list-style-type: none"> Identify and create 1 or 2 more dog parks to address overuse of the current dog park at Leslie's Retreat Park, possibly at McCabe, Forest River, or Mack Park 	Recreation Dep't., Parks and Rec. Comm.	X	X	X			
	<ul style="list-style-type: none"> Create and promote winter sports activities, such as cross country skiing or snowshoeing at the Municipal golf course 	Recreation Dep't., Parks and Rec. Comm.			X			
	<ul style="list-style-type: none"> Install lap lanes and designate lanes for residents to swim laps at the Forest River Park Pool 	Recreation Dep't., Parks and Rec. Comm.		X				
	<ul style="list-style-type: none"> Work with Salem Community Gardens to site gardens within walking distance of each neighborhood 	Salem Community Gardens	X	X	X	X	X	
	<ul style="list-style-type: none"> Implement recommendations regarding creation of a new park at 15 Peabody St. 	Dep't of Planning and Community Development, Rec. Dep't., Parks and Rec. Comm.	X	X				City, Urban Self-Help, Fed. Land & Water

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	<ul style="list-style-type: none"> Replace field at Witchcraft Heights Elementary School Work with MassHighway to ensure a park is developed at the end of Bridge St. as agreed to as mitigation for the Bridge St. Bypass 	Recreation Dep't., Parks and Rec. Comm., School Dep't. Dep't of Planning and Community Development, Recreation Dep't.	X	X	X			City, Urban Self-Help, Fed. Land & Water
<i>Organize maintenance activities for maximum efficiency and effectiveness.</i>	<ul style="list-style-type: none"> Request Park and Recreation Comm. to create a list of ten most important maintenance items and work with DPW to address Develop plan for routine maintenance on a revolving basis to ensure all park and playground facility needs are addressed 	Park & Rec. Comm. Park & Rec. Comm.	X					
<i>Establish citizen stewardship programs to identify and rectify problems.</i>	<ul style="list-style-type: none"> Assist in the establishment of "friends of" organizations for key parks Work with Salem Partnership and Conservation Commission to establish a program for enhancing protection of resources at Forest River Trail and 	Friends groups Salem Partnership, Cons. Comm.	X	X	X	X	X	

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	Conservation Area							
<i>Update equipment and surfacing to comply with current safety and ADA standards.</i>	<ul style="list-style-type: none"> Use ADA Self assessment information to develop a list of the top ten safety and ADA compliance issues 	Comm. on Disabilities	X					
	<ul style="list-style-type: none"> Address issues and concerns in appropriate order 	Comm. on Disabilities		X	X	X	X	
<i>Explore alternative means for funding park maintenance and improvements.</i>	<ul style="list-style-type: none"> Create endowment fund specifically for park maintenance 	Park & Rec. Comm.		X	X			
	<ul style="list-style-type: none"> Pursue grant opportunities to enhance City parks 	Dep't of Planning and Community Development, Recreation Dep't.	X	X	X	X	X	
	<ul style="list-style-type: none"> Seek to establish public/private partnership for park maintenance 	Park & Rec. Comm.		X	X			
	<ul style="list-style-type: none"> Consider establishment of enterprise fund to provide funding for park maintenance 	Park & Rec. Comm.		X	X			
	<ul style="list-style-type: none"> Support adoption of the Community Preservation Act 	Park & Rec. Comm	X					

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
Goal 2: Protect Open Spaces								
<i>Acquire key parcels and sites for multi-purpose trails, scenic views, and visual access to the water.</i>	<ul style="list-style-type: none"> Acquire old railroad rights of way for multi-purpose trails 	Bike Path Comm.	X	X	X	X	X	
<i>Assess historic resources to prioritize protection of those that are most endangered.</i>	<ul style="list-style-type: none"> Work with Salem Historical Commission and Historic Salem Inc. to identify top historic sites they believe to be endangered 	Historic Comm., Historic Salem	X	X				
<i>Provide consistently high standards for "symbolic landscapes".</i>	<ul style="list-style-type: none"> Review parking situation at the Willows to ensure that parking is confined to specific areas away from the sensitive land within the park Develop a program for regular tree replacement with a goal of increasing tree canopy at Salem's parks and open spaces 	Recreation Dep't., Parks and Rec. Comm. DPW, Beautification Comm.	X X	X X				Mass ReLeaf, Heritage Tree Care Grant, Urban Forest Planning Grant
<i>Protect examples of Salem's ecological diversity.</i>	<ul style="list-style-type: none"> Strengthen Salem's wetlands ordinance to protect rare, endangered, and unique flora and fauna 	Cons. Comm.	X	X				

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
<i>Maintain expertise of Conservation Commission membership.</i>	<ul style="list-style-type: none"> Encourage Commissioners to attend workshops or other trainings and pursue certificates such as Fundamentals of Conservation Commissions 	Cons. Comm.	X	X	X	X	X	
<i>Revise local land use regulations to address open space preservation and protection.</i>	<ul style="list-style-type: none"> Revise local Wetlands Ordinance to include the implementation of conservation restrictions on parcels developed adjacent to resource areas Consider improvements to the cluster development provisions of the Salem zoning ordinance 	Cons. Comm. Planning Bd.	X	X				
<i>Eliminate/reduce point and nonpoint pollution.</i>	<ul style="list-style-type: none"> Continue to control combined sewer outflows Publish and distribute to the public a pamphlet on resident actions to reduce nonpoint pollution Adopt the Low Impact Development By-Law 	DPW DPW, Planning & Comm. Dev. Planning Bd.	X	X	X	X	X	Coastal Nonpoint Source Grant; Sec. 319 Nonpoint Source Grant

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	<ul style="list-style-type: none"> Pursue funding to expand household hazardous waste collection program. 	DPW	X	X				Municipal Waste Reduction Grant
<i>Eliminate/reduce contaminated sediment in rivers and harbor.</i>	<ul style="list-style-type: none"> Pursue Army Corps of Engineers dredging and sediment disposal of the South River. 	Harbormaster, Harbor Plan Imp. Comm.	X	X	X			Rivers and Harbor Grant
	<ul style="list-style-type: none"> Pursue funding for sediment testing in the North River basin in preparation for possible dredging and sediment disposal. 		X	X	X			Rivers and Harbor Grant
<i>Identify and plan for acquisition of key wetland and buffer properties.</i>	<ul style="list-style-type: none"> Identify parcels not owned by the City located in wetlands or other resource areas and identify the current owner. If purchase and sale is not possible speak to the current owner about developing a conservation restriction on the property. 	Dep't of Planning and Community Development, Cons. Comm.		X	X			
<i>Identify ways to restore filled wetlands and provide natural floodplain protection.</i>	<ul style="list-style-type: none"> Identify filled wetlands and flood zones. 	Cons. Comm.	X					
	<ul style="list-style-type: none"> Work with landowners to restore the filled wetlands. 	Cons. Comm.	X	X	X	X	X	
	<ul style="list-style-type: none"> For undeveloped land located in flood 	Cons. Comm.			X	X	X	

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	plains, establish conservation restrictions to prevent development in active flood zones							
Goal 3: Develop and Implement a Capital Improvement Program								
<i>Identify key maintenance and improvement needs in City recreational facilities.</i>	<ul style="list-style-type: none"> On a quarterly basis complete an inventory of the condition of the equipment at each facility Repair and improve items as necessary 	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	
		Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	Urban Self-Help
<i>Identify capital needs at each recreational facility.</i>	<ul style="list-style-type: none"> Develop a list of top items needed on a quarterly basis Identify measures needed to meet the ADA requirements for each facility 	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	
		Comm. on Disabilities, Recreation Dep't., Parks and Rec. Comm.	X	X				
<i>Schedule short and long-term improvements based on maintenance plan.</i>	<ul style="list-style-type: none"> (see above) 							
<i>Identify potential funding sources.</i>	<ul style="list-style-type: none"> Consider adoption of the Community Preservation Act 	Parks and Rec. Comm.	X					

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
Goal 4: Improve Public Access and Awareness								
<i>Provide increased active and passive recreational opportunities.</i>	<ul style="list-style-type: none"> Review programs offered each season to residents and adjust based on participation and requests for different activities 	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	
<i>Expand bike paths and designated routes to connect to downtown and surrounding communities.</i>	<ul style="list-style-type: none"> Research abandoned railroad right-of-ways, ownership, easements, conveyance, and purchase 	Bike Path Comm.	X	X				
	<ul style="list-style-type: none"> Contact right of way owners and negotiate consent to access or purchase and sale of right-of-way 	Bike Path Comm.		X	X			
	<ul style="list-style-type: none"> Research future transportation enhancement funding from federal sources such as ISTEAs and state sources MassHighway, MBTA, or MAPC 	Bike Path Comm.	X	X				
	<ul style="list-style-type: none"> Create interconnecting trail system linking schools and parks via on (secondary and tertiary roads) and off road routes (bike path, preferred) 	Bike Path Comm.		X	X	X		

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
	<ul style="list-style-type: none"> Purchase and install bike racks throughout downtown, schools, and parks 	Bike Path Comm.	X	X				City
<i>Increase opportunities for waterfront access and improve signage to waterfront access.</i>	<ul style="list-style-type: none"> Develop and distribute map showing waterfront access points 	Planning & Comm. Dev., Harbormaster, Harbor Plan Imp. Comm.	X					
	<ul style="list-style-type: none"> Identify access points such as public boat launches and create and install appropriate signage 	Harbormaster, Harbor Plan Imp. Comm.	X	X				
	<ul style="list-style-type: none"> Continue to work toward implementation of the Harbor Walk project 	Harbor Plan Imp. Comm., Planning & Comm. Dev.	X	X	X	X	X	
<i>Make residents aware of underutilized resources.</i>	<ul style="list-style-type: none"> Display maps identifying parks, playgrounds, conservation areas on the City's webpage and make paper copies available to the public 	Dep't of Planning and Community Development, Recreation Dep't.	X					City
	<ul style="list-style-type: none"> Develop matrix of parks, playgrounds, open space and the facilities that each has available to the public 	Dep't of Planning and Community Development, Recreation Dep't.	X					

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Salem 2007 – 2012 Open Space and Recreation Plan Five Year Action Plan								
Goals & Objectives	Actions	Responsible Party	2008	2009	2010	2011	2012	Funding
<i>Develop environmental education programs.</i>	<ul style="list-style-type: none"> Sponsor programs at parks with non-profits to teach children about environmental topics. 	Recreation Dep't., Parks and Rec. Comm.	X	X				
<i>Utilize City website and the media to publicize programs.</i>	<ul style="list-style-type: none"> Enhance presentation of information on Salem's website regarding recreational programs 	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	
	<ul style="list-style-type: none"> Provide press releases for each new recreation program season 	Recreation Dep't., Parks and Rec. Comm.	X	X	X	X	X	
<i>Identify needs for different types of recreation facilities</i>	<ul style="list-style-type: none"> Survey residents and field users on a regular basis to determine need for new or improved services 	Recreation Dep't., Parks and Rec. Comm.		X			X	
<i>Improve signage to direct people to the parks and to help orient them within the parks.</i>	<ul style="list-style-type: none"> Expand use of uniform signage for Salem park facilities 	Recreation Dep't., Parks and Rec. Comm.	X	X	X			
	<ul style="list-style-type: none"> Install signage for public open space created at DiBiase's subdivision located off Marlborough Road 	Recreation Dep't., Parks and Rec. Comm.	X					
<i>Improve resident and visitor perception of and experience of Salem's waterfront and harbor location.</i>	<ul style="list-style-type: none"> Provide specific information on the City website regarding Salem history and recreational/historic opportunities for visitors 	Historic Comm., Salem Partnership, Chamber, & Harbor Comm.	X					



Section 10

Public Comments

Public Comments



CITY OF SALEM CONSERVATION COMMISSION

July 26, 2007

Ms. Melissa Cryan
Division of Conservation Services
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02002

Re: 2007 Open Space and Recreation Plan Update

Dear Ms. Cryan:

The Conservation Commission was pleased to review the draft City of Salem Open Space and Recreation Plan for 2007. Keith Glidden, one of our members, was actively involved in developing the plan as the Conservation Commission's representative on the Open Space and Recreation Committee.

The Plan provides a thorough discussion of conservation issues and the Conservation Commission supports the goals, objectives, and actions developed in the Plan. The Commission will refer to the Plan, when appropriate, to guide its deliberations on open space and conservation activities.

The Commission looks forward to working with the Department of Planning and Community Development to assist in any way possible to ensure that the goals identified in the plan are met.

Very truly yours,

A handwritten signature in cursive script, reading "Kevin P. Cornacchio".

Kevin Cornacchio
Chairman
City of Salem Conservation Commission



CITY OF SALEM PLANNING BOARD

July 16, 2007

Ms. Melissa Cryan
Division of Conservation Services
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02002

Re: 2007 Salem Open Space and Recreation Plan Update

Dear Ms. Cryan:

The Open Space and Recreation Plan for 2007 provides a positive outlook for the City of Salem's open spaces and recreational areas.

The Planning Board is generally supportive of efforts to develop strategic planning tools. This particular plan is especially appropriate given the demand for open space and recreational facilities. As soon as this plan is put into action, the City of Salem will be in a better position to compete with other towns when applying for grants for our community.

The Board looks forward to working with the Department of Planning and Community Development to assist in any way possible to ensure that the goals identified in the plan are met.

Very truly yours,

Charles M. Puleo
Chairman
City of Salem Planning Board

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References



July 25, 2007

Ms. Melissa Cryan
Division of Conservation Services
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02002

Re: 2007 Open Space and Recreation Plan Update

Dear Ms. Cryan:

This letter is to notify you that Salem Sound Coastwatch has reviewed the City of Salem Open Space and Recreation Plan draft for 2007. As the Executive Director of Salem Sound Coastwatch and resident of Salem, I am also a member of the City's Open Space and Recreation Committee, charged with working with the consultant to update the Open Space and Recreation Plan.

Salem Sound Coastwatch is in full support of the draft plan and its mission to preserve open space and Salem's natural resources. As a non-profit coastal watershed association Salem Sound Coastwatch fully supports the goals, objectives, and five-year action program outlined in the Plan.

Salem Sound Coastwatch looks forward to working with the City of Salem to assist in any way possible to ensure that the goals identified in the plan are met.

Very truly yours,

A handwritten signature in blue ink that reads "Barbara Warren".

Barbara Warren
Executive Director



Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts 02111 617-451-2770 fax 617-482-7185 www.mapc.org

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DEPT. OF PLANNING &
COMMUNITY DEVELOPMENT

July 27, 2007

Carey R. Duques
Conservation Agent/Staff Planner
Department of Planning and Community Development
120 Washington Street
Salem, MA 01970

Dear Ms. Duques:

The Metropolitan Area Planning Council has reviewed the City of Salem Open Space and Recreation Plan Update 2007-2012. The plan is thorough and appears to meet the Division of Conservation and Recreation guidelines. It should serve the City well as you continue your open space preservation efforts.

Thank you for the opportunity to review this plan.

Sincerely,

Marc D. Draisen
Executive Director

Cc: Lynn Duncan, MAPC Representative, City of Salem

Plan Summary

Introduction

Community Setting

Environmental Analysis

Inventory of Lands

Community Goals

Analysis of Needs

Goals and Objectives

Five Year Action Plan

Public Comments

References

Richard A. Dimino, *President* Gordon Feltman, *Vice President* Grace S. Shepard, *Treasurer* Jay Ash, *Secretary*

Marc D. Draisen, *Executive Director*



CITY OF SALEM, MASSACHUSETTS

Kimberley Driscoll
Mayor

August 23, 2007

Ms. Melissa Cryan
Division of Conservation Services
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02002

Re: City of Salem 2007 Open Space and Recreation Plan Update

Dear Ms. Cryan:

On behalf of the City I am pleased that we now have an updated Open Space and Recreation Plan that will serve as an important resource to consult when dealing with recreation and open space issues before the City. The Plan was developed with extensive input from the Open Space and Recreation Plan Committee, City staff, and residents representing a variety of neighborhoods and interests.

The Plan provides a thorough discussion of the City's open space and recreational areas, identifies goals and objectives, and lays out a realistic action plan. I look forward to working with elected officials, boards, and commissions, and the citizens of Salem to implement the Plan and to protect and enhance Salem's invaluable open spaces and recreational areas.

Sincerely,

A handwritten signature in cursive script that reads "Kim Driscoll".

Kimberley Driscoll
Mayor



Section 11

References

Forest River Conservation Area

*Photo Courtesy of Salem Planning and
Community Development*

References

Boston Metropolitan Area Planning Council, Projections 2006, [Online] mapc.org/2006_projections.html

Brown, Larissa, 1996 Salem Open Space and Recreation Plan, 1996

Gifford, Peter. City of Salem Harbormaster. [Online] saalem.com/Pages/SalemMA_Harbormaster/index

City of Salem, Salem's Top Employers, [Online] saalem.com/www.salem.com/Pages/SalemMA_EcDev/topemp, June 2007

Department of Conservation and Recreation [Online] mass.gov/dcr/grants.htm, June 2007

Executive Office of Environmental Affairs, 1999 Open Space Planner's Workbook, Boston, MA

Massachusetts Department of Environmental Protection (MassDEP) [Online] mass.gov/dep, February 2007

Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program [Online] www.state.ma.us/dfwele, June 2007

Massachusetts Executive Office of Environmental Affairs (EOEA) [Online] mass.gov/envir, March 2007

Massachusetts Office of Geographic Information Systems (MassGIS) [Online] state.ma.us/mgis, March 2007

Massachusetts Outdoors 2000!, Statewide Comprehensive Outdoor Recreation Plan, Division of Conservation Services, 2000

MetroBoston DataCommon [Online] metrobastondatacommon.org, March 2007

United States Census 2000 [Online] census.gov, January 2007

Plan Summary
Introduction
Community Setting
Environmental Analysis
Inventory of Lands
Community Goals
Analysis of Needs
Goals and Objectives
Five Year Action Plan
Public Comments
References

Appendix A



ADA Policies

*Photo Courtesy of Salem Planning and
Community Development*

City of Salem ADA Policies, Procedures, and Practices

City of Salem ADA Policies, Procedures and Practices

City of Salem ADA Grievance Procedure

This Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act (ADA). It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in employment practices and policies or the provision of services, activities, programs or benefits by the City.

The complaint should be in writing and contain information about the alleged discrimination such as name, address, phone number of complainant and location, date and description of the problem. Alternative means of filing complaints, such as personal interviews or a tape recording of the complaints, will be made available for persons with disabilities upon request.

The complaint should be submitted by the aggrieved and/or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to:

Jean Levesque, ADA Coordinator

City of Salem
City Hall
93 Washington Street
Salem, MA 01970
978-744-6139

http://www.salem.com/Pages/SalemMA_BComm/disabilities

Within 15 calendar days after receipt of the complaint, the ADA Coordinator will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the ADA Coordinator, will respond in writing, and when appropriate, in a format accessible to the complainant, such as large print, Braille, or audiotape. The response will explain the position of the City of Salem and offer options for substantive resolution of the complaint.

If the response by the ADA Coordinator, does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision of the ADA Coordinator within 15 calendar days after receipt of the response to the Mayor or his or her designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting the Mayor or his or her designee will respond in writing, and where appropriate, in a format accessible to the complainant, with a final resolution of the complaint.

All written complaints received by the ADA Coordinator, appeals to the Mayor or his/her designee, and responses from the ADA Coordinator and Mayor or his/her designee will be kept by City of Salem for at least four years.

Non-Discriminatory Operations – Equal Opportunity Policy

The City does not discriminate in employment practices against qualified job applicants or employees on the basis of disability in the areas of: hiring; promotion; demotion; transfer; recruitment; job advertisements; termination; post job offer; and training, etc. No qualified

individual with a disability shall, solely by reason of his/her disability, be excluded from the participation in; be denied the benefits of; or otherwise be subjected to discrimination under any of our programs, services and activities.

In addition, The City shall:

- provide a program of information and awareness training about persons with disabilities to all supervisors and interviewers;
- review all job descriptions to ensure that they do not tend to screen out qualified individuals;
- eliminate unnecessary, non job-related mental and/or physical requirements for entry into each job;
- in the area of promotion, when a vacancy occurs, institute an internal search to determine if there is a qualified employee with a disability who could be promoted;
- provide alternate methods of informing employees with disabilities of relevant information (such as informing blind individuals of announcements posted on bulletin boards).
- review employee performance appraisals to ensure that no discriminatory patterns or practices exist or are developed affecting employees with disabilities or applicants; and provide reasonable accommodation in all areas of accessibility.

As stated earlier, it is the policy of the City to ensure that persons with disabilities are provided maximum opportunity to participate in and benefit from programs, services and activities.

Moreover, it is our goal that such participation be in the same manner as those of non-disabled persons and in fully integrated settings.

It is understood that the obligation to comply with this policy is not obviated or alleviated by any state or local law or other requirement that, based on disability, imposes inconsistent or contradictory prohibition. Any prohibitions or limits upon the eligibility of qualified individuals with disabilities to receive services or practice any occupation or profession, are not allowed under this policy.

Employment Policies and Procedures

The City will make reasonable modifications to our policies, practices, and procedures in order to accommodate persons with disabilities whenever an otherwise qualified person with a disability requests such modifications, unless the agency can demonstrate that such modification would impose an undue burden or fundamentally alter the nature of our program or the services that we offer.

We are committed to making reasonable modifications when they are needed to afford persons with disabilities access to services and programs. Persons requesting a particular modification may be asked to furnish documentation to support the need for the modification. The final decision concerning whether a request for a modification is reasonable (or is a fundamental alteration of the program) is made by the Mayor in discussion with the ADA Coordinator. Aggrieved employees or applicants have the right to appeal as per our grievance procedure.

Aggrieved individuals have the right to appeal as per our written appeals process. This policy will be modified when necessary to make our program accessible to people with disabilities.

Eligibility Requirements Assurance

Any prohibitions or limits on the eligibility of qualified individuals with disabilities to receive services or practice any occupation are not allowed under this policy. Eligibility requirements for our program are reviewed on a regular basis, and it has been determined they do not screen out or tend to screen out people with disabilities.

All safety requirements are similarly reviewed and it has been determined that there are no discriminatory requirements. The determination of the existence of a direct threat must be based on objective factual evidence and not stereotypes or misconceptions about a person's disability. If any new criteria are developed, their impact on persons with disabilities will be reviewed by the Mayor, ADA Coordinator, and all staff will be informed on any changes in eligibility requirements that may arise.

Assurance Regarding Surcharges

It is the policy of the City that surcharges are never charged to staff/participants (nor any other interested person) for reasonable accommodations under any circumstances. Such accommodations include, but are not limited to: American Sign Language (ASL) interpreters, Computer Aided Realtime Translation (CART), architectural accessibility, computer accessibility hardware or software, Braille material, or any other costs related to the participation of a person with a disability.

Integrated Services

It is our policy that all of our services, programs and activities are provided in the most integrated setting possible. People with disabilities are never required to participate in separate programs. Services will not be provided to any person with a disability in a manner or at a location different from that available to another. In all cases, the person with a disability (family members and other representatives only when appropriate) will be fully involved in the consideration and decisions.

Significant Assistance

It is the policy of the City that programs to whom we provide significant support (or contract with) may not discriminate against people with disabilities. All contracts and program sites are regularly assessed to ensure non-discrimination against people with disabilities. The City will not contract with any entity that discriminates.

Accessible Transportation

It is the policy of the City that all transportation services provided are accessible to everyone regardless of their disability. In addition, any vehicles acquired for public non employee-only

use, will be equipped with a wheelchair lift, tie downs, etc. all future van purchases will also be accessible. Our alternate transportation providers are: _____

Community Referral

Whenever the City participates in other programs and services as a condition of participation (e.g. Commonwealth, Employee Assistance Programs – EAP, other counseling agencies, MRC, fuel assistance, DSS. Etc) or makes reference to other programs, it is our policy that such programs and services must be accessible. We have information regarding which of the programs (to which it may refer people) are accessible, and which are not. Please note that there is at least one accessible provider in each of the categories of services in which we make referrals.

Training Assurance Policy Regarding Non-Discriminatory Operations

It is the policy of the City that staff training and other staff development activities provided by agency personnel and volunteers include information about ADA requirements. Our programs operate in such a manner that does not discriminate against people with disabilities. As stated in our staff training and orientation manual, such training includes a full explanation of our ADA policies, procedures and practices. Training is done on a regular basis, and the ADA Coordinator has the overall responsibility for ensuring that all staff are trained, including new employees.

Effective Communication Policy

It is the policy of the City that auxiliary aids and services will be provided when necessary to ensure effective communication with persons whose disabilities effect communication. Persons with communication barriers will be given the opportunity to request the aid or service that they prefer and the requested aid or service will be given primary consideration by the City unless doing so would impose an undue burden or a fully effective alternative is available.

It is the policy of the City that all documents and publications are available, to anyone who requests them, in accessible formats. These include large print, audiotape, Braille and computer disc.

The procedure for anyone who requests accessible formats (or any type of effective communication) is:

1. To specify his/her accessible format either in person, over the phone, or in writing to the ADA Coordinator at least 30 days in advance of the event.
2. Within four (4) business days of the request, the City will provide the format to the requester at no charge.

The Mayor is the staff person who makes undue burden determinations as per our procedures. When we decide what type of aid or service to provide, primary consideration is given to the type of aid or service preferred by the person with a disability.

TTY Assistance

The City has a TTY at our offices, and plans to acquire more. The City is a leader, and a role model to other organizations on providing effective communications, as well as all other areas of ADA compliance. Our TTY number will be listed consistently on all our communications where The Town's phone number is given. TTY training will be provided for all employees with updates on an annual basis.

Alternative Format Policy and Procedures

Alternative formats are made available to persons with disabilities who need them in alternative formats. Procedures have been established for the provision of alternative formats including large print, audiotape, Braille and computer diskettes.

1. The procedure for requesting alternative formats is: The person making the request should identify the materials desired and specify his/her preferred alternate format to the ADA coordinator either in person, by phone, or in writing at least 30 days in advance of the event or activity for which the material is needed.
2. The materials will be provided in the requested format at no charge. (Every attempt will be made to meet the request made less than 30 days before an event or activity.)
3. If, after primary consideration has been given to the preferred format, the request cannot be met, an alternative effective format will be made available. If a request cannot be met the person making the request will be informed as soon as possible but at least 5 days in advance of the event or activity.

We use: MSMT, The Braille Center, 651 Yolanda Avenue, Santa Rosa, California 95404, tel: (707) 579-1115, Fax: (707) 579-1246; Carolyn Colclough; as well as Metrolina Association for the Blind, 704 Louise Avenue, Charlotte, NC, tel (704) 372-3870 for our Braille Transcription services.

The Mayor is the staff person who makes undue burden determinations as per our procedures. When we decide what type of aid or service to provide, primary consideration is given to the type of aid or service preferred by the person with a disability.

ADA Accessibility in Salem Parks

PARK NAME	ADA ACCESSIBILITY
Forest River Park	Good
Salem Willows	Good to fair
Winter Island	Mixed, some good areas and some fair
Olde Salem Greens Golf Course	Good
Mansell Park	Fair
Patten Park	good
Splaine Park	Fair
Mack Park (Ledge Hill)	Good
Mary Jane Lee Park	Poor
MaGrath Park	Fair
Salem Common	Good
Broad Street Park	Fair
Castle Hill Park	Fair
Collins Cove	Poor
Curtis Park	Good
Dibiase Park	Poor
Furlong Park	Fair
Gallows Hill Park	Fair
High Street Park	Poor
Juniper Point	Good
Kernwood Marina/McCabe Park	Fair
McGlew Park	Poor
Pickman/Jackman Parks	Fair
Leslie's Retreat Park	Good
Highland Park-Salem Woods	Poor
Cabot Farm	Poor
Gonyea	Fair
Swiniuch	Fair
Memorial Park-Irzyk Park	Fair
Palmer Cove Park	Fair

Appendix B



Community Development

*Photo Courtesy of Salem Planning and
Community Development*

Appendix B

Recent development projects in Salem

Old Police Station Redevelopment - In March 2004, the SRA transferred ownership of the Old Police Station to Heritage Plaza Enterprises and the project began construction. The project finalized construction in the fall of 2006. All of the units were under agreement months before the project was due to be completed. The project includes 14 residential condominium units with parking on-site. The estimated project cost was \$3 million and the project has recently been completed.



Derby Lofts (former Laundry Building) - The Derby Lofts project includes the renovation of the 100 year old, four-story industrial building, known as the Laundry Building, into a mixed-use residential and retail development. The project consists of 14,000 square feet of first floor retail and 54 luxury residential units on the upper floors. The current retail mix includes an independent bookstore, teashop and bakery. The estimated project cost was \$14 million and the project was completed in 2006.

The Distillery (former Beef & Oyster House) - The Distillery project redeveloped the building at the corner of Washington and Front Streets (former Beef & Oyster House and most recently home to “Bleachers”) to include 10 residential condominium units with 5,000 square feet of first floor retail. The estimated project cost is \$1.8 million and construction is completed.

Courthouse Expansion - The City is working with the DCAM on the design of the new \$106 million Court Complex to be constructed on Federal Street. The Courthouse Expansion will allow the courts to remain in downtown Salem, which will have a large economic impact on the city.

Old Salem Jail Complex Redevelopment - In November 2005, the SRA designated New Boston Ventures to redevelop the Old Salem Jail Complex. The developer plans to redevelop the parcel to include 29 residential condominiums, with one being a designated affordable artist live/work space, a high-end restaurant, and a jail exhibit. Construction is expected to begin in 2007. The estimated project cost is over \$11 million.



18 Crombie Street - In 2003, after two years of negotiation, the City developed a plan to negotiate ownership of this historic property from Holyoke to the Salem Redevelopment Authority. In July 2004, the Salem Redevelopment Authority transferred the deed of the home to Habitat for Humanity of the North Shore. Habitat for Humanity recently completed restoration and the home has been sold to a lower income family at an affordable price.

289 Derby Street - The development at 289 Derby Street, the former Coastal Gas Station, will include 38 high end residential condominiums on the upper floors and 5,000 square feet of commercial space on the first floor. In addition, the project will include the construction of a public walkway along the side and rear of the property abutting the South River (as recommended in the Salem Harbor Plan and required by Chapter 91 License). This public walkway will be constructed according to the specifications of the future South River Harborwalk that the City will be constructing on the opposite banks of the South River along property owned by the City of

Salem and National Grid (Mass Electric). The developer has obtained all the permits.

10 Federal Street - The owners of 10 Federal Street constructed three-stories of additional office space on top of their existing two-story downtown office building. The additional space allowed the District Attorney's Office to relocate to the space and remain in downtown Salem. The construction began in 2005 and is nearing completion. The project cost is estimated at \$10 million.

Bluestone Alley - The Blue Stone Alley project at 7 Crombie Street redeveloped the former Salem Mission into 17 artist live/work condominium spaces. The redevelopment was a "gentle renovation" of the building that integrated many of the historic characteristics of the building. Construction was completed in 2006 and most, if not all, the units have been sold. The estimated project cost is \$3.3 million.

96 Swampscott Road (Salem Commerce Park) - Early this year, a local property owner purchased a large, vacant industrial building on Swampscott Road and renovated the space into industrial condominiums. The 170,000 square foot building is located on 13 acres. The property owner was able to attract several new businesses to the space representing a number of new jobs for Salem and boost to the City's tax revenue.

St. Joseph's Church Redevelopment - In 2004, the Archdiocese announced plans to close the St. Joseph's Church. The Archdiocese eventually sold the property to the Planning Office of Urban Affairs, which announced plans to redevelop the site into a mixed-income project with 67 residential units. These units will be available as both rental and condominiums. 45 units will be affordable to households at or below 80% of the median income. Within these, several are affordable to even lower income households.

Chapel Hill Subdivision - The proposed Chapel Hill Subdivision includes the construction of 37 single-family homes on a 16-acre site. The development is a cluster development and will set aside 8 of the 16 acres of land for open space. The project is currently undergoing permitting and a request for a zoning change.

Osborne Hills Subdivision - The Osborne Hills Subdivision is a cluster development project that includes the construction of 131 single-family homes on approximately 162 acres of land. Approximately 93 acres of the project will be permanently protected open space. The Planning Board will be finalizing its review of the project by the end of the year. The project represents one of the largest subdivisions built in Salem in recent history.

Flynn Tan Site (70-92 ½ Boston Street) - The Flynn Tan property is a 1.98-acre site containing vacant industrial buildings and land along Boston Street, a major entrance corridor into Salem and within the new North River Canal Corridor (NRCC) Neighborhood Mixed Use District. The property was sold at an auction in 2006 and is expected to be cleaned up and converted to commercial condominiums.

Fort Avenue/Szetela Lane Parcels (5 parcels) - The vacant parcels at the intersection of Fort Avenue and Szetela Lane consists of five (5) parcels containing approximately 2.13 acres. The parcel was put out for RFP and the city is currently going through a design process with the developer and the neighborhood.

Endicott School (110 Boston Street) - The former Endicott School sits on a .53-acre lot along Boston Street, a major entrance-corridor into Salem with direct access to Route 128. After a competitive RFP process, the property was sold for \$350,000 to a nonprofit organization, Children's Friend who will relocate their office from another location in Salem. The city also negotiated a PILOT Agreement with the agency.

50 Palmer Street - This project by the Salem Harbor Community Development Corporation (CDC) includes the demolition of the existing structure and the construction of a new three-story residential structure with a footprint of 7,300 square feet. The new structure will consist 15 units of affordable housing condominiums for low and moderate income homebuyers. This project is funded using a partnership of private and public sources,

including funds from the City.

Leggs Hill Road YMCA - Following approval of the Preliminary Subdivision Plan in January of 2006, the Planning Board had made significant progress on mitigation items for the proposed 88,000 square foot YMCA facility, which will include five (5) single-family housing lots proposed at the site. An approval for the Definitive Subdivision is anticipated in June and construction has already begun.

28 Goodhue Street - The project, located within the North River Canal Corridor area, includes the new construction of a mixed-use residential/commercial building at the site of a former factory. The development will include 44 residential condominiums, 6,000 square feet of commercial retail space and on-site parking. The project is currently in permitting.

Pickering Wharf Hotel - The construction of a new hotel has been completed. The hotel consists of 88 rooms and the top two floors contain 16 residential condominiums.

Witch Hill - The construction of 23 single family homes along the extension of an existing roadway is underway.

Salem Affordable Housing Trust Fund - The City adopted an ordinance to create a municipal housing trust fund in October, 2006. Through negotiations with a developer, the Trust Fund received \$50,000 and additional funds are expected from negotiated contributions from other large development projects. The Trust held its first meeting in March, 2007 and is in the process of developing goals and strategies to increase affordable housing opportunities in Salem.

Mass. Cultural Grant - The City was awarded a John and Abigail Adams Grant to acquire consultant services to guide the City and its tourism community in the development of a new management model to lead a community-wide market and tourism effort and to help identify a new mechanism for financing a sustained marketing program. A well-respected consultant firm Open the Door, is under contract and is expected to present their recommendations by the end of July 2007.

Conservation District Study - The City has received a grant from the Massachusetts Historical Commission to complete a Neighborhood Architectural Conservation District Study as an update to the Salem Preservation Master Plan. The study will expand the City's ability to preserve historically significant neighborhoods not designated as Local Historic Districts. The project includes delineation of potential Neighborhood Architectural Conservation Districts (NACD's) and the creation of a draft Neighborhood Architectural Conservation District bylaw.

319 Highland Avenue - Highland Avenue is a major commercial corridor in Salem with a mix of shopping and dining options but this area has long lacked a service station. 319 Highland Avenue is the site of the former Moose Lodge. Construction of an Irving Gas Station with a Blue Canoe Convenience Store, North Shore Bank, and a Subway Restaurant has recently completed and their grand opening was held in May, 2007. In coordination with this project, Mass Highway undertook improvements to the Highland Avenue and Swampscott Road Intersection, which included a right turn lane and cueing of the lights.

275-281 Essex Street - The proposed project includes the conversion of the four-story 30,000 square foot former C.F Tompkins Furniture Building into a mixed-use retail/residential development with 3 retail units on the ground floor and 20 housing units on the upper floors.

Appendix C



Source Documents

Photo Courtesy of Salem Planning and Community Development

Source Documents

MassDEP Hazardous Waste Sites

Release Tracking Number (RTN):

The number assigned to every site /reportable release. This number is preceded by 1, 2, 3, or 4 depending on the region where the release/site is located (e.g., 3-0001234). Corresponding regions are:

- [Western Region](#)
- [Central Region](#)
- [Northeast Region](#)
- [Southeast Region](#)

Additional information about RTNs may be found at toknow.htm.

City/Town:

The city or town where the release of oil or hazardous material occurred. Boston and Barnstable are also broken down by neighborhood or village (e.g., Boston-Brighton, Barnstable-Hyannis)

Release Address:

The number and street that most accurately describe the site/release location.

Site Name/Location Aid:

Describes the site in terms of its location, use, or type ("Bob's Gas Station" or "Across from Building 1").

Reporting Category:

How quickly a release must be reported to DEP. The potential severity of a release dictates how soon it must be reported. Reporting categories are 2 hours, 72 hours, and 120 days.

Notification Date:

The date DEP uses to establish 21E deadlines. This date is usually the date when the site/release was reported to DEP. However, for some sites, especially those dating before 1993, the notification date may be later than the date DEP first learned about the site.

Compliance Status:

21E sites compliance status definitions:

- **ADEQUATE REG (Adequately Regulated):** A site/release where response actions are deemed adequately regulated under another DEP program or by another government agency.
- **DEPMOU (Memorandum of Understanding):** A site/release where DEP has a Memorandum of Understanding or other written agreement with a responsible party.
- **DPS (Downgradient Property Status):** A site where a DPS Submittal to DEP has stated that contamination on the property is coming from an upgradient property.
- **DPSTRM (Downgradient Property Status Terminated):** A site where Downgradient Property Status has been terminated.

- **INVSUB (Invalid Submittal):** An RAO Statement that was submitted for the site has been determined to be invalid by DEP.
- **RAO (Response Action Outcome):** A site/release where an RAO Statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated.
- **REMOPS (Remedy Operation Status):** A site where a remedial system which relies upon Active Operation and Maintenance is being operated for the purpose of achieving a Permanent Solution.
- **RTN Closed:** Future response actions addressing the release associated with this Release Tracking Number (RTN) will be conducted as part of the response actions planned for the site under another "primary" RTN.
- **SPECPR (Special Project):** The site has Special Project status.
- **STMRET (Statement Retracted):** An RAO Statement that had been submitted for the site has been retracted.
- **TCLASS (Tier Classification):** A site/release where a Tier Classification Submittal was received, but the classification type has not been confirmed by DEP.

Note: Sites are usually Tier Classified using the Numerical Ranking System (NRS). The NRS scores sites on a point system based on a variety of factors. These include the site's complexity, the type of contamination, and the potential for human or environmental exposure to the contamination. In addition, some sites are automatically classified as Tier 1 sites if they pose an imminent hazard, affect public water supplies, or miss regulatory deadlines.

- **TIER 1A:** A site/release receiving a total NRS score equal to or greater than 550. These sites/releases require a permit and the person undertaking response actions must do so under direct DEP supervision.
- **TIER 1B:** A site/release receiving an NRS score of less than 550 and equal to or greater than 450. These sites/releases also require a permit, but response actions may be performed under the supervision of a Licensed Site Professional (LSP) without prior DEP approval.
- **TIER 1C:** A site/release receiving a total NRS score of less than 450 and equal to or greater than 350. A site/release receiving a total NRS score of less than 350, but which meets any of the Tier 1 Inclusionary Criteria specified in 310 CMR 40.0520(2)(a), is also classified a Tier 1C. These sites/releases also require a permit, but response actions may be performed under the supervision of an LSP without prior DEP approval.
- **TIER 2:** A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.
- **TIER 1D:** A site/release where the responsible party fails to provide a required submittal to DEP by a specified deadline. Note: formerly **Default Tier 1B**.

- **UNCLASSIFIED:** A release that has not reached its Tier Classification deadline (usually one year after it was reported), and where an RAO Statement, DPS Submittal, or Tier Classification Submittal has not been received by DEP.

The following definitions apply to sites that were reported to DEP prior to October 1993 and which were regulated under an older version of the MCP:

- **DEPNDS:** DEP Not a Disposal Site means that DEP has determined that these locations did not need to be reported and are not disposal sites.
- **DEPNFA:** DEP No Further Action means that response actions were conducted and DEP determined that no further action was needed for the site.
- **LSPNFA:** LSP No Further Action means that response actions were conducted and an LSP has determined that no further action was needed for the site.
- **PENNDS:** Pending Not a Disposal Site means a document was submitted to DEP asserting that these locations did not need to be reported and are not disposal sites. These submittals are considered pending until DEP audits them.
- **PENNFA:** Pending No Further Action means a document was submitted to DEP asserting that a site assessment had determined that no further action was required. These submittals are considered pending until DEP audits them.
- **WCSPRM:** A Waiver Completion Statement has been submitted to DEP.

Compliance Status Date:

The date a release/site was listed as its current compliance status.

Phase:

Indicates the release/site cleanup phase.

- **No Phase:** Phase report not required or not submitted.
- **Phase I:** Initial Site Investigation, including Tier Classification. In this phase, samples are collected and analyzed to determine the types, amounts, and location of contaminants.
- **Phase II:** Comprehensive Site Assessment. During Phase II, the risks posed to public health, welfare, and the environment are determined.
- **Phase III:** Identification, Evaluation, and Selection of Comprehensive Remedial Action Alternatives and the Remedial Action Plan. In Phase III, cleanup options are assessed and a cleanup plan is selected.
- **Phase IV:** Implementation of the Selected Remedial Action Alternative and Remedy Implementation Plan. The cleanup plan is implemented in Phase IV.
- **Phase V:** Operation, Maintenance, and/or Monitoring. During Phase V, long-term treatment processes are implemented and monitored to track cleanup progress.

RAO Class:

The class of Remedial Action Outcome submitted to the Department:

- **Class A RAO-** Remedial work was completed and a level of "no significant risk" has been achieved.
 - A1:** A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
 - A2:** A permanent solution has been achieved. Contamination has not been reduced to background.
 - A3:** A permanent solution has been achieved. Contamination has not been reduced to background and an [Activity and use Limitation \(AUL\)](#) has been implemented.
 - A4:** A permanent solution has been achieved. Contamination has not been reduced to background and an [Activity and use Limitation \(AUL\)](#) has been implemented. Contamination is located at a depth of >15 feet but evaluation has determined that it is not feasible to reduce it.

- **Class B RAO-** Site assessment indicates that "no significant risk" exists. No remedial work was necessary.
 - B1:** Remedial actions have not been conducted because a level of No Significant Risk exists.
 - B2:** Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more [Activity and use Limitations \(AULs\)](#) that have been implemented.
 - B3:** Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more [Activity and use Limitations \(AULs\)](#) that have been implemented, and contamination is located at a depth of >15 feet but evaluation has determined that it is not feasible to reduce it.

- **Class C RAO-** A temporary cleanup. Although the site does not present a "substantial hazard", it has not reached a level of no significant risk. The site must be evaluated every five years to determine whether a Class A or Class B RAO is possible. All sites are expected eventually to receive a Class A or B RAO.

*Note: **Activity and Use Limitations (AULs)** are legal restrictions used in the context of the Massachusetts Contingency Plan to limit future exposure to contaminants remaining at a site. See [Guidance on Implementing Activity and Use Limitations](#) for additional information.*

Massachusetts Department of Environmental Protection

Reportable Releases as of 4/17/2007

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0026449	SALEM	30-32 BECKFORD ST	& 102 FEDERAL STREET	TWO HR	12/6/2006	UNCLASSIFIED	12/6/2006			Hazardous Material
3-0014522	SALEM	152 LORING ST	2 MILES NORTH OF VINNAN SQUARE	TWO HR	11/20/1996	RAO	12/27/1996		A1	Oil
3-0020276	SALEM	1R 3R 3 FORT AVE	4 SZETELA LANE	TWO HR	1/3/2001	RAO	3/3/2006	PHASE III	C1	Oil and Hazardous Material
3-0026224	SALEM	CANAL ST	70-8 CABLE TERMINATION CANAL ST SUBSTA	120 DY	9/12/2006	UNCLASSIFIED	9/12/2006			Oil
3-0026542	SALEM	15 ROBINSON RD	A & H AUTO EXCHANGE INC	72 HR	2/5/2007	UNCLASSIFIED	2/5/2007			Hazardous Material
3-0026662	SALEM	313-323 HIGHLAND AVE	ABANDONED UST - LOYAL ORDER OF MOOSE	120 DY	3/1/2007	RAO	3/1/2007		B1	Oil
3-0025162	SALEM	FREEDOM HOLW	ACROSS FROM BLDG NO 50	TWO HR	8/22/2005	TIER 2	8/25/2006	PHASE II		Oil
3-0023641	SALEM	90 NORTH ST	AMERDA HESS STATION # 21519	120 DY	2/26/2004	RAO	3/7/2007	PHASE II	A2	Oil and Hazardous Material
3-0011634	SALEM	BRIDGE ST	AMTRAK YD	TWO HR	9/23/1994	RAO	1/23/1995		A1	Hazardous Material
3-0026109	SALEM	ORN ST	APPLETON STREET	TWO HR	7/31/2006	RAO	9/29/2006		A1	Hazardous Material
3-0017564	SALEM	190 BRIDGE ST	ASH ST	120 DY	11/10/1998	RTN CLOSED	11/20/1998			Oil and Hazardous Material
3-0015805	SALEM	100 BOSTON ST	AT GROVE ST	TWO HR	12/9/1997	RAO	6/11/1998		A1	Oil
3-0022894	SALEM	50 PALMER ST	AT INTERSECTION OF NAUMKEAG ST	120 DY	5/27/2003	RAO	5/27/2003	PHASE II	A2	Oil and Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0021997	SALEM	DERBY ST	AT LAFAYETTE STREET	TWO HR	8/2/2002	RAO	7/21/2006	PHASE IV	C1	Oil
3-0016727	SALEM	141 CANAL ST	AT MEADOW ST	TWO HR	4/25/1998	RAO	6/16/1998		A1	Oil
3-0012059	SALEM	COLONIAL RD	B&M SWITCHING YARD/END OF ROAD	TWO HR	1/15/1995	RAO	5/22/1995		A1	Hazardous Material
3-0003959	SALEM	SOUTH MASON ST	BAY STATE ADHESIVES CORP	NONE	5/20/1992	RAO	8/31/1995		A2	Oil
3-0013992	SALEM	DANVERS RIV	BEHIND 20 BAYVIEW CIR	TWO HR	7/15/1996	RAO	8/23/1996		A1	
3-0021014	SALEM	83 LAFAYETTE ST	BEHIND EARLY TV AND RADIO	120 DY	4/10/2001	RAO	4/10/2001		A2	Oil and Hazardous Material
3-0012653	SALEM	297-305 BRIDGE ST	BEHIND UNIVERSAL STEEL	TWO HR	7/6/1995	RAO	7/5/1996		A2	Hazardous Material
3-0019954	SALEM	15 BROADWAY	BESIDE CANAL ST	120 DY	9/11/2000	RAO	9/15/2006	PHASE II	A3	Hazardous Material
3-0001567	SALEM	145 CANAL ST	BEST PETROLEUM	NONE	10/15/1989	RAO	3/12/2001		A3	
3-0024277	SALEM	SWAMPSCOTT RD	BETWEEN FIRST ST AND TECHNOLOGY WAY	TWO HR	9/29/2004	RAO	12/3/2004		A2	Oil
3-0003252	SALEM	17 CANAL ST	BIG FRED'S	NONE	10/15/1990	RAO	7/10/1996		A3	Oil
3-0013216	SALEM	285 DERBY ST	BOB MARTINACK	TWO HR	12/4/1995	RAO	11/10/1997	PHASE II	A3	Oil
3-0023807	SALEM	63 BRIDGE ST	BRAKE AND CLUTCH BRIDGE ST NEAR CROMWEL	72 HR	4/28/2004	RAO	8/27/2004		A1	Oil
3-0022816	SALEM	2 AND 12 GOODHUE ST	BRIDGE ST INTERSECTION	72 HR	4/25/2003	RAO	4/29/2004		A3	
3-0001381	SALEM	12 HANSON ST	BROTHER LEATHER CO	NONE	7/23/1987	RAO	7/26/1996			
3-0002383	SALEM	2 PARADISE RD	BURSAW OIL	NONE	5/4/1989	RAO	11/15/2002		A3	
3-0012041	SALEM	DERBY ST WEBB ST	CABLE OIL LEAK FROM WEB TO CANAL STS	120 DY	3/6/1995	RAO	3/7/2001		C1	Oil

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0024678	SALEM	FORT AVE	CABLE OIL RESERVOIRS - SALEM HARBOR PO	120 DY	3/2/2005	TIER 2	3/2/2006	PHASE II		Oil
3-0023065	SALEM	71 LORING AVE	CENTRAL CAMPUS	72 HR	8/6/2003	RAO	7/24/2006		A2	Oil
3-0003551	SALEM	234 BRIDGE ST	COMMERCIAL PROPERTY	NONE	4/15/1991	TIER 1D	12/24/1998			
3-0002280	SALEM	105-111 CANAL ST	COMMERCIAL PROPERTY	NONE	7/15/1989	WCSPRM	10/31/1994			
3-0022824	SALEM	19 CONGRESS ST	COMMERCIAL PROPERTY	120 DY	4/29/2003	RAO	4/25/2006	PHASE III	A3	Oil
3-0003741	SALEM	2 LYNDE ST	COMMERCIAL PROPERTY	NONE	4/15/1992	WCSPRM	2/13/1992			Oil
3-0019987	SALEM	11 CYPRESS ST	COR CANAL	TWO HR	9/28/2000	RAO	9/21/2001		A2	Oil
3-0020429	SALEM	18 EAST COLLINS ST	COR OF LATHROP AND EAST COLLINS ST	TWO HR	2/20/2001	RAO	5/24/2001		A1	Oil and Hazardous Material
3-0015312	SALEM	125 OCEAN AVE	CORNER OF BROADWAY	120 DY	7/16/1997	RAO	9/13/1999	PHASE III	A2	Oil
3-0014477	SALEM	34 JACKSON ST	CORNER OF CALABRESE STREET	120 DY	11/4/1996	RAO	10/30/1997	PHASE II	A2	Hazardous Material
3-0018172	SALEM	141 CANAL ST	CORNER OF MEADOW ST	120 DY	4/6/1999	DPS	4/6/1999			Oil
3-0010809	SALEM	125 CANAL ST	CROSBYS MARKET	72 HR	4/6/1994	RAO	6/1/1994		A2	Oil
3-0001212	SALEM	10 WHITE ST	DARBIE LANDING MARINA	NONE	3/12/1993	RAO	8/15/1994		A2	Oil
3-0015479	SALEM	289 DERBY ST	DAVE & JACKS TEXACO	72 HR	8/28/1997	RAO	6/15/2006		A2	Oil
3-0023176	SALEM	71 LAFAYETTE ST	DERBY LOFTS	120 DY	8/15/2003	RAO	8/15/2003		B1	Hazardous Material
3-0024676	SALEM	52-60 DOW ST	DOW STREET LLC	120 DY	3/2/2005	RAO	8/22/2005		B1	Oil
3-0014334	SALEM	5 JEFFERSON AVE	DPW	TWO HR	10/13/1996	RAO	5/5/1997		A1	Oil
3-0021311	SALEM	35 OSBORNE ST	E MCGRATH INC	120 DY	12/6/2001	RAO	2/1/2002		B1	Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0000039	SALEM	HIGHLAND AVE SWAMPSCOTT RD	FAFARD CONSTRUCTION	NONE	1/16/1987	RAO	7/22/1994		A2	
3-0004660	SALEM	40R HIGHLAND AVE	FAIRWEATHER APTS	NONE	5/20/1993	PENNFA	7/17/1997			
3-0022725	SALEM	WAITE ST	FERRY ST	120 DY	3/31/2003	RTN CLOSED	3/11/2004			
3-0018192	SALEM	BRIDGE ST	FLINT ST 500 FT EAST OF BOSTON ST	TWO HR	4/13/1999	RAO	6/11/1999		A1	Oil
3-0013814	SALEM	45 BOSTON ST	FMR GAS STATION	TWO HR	5/23/1996	RAO	2/6/2006	PHASE IV	A3	Hazardous Material
3-0023213	SALEM	8 PEARL ST	FMR SALEM SHOE FACTORY	120 DY	9/29/2003	TIER 2	5/6/2005	PHASE II		Hazardous Material
3-0015390	SALEM	4 JEFFERSON AVE	FMR THERMAL CIRCUITS FACILITY	120 DY	8/4/1997	RAO	10/30/1997	PHASE II	B1	Hazardous Material
3-0024618	SALEM	70-92 BOSTON ST	FORMER FLYNTANT SITE	72 HR	12/30/2004	TIER 2	1/6/2006	PHASE II		Oil
3-0020421	SALEM	24 FORT AVE	FORMER NORTHEAST PETROLEUM	72 HR	2/22/2001	TIER 2	2/26/2002	PHASE IV		
3-0026378	SALEM	111 NORTH ST	FORMER SHELL-BRANDED SERVICE STATION	120 DY	11/9/2006	UNCLASSIFIED	11/9/2006			Oil and Hazardous Material
3-0026179	SALEM	111 NORTH ST	FORMER SHELL-BRANDED SERVICE STATION	120 DY	8/28/2006	UNCLASSIFIED	8/28/2006			Hazardous Material
3-0017897	SALEM	WINTER ISLAND RD	FORT PICKERING MAP 43 LOT 1	72 HR	1/25/1999	RAO	4/12/1999		A1	Oil
3-0023271	SALEM	90 NORTH ST	FRANKLIN ST	120 DY	10/14/2003	RAO	2/27/2004		A2	Hazardous Material
3-0026256	SALEM	111 NORTH ST	GASOLINE STATION	72 HR	9/26/2006	UNCLASSIFIED	9/26/2006			Oil
3-0003206	SALEM	295 DERBY ST	GIBBS SERVICE STATION	NONE	7/15/1990	RAO	12/14/2001	PHASE III	A2	

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0000427	SALEM	60 BOSTON ST	GTE PRODUCTS CORP	NONE	1/15/1987	RAO	4/27/1999		A3	Oil
3-0000433	SALEM	71 LORING AVE	GTE SYLVANIA	NONE	1/15/1987	WCSPRM	8/2/1996			
3-0002565	SALEM	20 COLONIAL RD	HAMBLET AND HAYES	NONE	9/26/1989	TIER 1B	3/1/2000	PHASE IV		Oil
3-0019956	SALEM	120 ESSEX ST	HAWTHORNE HOTEL	TWO HR	9/21/2000	RAO	11/20/2000		A1	
3-0023131	SALEM	295 DERBY ST	HESS STATION 21334	72 HR	8/27/2003	TIER 2	9/1/2004	PHASE II		Oil
3-0004749	SALEM	274-276 HIGHLAND AVE	HIGHLAND SALES	NONE	10/1/1993	RAO	1/31/1995		A1	Oil
3-0012517	SALEM	207 HIGHLAND AVE	HILLCREST CHEVROLET	72 HR	5/26/1995	RAO	11/16/1998	PHASE II	A3	Oil
3-0011730	SALEM	207 HIGHLAND AVE	HILLCREST CHEVROLET	TWO HR	10/8/1994	RAO	12/1/1994		A1	Oil
3-0026169	SALEM	DANVERS RIVER @ KERNWOOD BR	IN FRONT OF GEORGE MCCABE MARINA	TWO HR	8/24/2006	RAO	10/20/2006		A1	
3-0003457	SALEM	285 CANAL ST	INDUSTRIAL PROPERTY	NONE	1/15/1992	WCSPRM	1/13/1993			
3-0002790	SALEM	1 PEABODY ST	INDUSTRIAL PROPERTY	NONE	1/15/1990	WCSPRM	9/28/1993			
3-0010741	SALEM	DERBY ST HAWTHORNE AVE	INTERSECTION	TWO HR	3/24/1994	RAO	6/12/1996	PHASE II	A2	Oil
3-0025645	SALEM	9 WEB ST	INTERSECTION	TWO HR	2/7/2006	RAO	4/10/2006		A2	Oil
3-0016766	SALEM	60 BOSTON ST	INTERSECTION OF BOSTON AND BRIDGE STS	120 DY	4/28/1998	RAO	4/27/1999		A3	Oil and Hazardous Material
3-0019238	SALEM	ADAMS ST	JEFFERSON PARALLEL STS	TWO HR	2/3/2000	RAO	3/31/2000		A1	Oil
3-0000918	SALEM	65 BRIDGE ST	JEFFS AUTO SERVICE	NONE	12/4/1986	RAO	6/9/2006		A1	
3-0001278	SALEM	KERNWOOD RIDGE RD	KERNWOOD COUNTRY CLUB	NONE	1/14/1987	PENNFA	10/1/1993			

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0023772	SALEM	KERNWOOD AVE	KERNWOOD COUNTRY CLUB MAINTENANCE FACILI	72 HR	4/16/2004	RAO	4/25/2005		A2	Oil
3-0000726	SALEM	406 ESSEX ST	LITWIN MOTORS	NONE	10/15/1988	TIER 1D	8/9/1995			
3-0025114	SALEM	313-323 HIGHLAND AVE	LOYAL ORDER OF THE MOOSE	120 DY	8/8/2005	RAO	6/27/2006		B2	Hazardous Material
3-0015335	SALEM	MUSSOLINI RD	MA ELEC POWER STA #29 WEST SALEM	TWO HR	7/27/1997	RAO	9/18/1997		A2	Oil
3-0010329	SALEM	26 HERSEY ST	MARQUIS CLEANERS	TWO HR	10/1/1993	TIER 1D	3/3/1995			Oil and Hazardous Material
3-0019632	SALEM	105 NORTH ST	MASON ST	72 HR	6/16/2000	REMOPS	4/4/2006	PHASE V		
3-0002898	SALEM	DERBY ST HAWTHORNE BLVD	MASSACHUSETTS ELECTRIC CO	NONE	12/14/1989	RAO	8/7/1996			Oil
3-0003613	SALEM	90 NORTH ST	MERIT GASOLINE STATION	NONE	7/15/1991	RAO	10/21/1998	PHASE III	A2	Oil
3-0004724	SALEM	61 JEFFERSON AVE	MICHAUD BUS CO	NONE	10/11/1993	RAO	11/29/1995			Oil
3-0000153	SALEM	10 JEFFERSON AVE	MOFFAT REALTY	NONE	1/15/1987	RAO	3/5/1998	PHASE II	B1	
3-0003261	SALEM	MEMORIAL DR	MUNICIPAL LANDFILL FMR	NONE	10/15/1990	WCSPRM	5/1/1997			Oil
3-0011389	SALEM	FOWLER ST	N PINE ST	TWO HR	7/27/1994	RAO	3/22/2004		A1	Oil
3-0014683	SALEM	SALEM HBR @ 24 FORT AVE	NE POWER CO	TWO HR	1/2/1997	RAO	1/14/1997		A1	
3-0010769	SALEM	24 FORT AVE	NE POWER PLANT	TWO HR	3/27/1994	RAO	6/6/1994		A1	Hazardous Material
3-0016873	SALEM	10R BROADWAY	NEAR BROADWAY AND CANAL STREET	TWO HR	6/3/1998	RAO	1/4/2005	PHASE II	A1	Oil
3-0001709	SALEM	PIERCE AVE AND WAITE ST	NEPCO PROPERTY FMR GAS PLANT	NONE	1/15/1987	URAM	12/12/2005	PHASE V		Oil

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0000865	SALEM	24 FORT AVE	NEW ENGLAND POWER	NONE	1/15/1987	RAO	8/6/1997	PHASE III	A2	Hazardous Material
3-0010499	SALEM	25 DERBY ST	NEW ENGLAND POWER DOCK	TWO HR	2/11/1994	RAO	3/30/1994		A1	Oil
3-0003502	SALEM	35 NORMAN ST	NEW ENGLAND TELEPHONE	NONE	8/15/1990	RAO	8/11/1997		A3	
3-0023636	SALEM	CRESCENT DR	NO 2 FUEL OIL RELEASE	TWO HR	2/26/2004	RAO	3/9/2005		A2	Oil
3-0017845	SALEM	6 AND 8 HERSHEY ST	NO LOCATION AID	TWO HR	1/9/1999	RAO	3/10/1999		A2	Oil
3-0023809	SALEM	5 BARTON SQ	NO LOCATION AID	72 HR	4/28/2004	RAO	4/19/2005		A1	Oil
3-0022709	SALEM	5 BELLEVIEW AVE	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022670	SALEM	21 BELLEVIEW AVE	NO LOCATION AID	TWO HR	5/1/2003	RAO	5/24/2004		B1	Hazardous Material
3-0022699	SALEM	25 BELLEVIEW AVE	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0021067	SALEM	10 BLANEY ST	NO LOCATION AID	120 DY	9/7/2001	RAO	9/7/2005	PHASE IV	B2	Hazardous Material
3-0026015	SALEM	70-92 BOSTON ST	NO LOCATION AID	72 HR	6/23/2006	UNCLASSIFIED	6/23/2006			Hazardous Material
3-0016788	SALEM	70-92 BOSTON ST	NO LOCATION AID	TWO HR	10/8/1998	RTN CLOSED	1/6/2006			Hazardous Material
3-0023596	SALEM	146 BOSTON ST	NO LOCATION AID	72 HR	2/11/2004	RAO	6/7/2006	PHASE III	A2	Oil
3-0022700	SALEM	1 BRENTWOOD AVE	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0019240	SALEM	BRIDGE ST	NO LOCATION AID	TWO HR	2/3/2000	RAO	4/26/2000		A1	Oil
3-0015323	SALEM	3 BRIDGE ST	NO LOCATION AID	120 DY	7/21/1997	RAO	7/21/1997		B1	Hazardous Material
3-0021808	SALEM	35 BRIDGE ST	NO LOCATION AID	120 DY	5/31/2002	RAO	3/28/2003		A2	Hazardous Material
3-0015460	SALEM	65 BRIDGE ST	NO LOCATION AID	120 DY	8/20/1997	RTN CLOSED	2/25/1998			Oil and Hazardous Material
3-0014411	SALEM	190 BRIDGE ST	NO LOCATION AID	TWO HR	10/25/1996	RTN CLOSED	10/23/1997			Oil

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0020637	SALEM	190 BRIDGE ST	NO LOCATION AID	TWO HR	4/27/2001	RTN CLOSED	11/4/2003			Oil
3-0012927	SALEM	65A BRIDGE ST	NO LOCATION AID	120 DY	5/30/1995	RAO	5/30/1996	PHASE II	B1	Oil and Hazardous Material
3-0010990	SALEM	BRIDGE ST AND GOODHUE ST	NO LOCATION AID	120 DY	5/11/1994	URAM	5/18/1994			
3-0024404	SALEM	50 BROADWAY	NO LOCATION AID	120 DY	11/5/2004	RAO	11/22/2004		B1	Hazardous Material
3-0020328	SALEM	41 BUTLER ST	NO LOCATION AID	TWO HR	1/19/2001	RAO	7/12/2001		A2	Oil
3-0017579	SALEM	75 CANAL ST	NO LOCATION AID	TWO HR	11/16/1998	RAO	1/7/1999		A1	Oil
3-0017770	SALEM	97 CANAL ST	NO LOCATION AID	72 HR	12/22/1998	RAO	4/20/1999		A2	Oil
3-0012326	SALEM	120 CANAL ST	NO LOCATION AID	120 DY	3/21/1995	RAO	3/21/1995		B2	Oil and Hazardous Material
3-0018917	SALEM	200 CANAL ST	NO LOCATION AID	120 DY	10/29/1999	RAO	2/24/2000		B1	Hazardous Material
3-0018248	SALEM	200 CANAL ST	NO LOCATION AID	TWO HR	4/30/1999	RAO	8/31/1999		A2	Oil
3-0012947	SALEM	290 CANAL ST	NO LOCATION AID	72 HR	9/20/1995	RAO	3/21/1997		A2	Oil
3-0020608	SALEM	CANAL ST @ MEADOW ST	NO LOCATION AID	TWO HR	4/19/2001	RAO	5/24/2001		A1	Oil
3-0023196	SALEM	17 CENTRAL ST	NO LOCATION AID	120 DY	9/18/2003	DPS	9/18/2003			Oil
3-0024422	SALEM	23 CHESTNUT ST	NO LOCATION AID	72 HR	11/19/2004	RAO	5/16/2005		A2	Oil
3-0019213	SALEM	COLONIAL RD	NO LOCATION AID	TWO HR	1/26/2000	RAO	3/27/2000		A1	Hazardous Material
3-0022762	SALEM	13 COUSINS ST	NO LOCATION AID	120 DY	4/10/2003	RAO	4/10/2003		B1	Hazardous Material
3-0026124	SALEM	DERBY AND LAFAYETTE STS	NO LOCATION AID	TWO HR	8/4/2006	UNCLASSIFIED	8/4/2006			Oil
3-0011712	SALEM	25 DERBY ST	NO LOCATION AID	TWO HR	10/8/1994	RAO	12/5/1994		A1	Oil
3-0010472	SALEM	25 DERBY ST	NO LOCATION AID	TWO HR	1/24/1994	RAO	3/22/1994		A1	Oil
3-0011479	SALEM	274 DERBY ST	NO LOCATION AID	120 DY	8/16/1994	RAO	9/29/1994	PHASE II	B2	Oil and Hazardous Material
3-0026624	SALEM	283 DERBY ST	NO LOCATION AID	72 HR	2/21/2007	UNCLASSIFIED	2/21/2007			Oil
3-0023029	SALEM	DERBY STREET AND HAWTHORNE BLV	NO LOCATION AID	TWO HR	7/21/2003	TIER 2	7/21/2004	PHASE IV		Oil

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0020038	SALEM	16 ENGLISH ST	NO LOCATION AID	TWO HR	10/13/2000	RAO	10/22/2002	PHASE II	A3	Oil and Hazardous Material
3-0017135	SALEM	133 ESSEX ST	NO LOCATION AID	72 HR	8/10/1998	RAO	10/30/2000	PHASE II	A2	Oil and Hazardous Material
3-0013366	SALEM	FLINT ST CHANNEL	NO LOCATION AID	120 DY	1/24/1996	RAO	12/24/2001	PHASE III	A2	Hazardous Material
3-0020518	SALEM	18 FORRESTER ST	NO LOCATION AID	120 DY	3/20/2001	RAO	3/20/2001		A2	Oil
3-0018780	SALEM	24 FORT AVE	NO LOCATION AID	TWO HR	9/22/1999	RAO	1/19/2000		A1	Oil
3-0012970	SALEM	24 FORT AVE	NO LOCATION AID	TWO HR	9/25/1995	RAO	11/17/1995		A1	Oil
3-0020489	SALEM	5 FOSTER CT	NO LOCATION AID	120 DY	2/26/2001	RAO	7/25/2001		A2	Oil
3-0018957	SALEM	5 FOSTER CT	NO LOCATION AID	120 DY	11/9/1999	TIER 2	11/10/2000	PHASE II		Hazardous Material
3-0017414	SALEM	4 FRANCIS RD	NO LOCATION AID	TWO HR	10/13/1998	RAO	10/20/1999		A2	Oil
3-0021631	SALEM	7 FRANKLIN ST	NO LOCATION AID	120 DY	4/2/2002	DPS	7/31/2002			Oil
3-0022701	SALEM	3 GALLOWES CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022702	SALEM	4 GALLOWES CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0021284	SALEM	2 GOODHUE ST	NO LOCATION AID	120 DY	11/1/2001	RAO	11/6/2002		B2	Oil
3-0021287	SALEM	12 GOODHUE ST	NO LOCATION AID	120 DY	11/1/2001	RAO	11/6/2002		A3	Oil
3-0022996	SALEM	28 GOODHUE ST	NO LOCATION AID	120 DY	6/30/2003	RAO	4/7/2004		B2	Oil and Hazardous Material
3-0015462	SALEM	5 GREENLEDGE ST	NO LOCATION AID	120 DY	8/4/1997	RAO	8/4/1997		A2	Oil and Hazardous Material
3-0014094	SALEM	50 GROVE ST	NO LOCATION AID	TWO HR	8/6/1996	RAO	7/18/1997		A2	Oil
3-0022167	SALEM	60 GROVE ST	NO LOCATION AID	TWO HR	10/2/2002	RTN CLOSED	2/20/2007			Oil
3-0010511	SALEM	11 HATHORNE ST	NO LOCATION AID	TWO HR	2/2/1994	RAO	3/28/1994		A2	Oil
3-0013300	SALEM	22 HERSEY ST	NO LOCATION AID	TWO HR	1/1/1996	RAO	11/5/1996		A1	Oil
3-0020314	SALEM	81 HIGHLAND AVE	NO LOCATION AID	TWO HR	1/15/2001	RAO	1/22/2002		A2	Oil
3-0019446	SALEM	205 HIGHLAND AVE	NO LOCATION AID	120 DY	4/11/2000	RAO	11/29/2000		A2	Oil
3-0026563	SALEM	313-323 HIGHLAND AVE	NO LOCATION AID	120 DY	1/26/2007	UNCLASSIFIED	1/26/2007			Oil and Hazardous Material
3-0014346	SALEM	347 HIGHLAND AVE 459 HIGHLAND AVE RTE 107	NO LOCATION AID	120 DY	10/16/1996	RAO	10/16/1996		A2	Oil
3-0017844	SALEM	86 JACKSON ST	NO LOCATION AID	TWO HR	1/9/1999	RAO	3/5/1999		A2	Oil
3-0017817	SALEM	86 JACKSON ST	NO LOCATION AID	120 DY	1/5/1999	RAO	9/13/2002	PHASE II	A3	Hazardous Material
3-0018841	SALEM	86 JACKSON ST	NO LOCATION AID	120 DY	10/6/1999	RTN CLOSED	1/12/2000			Oil
3-0014205	SALEM	43 JEFFERSON AVE	NO LOCATION AID	72 HR	9/6/1996	RAO	6/2/2000	PHASE II	A2	Oil
3-0022383	SALEM	352 LAFAYETTE ST	NO LOCATION AID	TWO HR	12/11/2002	RAO	2/28/2003		A1	Oil
3-0018739	SALEM	357 LAFAYETTE ST	NO LOCATION AID	TWO HR	9/12/1999	RAO	9/3/2002	PHASE III	A2	Oil
3-0017202	SALEM	LEAVITT AND CONGRESS ST	NO LOCATION AID	120 DY	8/24/1998	URAM	9/1/1998			Oil and Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0016584	SALEM	92 LORING AVE	NO LOCATION AID	TWO HR	3/10/1998	RAO	5/19/1998		A1	Oil
3-0025176	SALEM	15 LYNDE ST	NO LOCATION AID	120 DY	9/30/2005	RAO	2/2/2006		A2	Oil
3-0026664	SALEM	13 MARCH ST	NO LOCATION AID	TWO HR	3/9/2007	UNCLASSIFIED	3/9/2007			Oil
3-0013526	SALEM	17 MEADOW ST	NO LOCATION AID	120 DY	3/4/1996	TIER 2	9/29/2006	PHASE II		Oil
3-0024472	SALEM	17 MEADOW ST	NO LOCATION AID	120 DY	12/7/2004	RTN CLOSED	9/29/2006			Oil
3-0011069	SALEM	35 NORMAN ST	NO LOCATION AID	72 HR	6/2/1994	RAO	6/5/1995		A3	Oil
3-0026074	SALEM	38 NORMAN ST	NO LOCATION AID	72 HR	7/20/2006	UNCLASSIFIED	7/20/2006			Oil
3-0012248	SALEM	90 NORTH ST	NO LOCATION AID	72 HR	3/8/1995	RTN CLOSED	5/25/1995			Oil
3-0020329	SALEM	105 NORTH ST	NO LOCATION AID	TWO HR	1/19/2001	RTN CLOSED	6/22/2001			Oil
3-0010618	SALEM	13 NURSERY ST	NO LOCATION AID	TWO HR	10/11/1993	RAO	8/16/1995		A2	Oil
3-0022703	SALEM	63 ORD ST	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022715	SALEM	65 ORD ST	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022718	SALEM	67 ORD ST	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022704	SALEM	91 ORD STREET EXT	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0025097	SALEM	50 PALMER ST	NO LOCATION AID	72 HR	8/4/2005	RAO	5/27/2003			
3-0025291	SALEM	50 PALMER ST	NO LOCATION AID	72 HR	9/30/2005	RAO	5/27/2003			
3-0010093	SALEM	68-70 PALMER ST	NO LOCATION AID	TWO HR	10/22/1993	RAO	2/1/1994			Oil
3-0023618	SALEM	2 PARK ST	NO LOCATION AID	TWO HR	2/19/2004	RAO	6/25/2004		A2	Oil
3-0025611	SALEM	15 PEABODY ST	NO LOCATION AID	120 DY	1/25/2006	TIER 2	1/25/2007	PHASE II		Oil and Hazardous Material
3-0022921	SALEM	PEARL ST	NO LOCATION AID	TWO HR	6/12/2003	RAO	2/10/2004		A1	Oil
3-0022705	SALEM	2 PIONEER CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0024234	SALEM	3 PIONEER CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023945	SALEM	4 PIONEER CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022706	SALEM	6 PIONEER CIR	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022714	SALEM	7 PIONEER CIR	NO LOCATION AID	120 DY	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0023528	SALEM	PLANTERS ST	NO LOCATION AID	120 DY	1/16/2004	RTN CLOSED	3/11/2004			Oil
3-0023946	SALEM	5 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023947	SALEM	10 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022707	SALEM	12 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0023948	SALEM	13 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022708	SALEM	14 PURITAN RD	NO LOCATION AID	120 DY	5/3/2004	RAO	5/24/2004		B1	Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0023949	SALEM	16 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022710	SALEM	18 PURITAN RD	NO LOCATION AID	120 DY	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022711	SALEM	20 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0023950	SALEM	21 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022712	SALEM	22 PURITAN RD	NO LOCATION AID	120 DY	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0022713	SALEM	23 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0023951	SALEM	24 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023952	SALEM	26 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023953	SALEM	28 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0022716	SALEM	30 PURITAN RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0011096	SALEM	35 SAINT PETER ST	NO LOCATION AID	72 HR	6/7/1994	RAO	9/16/1994		A2	Oil
3-0021960	SALEM	16 SCOTIA ST	NO LOCATION AID	TWO HR	7/23/2002	TIER 1D	7/30/2003			Hazardous Material
3-0016891	SALEM	SHILLABER ST NR #14	NO LOCATION AID	TWO HR	6/5/1998	RAO	7/27/1998		A1	Oil
3-0022125	SALEM	10 SKERRY RD	NO LOCATION AID	TWO HR	9/18/2002	RAO	9/1/2004	PHASE II	A3	Hazardous Material
3-0017081	SALEM	SOUTH RIV	NO LOCATION AID	TWO HR	7/23/1998	RAO	10/19/1998		A1	Oil
3-0022113	SALEM	28 ST PETER ST	NO LOCATION AID	TWO HR	9/16/2002	RAO	11/15/2002		A2	Oil
3-0022942	SALEM	120 SWAMPSCOTT RD	NO LOCATION AID	TWO HR	6/20/2003	RAO	10/24/2003		A1	Hazardous Material
3-0025741	SALEM	18 THORNDIKE ST	NO LOCATION AID	120 DY	3/20/2006	RAO	3/22/2007		A2	Oil and Hazardous Material
3-0026035	SALEM	18 THORNDIKE ST	NO LOCATION AID	TWO HR	7/10/2006	RAO	3/22/2007			
3-0019914	SALEM	45 TO 59 BOSTON ST	NO LOCATION AID	72 HR	9/8/2000	RTN CLOSED	12/5/2002	PHASE II		
3-0024652	SALEM	61 WARD ST	NO LOCATION AID	120 DY	2/17/2005	TIER 2	2/24/2006	PHASE II		Oil and Hazardous Material
3-0018311	SALEM	WINTER IS	NO LOCATION AID	TWO HR	5/16/1999	RAO	8/19/1999		A1	Hazardous Material
3-0018002	SALEM	WINTER ISLAND RD	NO LOCATION AID	72 HR	2/17/1999	TIER 2	3/3/2000	PHASE II		Oil
3-0022717	SALEM	7 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	5/24/2004		B1	Hazardous Material
3-0024235	SALEM	9 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023954	SALEM	11 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0023955	SALEM	13 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023956	SALEM	16 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023957	SALEM	18 WITCH WAY	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023958	SALEM	1 WITCHCRAFT RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023959	SALEM	3 WITCHCRAFT RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0023960	SALEM	5 WITCHCRAFT RD	NO LOCATION AID	TWO HR	5/3/2004	RAO	12/9/2004		A2	Hazardous Material
3-0021495	SALEM	12 WOODBURY CT	NO LOCATION AID	120 DY	2/14/2002	TIER 1D	2/21/2003		A2	Oil
3-0024824	SALEM	23 WOODSIDE ST	NO LOCATION AID	120 DY	5/2/2005	RAO	9/6/2005		A2	Oil
3-0017116	SALEM	28 NORMAN ST	NORMAN ST	120 DY	8/3/1998	RAO	11/24/1998		A1	Oil
3-0000428	SALEM	NORTH ST SALEM HBR	NORTH RIVER	NONE	1/15/1987	TIER 1D	8/9/1995			
3-0013925	SALEM	25 DERBY ST	NORTHEAST PETROLEUM TERMINAL	TWO HR	6/22/1996	RAO	8/28/1996		A1	Oil and Hazardous Material
3-0025834	SALEM	BRIDGE SAINT AT SAINT PETER ST	NORTHERLY ALONG MBTA ROW TO BRIDGE	120 DY	4/19/2006	UNCLASSIFIED	4/19/2006			Hazardous Material
3-0013201	SALEM	SOUTH RIV	NR 281 DERBY ST	TWO HR	12/1/1995	RAO	2/12/1996		A1	Oil
3-0000430	SALEM	38 IRVING ST	O BRIEN TANNERY FMR	NONE	1/15/1987	DEPNFA	7/23/1993			Oil
3-0013218	SALEM	1 IGA WAY	OFF COLONIAL ROAD	120 DY	12/4/1995	RAO	12/6/1996		A3	Oil
3-0000539	SALEM	31 BRIDGE ST	OLD COLONY GASOLINE STA FMR	NONE	1/15/1987	WCSPRM	9/28/1993			
3-0014313	SALEM	190 BRIDGE ST	PARKER BROS MFG FACILITY	TWO HR	10/8/1996	RAO	12/5/1996		A2	Oil
3-0017020	SALEM	132 ESSEX ST	PEABODY ESSEX MUSEUM	72 HR	7/10/1998	RAO	9/10/1998		A1	Oil
3-0023396	SALEM	161 ESSEX ST	PEABODY ESSEX MUSEUM-CHARTER STREET	72 HR	11/26/2003	TIER 2	11/26/2004	PHASE IV		Hazardous Material
3-0023136	SALEM	23 CONGRESS ST	PICKERING WHARF MARINA	TWO HR	8/30/2003	RTN CLOSED	7/21/2004			Oil
3-0003174	SALEM	278 DERBY ST	PROPERTY	NONE	10/15/1991	PENNFA	7/31/1997			Oil
3-0001359	SALEM	285 DERBY ST	PROPERTY	NONE	10/15/1988	RAO	6/22/1995		A3	Oil
3-0002084	SALEM	281 DERBY ST 24-26 CONGRESS	PROPERTY	NONE	4/15/1989	RAO	12/8/2003	PHASE III	A2	
3-0026084	SALEM	11-13 DODGE ST	PROPERTY	120 DY	7/20/2006	RAO	11/3/2006		B1	Hazardous Material
3-0026083	SALEM	76 LAFAYETTE ST	PROPERTY	120 DY	7/20/2006	RAO	11/10/2006		B1	Hazardous Material
3-0024213	SALEM	90 LAFAYETTE ST	PROPERTY	120 DY	9/1/2004	RAO	9/28/2004		B1	Oil
3-0003165	SALEM	5 OLIVER ST	PROPERTY	NONE	11/11/1989	TIER 1D	8/11/1997			Oil
3-0004453	SALEM	18 UPHAM ST	PROPERTY	NONE	11/11/1989	TIER 1D	8/11/1997			Oil
3-0026085	SALEM	191-211 WASHINGTON ST	PROPERTY	120 DY	7/20/2006	RAO	11/3/2006		B1	Oil
3-0003525	SALEM	WAITE ST PLANTERS ROW	PROPERTY NEE	NONE	2/19/1991	RTN CLOSED	8/3/2001			Oil

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0024896	SALEM	24 FORT AVE	PROPOSED NORTHERN EXPANSION AREA	120 DY	5/24/2005	RAO	5/24/2005		B1	Oil
3-0013160	SALEM	JEFFERSON ST (OFF)	RAILROAD RIGHT OF WAY	120 DY	11/20/1995	URAM	11/21/1995			Hazardous Material
3-0026478	SALEM	97 MARGIN ST	RAILYARD SUBSTATION #49	120 DY	12/18/2006	UNCLASSIFIED	12/18/2006			Hazardous Material
3-0025076	SALEM	3 PURITAN RD	RESIDENCE	TWO HR	3/20/2006	TIER 1D	3/27/2007			Hazardous Material
3-0024051	SALEM	9 WEBB ST	RICHARD LEATHER CO ROADWAY STA 242+30, LEFT 25 FT	120 DY	7/13/2004	RAO	4/15/2005		A2	Oil and Hazardous Material
3-0025863	SALEM	190 BRIDGE ST	RODS TOWING	TWO HR	5/5/2006	UNCLASSIFIED	5/5/2006			Oil
3-0012710	SALEM	171 BOSTON ST		TWO HR	7/20/1995	RAO	3/30/2004	PHASE II	A1	Oil
3-0016910	SALEM	87 NORTH ST	RTE 114	120 DY	6/12/1998	RAO	5/9/2000	PHASE II	A2	Oil
3-0003651	SALEM	59 JEFFERSON AVE	RYDER TRUCK RENTAL LOC 0225	NONE	7/15/1991	RAO	10/31/1997		A3	
3-0024126	SALEM	NEW DERBY ST	S145-B CABLE TERMINATION	TWO HR	8/6/2004	TIER 2	8/8/2005	PHASE II		Oil
3-0026225	SALEM	CANAL ST	CANAL ST SUBSTA	120 DY	9/12/2006	UNCLASSIFIED	9/12/2006			Oil
3-0026270	SALEM	25 PEABODY ST	SALEM #1 SUBSTATION	120 DY	10/4/2006	UNCLASSIFIED	10/4/2006			Oil and Hazardous Material
3-0000431	SALEM	57 MARLBORO RD	SALEM ACRES	NONE	1/15/1987	ADEQUATE REG	10/22/2004			Oil
3-0015729	SALEM	5 JEFFERSON AVE	SALEM DPW	72 HR	11/20/1997	RTN CLOSED	8/20/1998			Oil
3-0003761	SALEM	5 JEFFERSON AVE	SALEM DPW YARD	NONE	2/7/1991	RAO	3/22/2002	PHASE II	A3	Oil
3-0000903	SALEM	155 WASHINGTON ST	SALEM EVENING NEWS	NONE	10/15/1988	RAO	1/31/1995		A2	Oil
3-0010849	SALEM	155 WASHINGTON ST	SALEM EVENING NEWS	120 DY	2/22/1995	RAO	3/15/1995		B2	Hazardous Material
3-0004491	SALEM	48 LAFAYETTE ST	SALEM FIRE DEPT	NONE	11/25/1992	RAO	8/12/2005	PHASE III	A3	
3-0024000	SALEM	CONGRESS ST	SALEM HARBOR AT MOUTH OF SOUTH RIVER	TWO HR	6/24/2004	RTN CLOSED	7/21/2004			Oil
3-0010498	SALEM	24 FORT AVE	SALEM HARBOR STATION	TWO HR	1/31/1994	RAO	6/8/1994		A1	Hazardous Material
3-0017795	SALEM	24 FORT AVE	SALEM HARBOR STATION	TWO HR	12/28/1998	RAO	4/16/1999		A1	Oil
3-0018040	SALEM	24 FORT AVE	SALEM HARBOR STATION	TWO HR	2/26/1999	RAO	6/24/1999		A1	Oil
3-0004601	SALEM	347 HIGHLAND AVE	SALEM HONDA	NONE	3/15/1993	RAO	10/22/1996		A3	Oil
3-0022340	SALEM	12 SWAMPSCOTT RD	SALEM LANDFILL/TRANSFER STATION	72 HR	11/20/2002	ADEQUATE REG	1/17/2003			Hazardous Material
3-0014921	SALEM	297 BRIDGE ST	SALEM MAINTENANCE FACILITY	TWO HR	3/17/1997	RAO	5/23/1997		A1	
3-0012889	SALEM	173 DERBY ST	SALEM MARITIME NHS	120 DY	9/5/1995	RAO	9/12/1997	PHASE II	B2	Hazardous Material
3-0003546	SALEM	29 HIGHLAND AVE RTE 107	SALEM MIDDLE SCHOOL WEST	NONE	4/28/1994	RAO	6/27/1994		B1	Oil
3-0002131	SALEM	60 GROVE ST	SALEM OIL & GREASE CO	NONE	4/15/1989	TIER 2	2/20/2007			

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0024908	SALEM	60 GROVE ST	SALEM OIL & GREASE COMPANY	TWO HR	6/17/2005	RTN CLOSED	2/20/2007			Oil and Hazardous Material
3-0000097	SALEM	6 COLBY ST	SALEM ORTHOPEDIC SURGEONS	NONE	2/13/1986	DEPNDS	5/17/1996			Oil
3-0002310	SALEM	50 BROADWAY	SALEM PLATING	NONE	1/15/1990	DPS	9/4/1996			
3-0010996	SALEM	24 FORT AVE	SALEM POWER	TWO HR	5/13/1994	RAO	7/8/1994		A1	Oil
3-0014679	SALEM	24 FORT AVE	SALEM POWER PLANT	TWO HR	1/2/1997	RAO	2/3/1997		A1	Oil
3-0003166	SALEM	130 CANAL ST	SALEM RENTAL CAR	NONE	10/15/1991	LSPNFA	3/20/1994			
3-0010992	SALEM	CANAL ST	SALEM ST COLL OKEEFE BLDG	120 DY	5/10/1994	RAO	8/13/1998		A2	Hazardous Material
3-0015982	SALEM	LAFAYETTE ST	SALEM STATE CAMPUS	TWO HR	2/4/1998	RAO	6/1/1998		A1	Oil
3-0010209	SALEM	HARRISON AVE	SALEM STATE COLLEGE	72 HR	11/19/1993	RAO	8/13/1998		A2	Oil
3-0017062	SALEM	352 LAFAYETTE ST	SALEM STATE COLLEGE	72 HR	7/21/1998	TIER 2	3/9/2000			Oil
3-0004735	SALEM	352 LAFAYETTE ST	SALEM STATE COLLEGE	NONE	5/10/1993	RAO	4/19/2006	PHASE IV	C1	
3-0023496	SALEM	LAFAYETTE ST	SALEM STATE COLLEGE - ADMIN	TWO HR	1/10/2004	RAO	3/25/2004		A1	Oil
3-0010236	SALEM	352 LAFAYETTE ST	SALEM STATE COLLEGE BOILER ROOM	TWO HR	11/30/1993	RAO	2/2/1994		A1	Oil
3-0001710	SALEM	12 FRANKLIN ST	SALEM WAREHOUSE FMR	NONE	1/15/1987	DEPNFA	7/23/1993			
3-0001835	SALEM	433-443 HIGHLAND AVE	SERVICE STATION	NONE	1/15/1989	RAO	10/28/1997		B2	
3-0018619	SALEM	81 HIGHLAND AVE	SHAUGNESSY REHAB GENERATOR	120 DY	8/9/1999	RAO	8/20/1999		A2	Hazardous Material
3-0004743	SALEM	111 NORTH ST	SHELL STATION	NONE	6/23/1993	LSPNFA	8/8/1997			Oil
3-0024819	SALEM	111 NORTH ST	SHELL-BRANDED SERVICE STA 13738	120 DY	5/2/2005	RAO	5/2/2005		B1	Hazardous Material
3-0025120	SALEM	45 CONGRESS ST	SHETLAND PROPERTIES INC	120 DY	8/10/2005	TIER 2	8/17/2006	PHASE II		Oil
3-0002308	SALEM	3-27 PARADISE FMR 50 STATE	SHOPPING PLAZA	NONE	1/15/1990	RAO	9/20/1996		A3	
3-0000426	SALEM	50 FORT AVE	SOUTH ESSEX SEWERAGE DISTRICT	NONE	1/15/1987	RAO	4/17/1998		A2	Hazardous Material
3-0001480	SALEM	CONGRESS ST DERBY ST	SOUTHLAND CORP	NONE	1/15/1990	TIER 1D	8/9/1996			
3-0010900	SALEM	190 BRIDGE ST	ST PETERS ST STORAGE LOT NEXT TO NEP PLANT	120 DY	4/22/1994	RAO	9/24/1999	PHASE III	A3	Hazardous Material
3-0010177	SALEM	3 FORT AVE	SUNOCO SERVICE STATION	TWO HR	11/9/1993	RAO	2/7/1995			Hazardous Material
3-0003892	SALEM	105 NORTH ST	SUNOCO SERVICE STATION	NONE	4/15/1992	RAO	12/27/2006	PHASE V	A2	Oil
3-0010758	SALEM	105 NORTH MAIN ST	SUNOCO STATION	TWO HR	3/28/1994	RTN CLOSED	11/18/1994			Oil
3-0020725	SALEM	24 FORT AVE	TANK B4	TWO HR	5/22/2001	RAO	5/24/2002		A2	Oil
3-0002135	SALEM	57 WHARF ST	TANK FARM FMR	NONE	4/15/1989	RAO	6/11/1996			
3-0000184	SALEM	100 HIGHLAND AVE	TECHNICAL DATA	NONE	1/15/1987	PENNFA	7/28/1995			
3-0013618	SALEM	299 BRIDGE ST	UNIVERSAL STEEL	TWO HR	3/28/1996	TIER 1D	4/4/1997			Oil
3-0011726	SALEM	297-305 BRIDGE ST	UNIVERSAL STEEL & TRADING CORP	120 DY	10/7/1994	TIER 2	10/17/1995	PHASE II		Oil and Hazardous Material

RTN	Town	Address	Site Name	Category	Notification Date	Status	Date	Phase	RAO Class	Chemical Type
3-0021283	SALEM	24 FORT AVE	UNLINED TREATMENT BASIN AREA	120 DY	11/13/2001	TIER 2	11/12/2002	PHASE IV		Hazardous Material
3-0026363	SALEM	BAKERS IS	US COAST GUARD LIGHT STA - BAKERS ISLAND	120 DY	11/3/2006	UNCLASSIFIED	11/3/2006			Oil
3-0021279	SALEM	35 NORMAN ST	VERIZON SWITCH STATION	72 HR	11/29/2001	RAO	9/9/2003	PHASE II	A3	Oil
3-0015735	SALEM	205 HIGHLAND AVE	VINCENT POTATO CHIP CO	72 HR	11/21/1997	RAO	3/20/1998		A2	Oil
3-0018064	SALEM	205 HIGHLAND AVE	VINCENTS POTATO	120 DY	3/8/1999	RAO	7/13/1999		A2	Oil
3-0019609	SALEM	10 PARADISE RD	VINNIN ST	120 DY	6/6/2000	RTN CLOSED	5/18/2001			Oil and Hazardous Material
3-0020668	SALEM	442 HIGHLAND AVE	WALMART PARKING LOT	TWO HR	5/4/2001	RAO	6/18/2001		A1	Oil
3-0021323	SALEM	1 FREDERICK ST	WITCHCRAFT SCHOOL OFF PURITAN RD	TWO HR	12/12/2001	RAO	9/30/2005	PHASE II	A3	Hazardous Material

MassDEP Source Water Assessment and Protection (SWAP) Report



**Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for
Salem/Beverly Water Supply Board**

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

Table 1: Public Water System Information

<i>PWS Name</i>	Salem/Beverly Water Supply Board
<i>PWS Address</i>	Arlington Street
<i>City/Town</i>	Beverly, Massachusetts 01915
<i>PWS ID Number</i>	3030001
<i>Local Contact</i>	Thomas Knowlton
<i>Phone Number</i>	(978) 922-2521

Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

Introduction

We are all concerned about the quality of the water we drink. Drinking water sources may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures.

Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

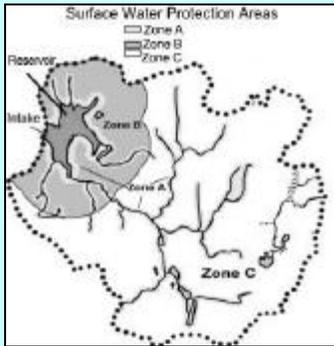
This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Emergency Planning Recommendations for Class B River Intakes
4. Source Water Protection
5. Appendices

Section 1: Description of the Water System

What is a Watershed?

A watershed is the land area that catches and drains rainwater down-slope into a river, lake or reservoir. As water travels down from the watershed area it may carry contaminants from the watershed to the drinking water supply source. For protection purposes, watersheds are divided into protection Zones A, B and C.



Surface Water Sources

Source Name	Source ID #	Susceptibility
Wenham Lake	3030001-01S	High
Longham Reservoir	3030001-02S	High
Putnamville Reservoir	3030001-03S	High
Ipswich River	3030001-04S	High

The Salem/Beverly Water Supply Board (Salem/Beverly) maintains and operates four public water supply sources. All of Salem/Beverly’s water supplies are located within the Ipswich River basin. The reservoirs for Salem/Beverly are located within three separate water supply protection areas, with Wenham Lake (3030001-01S) being in Beverly and Wenham; Longham Reservoir (3030001-02S) is entirely in Wenham; and Putnamville Reservoir (3030001-03S) being entirely in Danvers. The intake for the Ipswich River (3030001-04S) is in Topsfield, with the canal being in Wenham.

For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Drinking water monitoring reporting data is also available on the web at <http://www.epa.gov/safewater/ccr1.html>

Class B Drinking Water Sources

There are twelve Class B drinking water sources on rivers in Massachusetts, eleven in the urbanized northeast and one in the western part of the State. Three of these sources are located on the Ipswich River. The large watersheds and historically urbanized land uses associated with major rivers makes source protection a challenge at the Class B sources.

A Class B water body source such as the Ipswich River does not have Zone A, B and C protection areas, as do Class A water body sources. For the purposes of the SWAP assessments, a 400 foot setback area along the river and all feeder streams has been delineated for Class B water body sources that is referred to as an “Emergency Planning Zone”. Land uses and activities within this zone are of particular concern for source protection and emergency planning because of their proximity to the water supply.

River drinking water sources are particularly susceptible to spills and accidental releases from public and private discharges; accidents related to vehicles, railroads, airports, boats; utility easements; fixed site releases at industrial and public facilities; inappropriate use of pesticides and fertilizers; improper disposal of hazardous household waste; and illegal dumping of a variety of substances.

This assessment has been conducted on the watershed area upstream of the Salem/Beverly intake. In addition, DEP has delineated a 400-foot emergency planning zone (shown on the GIS map that accompanies this report) adjacent to the river and its tributaries for the purpose of this assessment.

Glossary Protection Zones

Zone A: is the most critical for protection efforts. It is the area 400 feet from the edge of the reservoir and 200 feet from the edge of the tributaries (rivers and/or streams) draining into it.

Zone B: is the area one-half mile from the edge of the reservoir but does not go beyond the outer edge of the watershed.

Zone C: is the remaining area in the watershed not designated as Zones A or B.

The attached map shows Zone A and your watershed boundary.

Section 2: Land Uses in the Protection Areas

The watersheds for the Salem/Beverly reservoirs and Ipswich River intake are primarily a mixture of forest and residential use, with a small portion consisting of agricultural, commercial, and industrial land uses (refer to attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

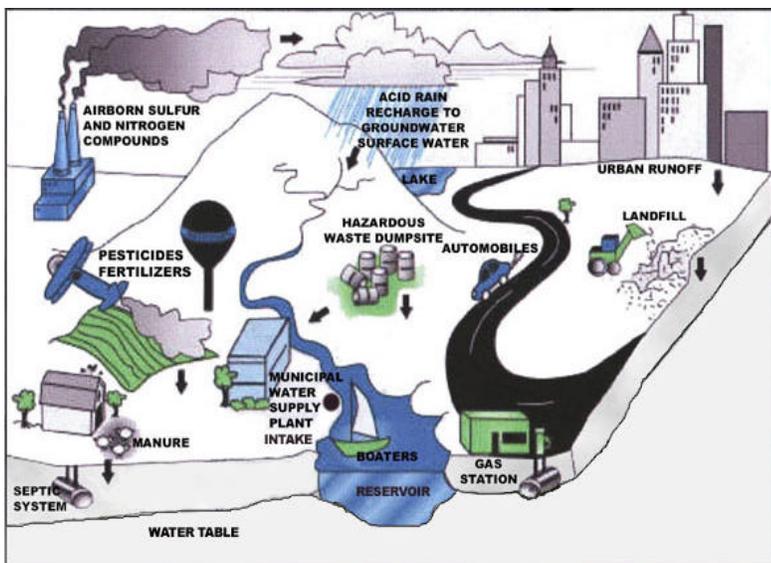
Key Land Uses and Protection Issues include:

1. Activities in Zone A and Emergency Planning Zone
2. Chemical and Hazardous Materials Manufacture, Storage and Use
3. Agricultural Activities
4. Residential Land Uses
5. Transportation Corridors
6. Road and Maintenance Depots
7. Oil or Hazardous Material Contamination Sites
8. Comprehensive Surface Water Protection Planning

The ranking of susceptibility to contamination for Wenham Lake, Longham Reservoir, Putnamville Reservoir, and the Ipswich River watersheds are high, based on the presence of at least one high threat land use within the water supply protection areas, as seen in Table 2.

1. Activities in Zone A and Emergency Planning Zone - A Zone A for a reservoir includes all areas within 400 feet of the reservoir shore line and within 200 feet of either side of all streams and feeder ponds that flow into the reservoir. The Emergency Planning Zone is a 400 foot setback on either side of the river and all tributaries to a Class B river intake. Land use activities within a Zone A

or Emergency Planning Zone may have an impact on surface water sources. Existing and future land use activities which may have an impact on surface water sources include: on-site septic systems; public and private recreational activities; untreated stormwater runoff; domestic animals; new construction; spills along roads; above ground and underground storage tanks; erosion; and, un-permitted and unauthorized activities. Also, wild animals and domestic pets can be carriers of waterborne diseases such as Giardia, Cryptosporidium, Salmonella, etc.



MODIFIED FROM © 2000 The Groundwater Foundation. Illustrated by C. Mansfield, The Groundwater Foundation

Figure 1: Sample watershed with examples of potential sources of contamination

What are "BMPs?"

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

Class B River Intakes

Class B water sources do not have Zone A, B and C protection areas as the Class A sources do. For the purposes of this report, an "Emergency Planning Zone" has been delineated. The **Emergency Planning Zone** is the land area within 400 feet of both sides of the river including all tributary streams and surface water bodies.

Zone A Recommendations:

Work with communities within the combined watersheds to:

- ✓ To the extent possible, remove all activities from the Zone As to comply with DEP's Zone A requirements.
- ✓ Use BMPs for the storage, use, and disposal of hazardous materials.
- ✓ Storage of pesticides, fertilizers or road salt within the Zone A and Emergency Planning Zone should be covered and contained.
- ✓ Keep any new prohibited activities out of the Zone A.
- ✓ Identify stormwater drains and the drainage system along transportation corridors. Work to better manage stormwater by pre-treating contaminated stormwater and/or redirecting stormwater outside of the Zone A and Emergency Planning Zone.

- ✓ Continue your efforts to protect these areas and to monitor and review activities within the Zone A and Emergency Planning Zone.

2. Chemical and Hazardous Materials Manufacture, Storage and Use – Many large and small businesses use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in Underground Storage Tanks (USTs) and Aboveground Storage Tanks (ASTs). Although many facilities within the watershed use best management practices (BMPs), hazardous materials and waste can be unexpectedly released through spills, leaks or improper handling or storage, and become potential sources of contamination. Hazardous materials should never be disposed of to a septic system or floor drain leading directly to the ground.

Hazardous Materials Storage and Use Recommendations:

Work with communities within the combined watersheds to:

- ✓ Educate local businesses on BMPs for protecting water supplies, and encourage them to use BMPs for handling, storing and disposing of hazardous waste. Distribute the fact sheet “Businesses Protect Drinking Water” available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common business issues.
- ✓ Work with local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Educate local businesses on Massachusetts floor drain requirements. See brochure “Industrial Floor Drains” for more information.
- ✓ Continue monitoring water quality in the Ipswich River.
- ✓ Continue to plan and prepare for spills by communicating with municipalities and facilities in the Ipswich River watershed, and by conducting drills.

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.

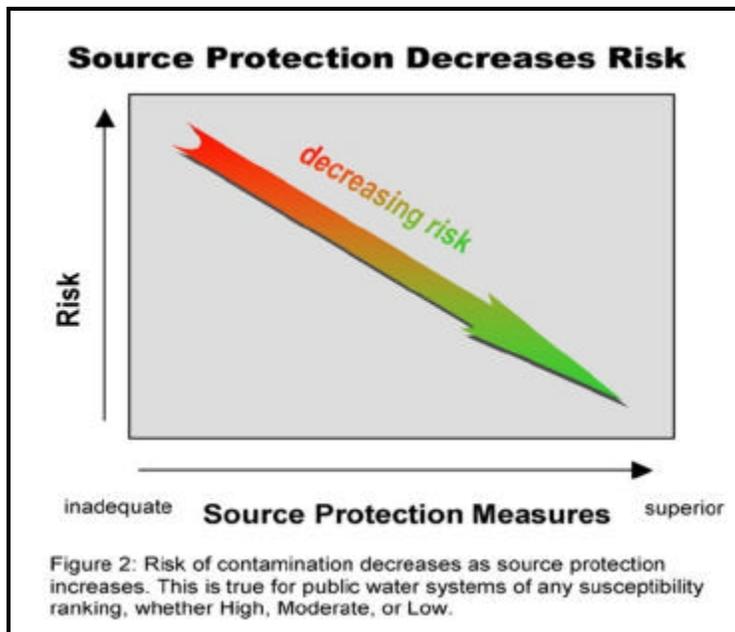
3. Agricultural Activities – Agricultural land uses (cropland, landscape operations, and nurseries) comprise about 7% of the combined watersheds. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If managed improperly, underground and aboveground storage tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills. Agricultural activities can also be a potential source of microbial contamination from improper manure management.

Agricultural Recommendations:

Work with communities within the combined watersheds to:

- ✓ Work with farmers to make them aware of the water supply and to encourage the use of a U.S. Natural Resources Conservation Service (NRCS) farm plan to protect water supplies.
- ✓ The Massachusetts Department of Food & Agriculture’s booklet titled “On-Farm Strategies to Protect Water Quality - An Assessment & Planning Tool for Best Management Practices” (December 1996) describes technical and financial assistance programs related to the control of erosion and to the management of nutrients, pests, manure, grazing and irrigation.
- ✓ Work with farmers, nurseries and landscapers to ensure that pesticides, fertilizers and manure are being stored within a structure designed to prevent runoff.

(Continued on page 8)



Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

Table 2: Land Use in the Watershed

For more information, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area

Land Uses	Quantity Zone C	Threat	Zone C Source ID #	Quantity Ipswich River Watershed	Potential Contaminant Sources*
Agricultural					
Dairy Farms	--	M	--	1	Improper handling of manure (microbial contaminants)
Fertilizer Storage or Use	2	M	01S, 03S	Few	Leaks, spills, improper handling, or over-application of fertilizers
Landscaping	--	M	--	1	Leaks, spills, improper handling, or over-application of fertilizers and pesticides
Manure Storage or Spreading	1	H	01S	Few	Improper handling of manure (microbial contaminants)
Nurseries	2	M	02S	Few	Leaks, spills, improper handling, or over-application of fertilizers, pesticides, and other chemicals
Pesticide Storage or Use	2	H	01S, 02S	Few	Leaks, spills, improper handling, or over-application of pesticides
Commercial					
Airports	1	H	01S	--	Spills, leaks, or improper handling of fuels, de-icers, salt, and other hazardous chemicals
Body Shops	--	H	--	9	Improper management of vehicle paints, solvents, and primer products
Gas Stations	2	H	01S	31	Spills, leaks, or improper handling or storage of automotive fluids and fuels
Service Stations/ Auto Repair Shops	1	H	01S	39	Spills, leaks, or improper handling of automotive fluids and solvents
Bus and Truck Terminals	--	H	--	6	Spills, leaks, or improper handling of fuels and maintenance chemicals
Cemeteries	1	M	01S	Several	Leaks, spills, improper handling, or over-application of pesticides; historic embalming fluids
Dry Cleaners	--	H	--	7	Spills, leaks, or improper handling of solvents and wastes
Golf Courses	1	M	02S	3	Over-application or improper handling of fertilizers or pesticides
Medical Facilities	--	M	--	2	Spills, leaks, or improper handling or storage of biological, chemical, and radioactive wastes

Land Uses	Quantity Zone C	Threat	Zone C Source ID #	Quantity Ipswich River Watershed	Potential Contaminant Sources*
Commercial					
Nursing Homes	--	L	--	2	Microbial contaminants
Photo Processors	--	H	--	3	Spills, leaks, or improper handling or storage of photographic chemicals
Printer and Blueprint Shops	1	M	01S	8	Spills, leaks, or improper handling or storage of printing inks and chemicals
Repair Shops (Engine, Appliances, Etc.)	--	H	--	5	Spills, leaks, or improper handling or storage of engine fluids, lubricants, and solvents
Sand and Gravel Mining/Washing	--	M	--	3	Spills or leaks from heavy equipment, fuel storage, clandestine dumping
Industrial					
Asphalt, Coal Tar, and Concrete Plants	--	M	--	2	Spills, leaks, or improper handling or storage of hazardous chemicals and wastes
Hazardous Materials Storage	--	H	--	8	Spills, leaks, or improper handling or storage of hazardous materials
Machine/Metalworking Shops	--	H	--	8	Spills, leaks, or improper handling of solvents; metal tailings
RCRA TSDF Facilities	--	H	--	1	Spills, leaks, or improper handling or storage of hazardous wastes
Residential					
Fuel Oil Storage (at residences)	100+	M	01S, 02S, 03S	100+	Spills, leaks, or improper handling of fuel oil
Lawn Care/Gardening	100+	M	01S, 02S, 03S	100+	Over-application or improper storage and disposal of pesticides
Septic Systems/Cesspools	100+	M	01S, 02S, 03S	100+	Microbial contaminants, and improper disposal of hazardous chemicals
Miscellaneous					
Aboveground Storage Tanks	3	M	01S	11	Spills, leaks, or improper handling of materials stored in tanks
Aquatic Wildlife	100+	L	01S, 02S, 03S	100+	Microbial contaminants
Composting Facilities	1	L	01S	--	Storage and improper handling of organic material, animal waste, and runoff
Fire Training Facilities	1	M	01S	--	Improper use or storage of fuels and other chemicals
Large Quantity Hazardous Waste Generators	--	H	--	14	Spills, leaks, or improper handling or storage of hazardous materials and waste
Landfills and Dumps	1	H	01S	2	Seepage of leachate

Land Uses	Quantity Zone C's	Threat	Zone C Source ID #	Quantity Ipswich River Watershed	Potential Contaminant Sources*
Miscellaneous					
Military Facilities (Past And Present) Type: former NIKE Sites	2	H	01S, 03S	--	Spills, leaks, or improper handling or storage of pesticides and herbicides, fuel, chemicals and other materials; may include ordnance or waste landfill/dump sites
NPDES Locations	1	L	01S	2	Improper disposal of hazardous material and wastes
Oil or Hazardous Material Sites	4	--	01S	57	Tier Classified Oil or Hazardous Materials Sites are not ranked due to their site-specific character. Individual sites are identified in Appendix B.
Road and Maintenance Depots	1	M	02S	6	Spills, leaks, or improper handling or storage of deicing materials, automotive fluids, fuel storage, and other chemicals
Schools, Colleges, and Universities	1	M	02S	4	Spills, leaks, or improper handling or storage of fuel oil, laboratory, art, photographic, machine shop, and other chemicals
Small Quantity Hazardous Waste Generators	2	M	01S, 02S	56	Spills, leaks, or improper handling or storage of hazardous materials and waste
Stormwater Drains	1/100+	L	01S/02S	100+	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transportation Corridors	3	M	01S, 02S, 03S	Several	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Underground Storage Tanks	20	H	01S, 02S	191	Spills, leaks, or improper handling of stored materials
Very Small Quantity Hazardous Waste Generators	4	L	01S, 02S	125	Spills, leaks, or improper handling or storage of hazardous materials and waste
Waste Transfer/ Recycling Stations	--	M	--	3	Improper management, seepage, and runoff of water contacting waste materials
Wastewater Treatment Plant/Collection Facility/ Lagoons	--	M	--	1	Improper handling or storage of treatment chemicals or equipment maintenance materials; improper management of wastewater
Water Treatment Sludge Lagoons	1	M	01S	1	Improper management of sludge and wastewater
<p>Notes:</p> <ol style="list-style-type: none"> When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites. <p>* THREAT RANKING - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.</p>					

4. Residential Land Uses – Approximately 80% of the combined watersheds consist of residential areas, of which a large portion is served by private septic systems, with the remainder being served by municipal sewerage. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained, they can be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills of the fuel oil they store.



- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

Residential Land Use Recommendations:

Work with communities within the combined watersheds to:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet “Residents Protect Drinking Water” available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.
- ✓ Work with planners to control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls.

5. Transportation Corridors - Several major transportation corridors and other paved and unpaved local roads cross through the watersheds. Spills from vehicular accidents are a major concern. In addition, roadway construction, maintenance, and typical highway use can all be potential sources of contamination.

Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. De-icing salt, automotive chemicals and other debris on roads are picked up by stormwater and wash into catch basins. The steep topography of the watershed results in application of de-icing materials to protect public health and safety by keeping the roads passable.

Transportation Corridor Recommendations:

Work with communities within the combined watersheds to:

- ✓ Identify stormwater drains and the drainage system along transportation corridors.
- ✓ Work with the Towns and State to have catch basins inspected, maintained, and cleaned on a regular schedule.
- ✓ Work with local emergency response teams to ensure that any spills can be effectively contained.
- ✓ If storm drainage maps are available, review the maps with emergency response teams. If maps aren't yet available, work with town officials to investigate mapping options such as the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping.

- ✓ Establish vegetated buffers along roads and parking areas to provide some filtration of contaminants.
- ✓ Encourage regular street sweeping. Appendix A contains a fact sheet titled *DPWs Protect Drinking Water*.
- ✓ Conduct emergency drills to be ready for spills.
- ✓ Regularly inspect the watersheds for illegal dumping and spills.
- ✓ Work with local emergency response teams to ensure that any spills can be effectively contained.
- ✓ Work with the Massachusetts Highway Department to erect a suitable barrier on the portion of Route 1A that is adjacent to Wenham Lake.

6. Road and Maintenance Depots - Potential sources of contamination in state and municipal facilities can result from accidental dumping, spills, leaks, vehicle washing operations, or from wastewater treatment. Waste management and product storage pose the greatest threats with a wide variety of potentially harmful contaminants.

Road and Maintenance Depots Recommendations:

Work with communities within the combined watersheds to:

- ✓ Institute **Best Management Practices** - The New England Environmental Assistance Team provides municipalities in New England with information on how to comply with environmental requirements, and how to prevent pollution. For more information about this EPA sponsored program visit their website at <http://www.epa.gov/region1/steward/neeat/muni/index.html>. Encourage road and maintenance depots to develop best management practices to insure proper salt storage, proper maintenance of facilities and good housekeeping practices.
- ✓ Adequately size salt pile structure to allow for the loading and unloading of salt within the structure. Review the Department of Environmental Protection’s Drinking Water Program Guidelines On Deicing Chemical (Road Salt) Storage at <http://www.state.ma.us/dep/brp/dws/files/saltgui.doc>.
- ✓ Encourage proper storage of materials at these facilities. Appendix A contains a fact sheet titled *DPWs Protect Drinking Water*.

7. Presence of Oil or Hazardous Material Contamination Sites – The watersheds for Salem/Beverly and the Ipswich River contain DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Numbers 3-0000230, 3-0000231, 3-0000235, 3-0003597, 3-0000008, 3-0001813, 3-0014088, 3-0011228, 3-0003711, 3-0014696, 3-0017065, 3-0019416, 3-0000168, 3-0001494, 3-0001505, 3-0001941, 3-0004485, 3-0006026, 3-0010212, 3-0014402, 3-0015046, 3-0016824, 3-0018425, 3-0000692, 3-0002363, 3-0002584, 3-0002804, 3-0004007, 3-0004481, 3-0004583, 3-0017390, 3-0001565, 3-0006062, 3-0012406, 3-0014805, 3-0018398, 3-0019352,

3-0013565, 3-0004670, 3-0018082, 3-0000471, 3-0000518, 3-0000625, 3-0000776, 3-0001268, 3-0001728, 3-0001916, 3-0001973, 3-0002889, 3-0003548, 3-0003766, 3-0004022, 3-0004170, 3-0012586, 3-0013922, 3-0014811, 3-0014814, 3-0015247, 3-0017097, 3-0019380 and 3-0019651. Refer to the attached map and Appendix 3 for more information.

Oil or Hazardous Material Contamination Sites Recommendation:

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.

8. Protection Planning – Protection planning protects drinking water by managing the land area that supplies water to a reservoir. Currently, the City of Beverly has a Watershed Protection Overlay District Zoning Ordinance that was adopted in 1990; however, the watershed towns do not have water supply protection controls that meet DEP’s Surface Water Protection regulations 310 CMR 22.20 (b) and (c). A Surface Water Supply Protection Plan coordinates community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. There are resources available to help communities develop a plan for protecting drinking water supply reservoirs.

Protection Planning Recommendations:

Work with communities within the combined watersheds to:

- ✓ Develop a Wellhead Protection Plan. Establish a protection team, and refer them to <http://mass.gov/dep/brp/dws/protect.htm> for a copy of DEP’s guidance, “Developing a Local Wellhead Protection Plan”.
- ✓ Encourage watershed towns to adopt controls that meet 310 CMR 22.20 (b) and (c). For more information on DEP land use controls see <http://mass.gov/dep/brp/dws/protect.htm>.

Top 5 Reasons to Develop a Local Surface Water Protection Plan

- ➊ Reduces Risk to Human Health
- ➋ Cost Effective! Reduces or Eliminates Costs Associated With:
 - ♦ Increased monitoring and treatment
 - ♦ Water supply clean up and remediation
 - ♦ Replacing a water supply
 - ♦ Purchasing water
- ➌ Supports municipal bylaws, making them less likely to be challenged
- ➍ Ensures clean drinking water supplies for future generations
- ➎ Enhances real estate values - clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

Appendix A	
Appendix B	
Appendix C	

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone A		
Does the Public Water Supplier (PWS) own or control the entire Zone A?	YES (Putnamville Reservoir)	Follow Best Management Practices (BMPs) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials. To the extent possible, remove prohibited activities in Zone A to comply with DEP's Zone A requirements.
	NO (Wenham Lake, Longham Reservoir)	
Is the Zone A/ Emergency Planning Zone posted with "Public Drinking Water Supply" Signs?	YES	The Emergency Planning Zone for the Ipswich River Watershed is not posted Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is the Zone A regularly inspected?	YES	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone A?	YES (Wenham Lake, Longham Reservoir)	Continue monitoring for non-water supply activities in Zone As.
	NO (Putnamville Reservoir)	Monitor prohibited activities in Zone A, and investigate options for removing these activities.
Municipal Controls (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Surface Water Protection Controls that meet 310 CMR 22.20B and 22.20C?	NO	Work with the Planning Board and the Beverly City Council to compare land use controls to see that they meet current requirements of 310 CMR 22.20 (B) and 310 CMR 22.20 (C). Refer to mass.gov/dep/brp/dws/ for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the water supply protection areas extending into their communities?	NO	Work with the Towns of Danvers, Topsfield and Wenham to include Salem/Beverly watersheds in their protection controls.
Planning		
Does the PWS have a local surface water protection plan?	NO	Develop a surface water supply protection plan. Follow "Developing a Local Surface Water Supply Protection Plan" available at: www.state.ma.us/dep/brp/dws/ .
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	YES	Supplement plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a watershed protection committee?	NO	Establish a committee with representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	YES	For more guidance see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/hazmat.doc
Does the PWS provide watershed protection education?	SOME	Currently, outreach is through the annual Consumer Confidence Report. Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial and municipal uses within the Zone C.

- ✓ Continue to work with town boards to review and provide recommendations on proposed development within your water supply protection areas. To obtain information on build-out analyses for the towns, see the Executive Office of Environmental Affairs' community preservation web site, <http://commpres.env.state.ma.us/>.

Other land uses and activities within the Protection areas that are potential sources of contamination are included in Table 2. Refer to Appendix B for more information about these land uses. Identifying potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

Section 3: Emergency Planning Recommendations for Class B River Intakes

Prevention

Public water suppliers with a river source may take preventive measures to protect the source from unexpected releases. Here are some suggestions.

1. Title III (Emergency Planning and Community Right-to-Know) of the Superfund Amendments & Reauthorization Act (SARA) of 1986 required that each community **develop a comprehensive emergency response plan**. Suppliers should review the existing plan to ensure that water supply issues are satisfactorily addressed in the plan, that current response personnel and their correct telephone numbers are listed, and that the entire plan is regularly reviewed and updated by community officials.

The community plan, or a separate water supplier plan, should include copies of policies in the event of spills or releases; regulatory notification requirements such as what size spills are required to be reported, who to call, telephone numbers, and what information is required to be reported; map of intakes, tributaries, watershed boundaries, adjacent public wells, and locations of sites where spills or accidental releases could occur.

2. **Identify, map and distribute information** to local emergency responders regarding the locations of intakes on the river, tributaries, watershed boundaries, public wells adjacent to river; chemical use at municipal, state, and industrial facilities in the watersheds (contact Fire Dept., DEP); locations of stormwater drains and the locations of known dams in the event that they can be manipulated by authorized individuals for contaminant control.

The Fire Dept., Board of Health, Planning Board, Local Emergency Planning Committee (LEPC), DEP and others may have existing information to help with your work. SARA requires companies to work with the community's LEPC if they handle extremely hazardous chemicals in quantities above established thresholds.

3. **Develop a communication list** of contacts at upstream and downstream facilities, dams, as well as other public water suppliers on, or adjacent to, rivers. Notify owners and operators of these facilities about the location of your intake and request, in writing, that you be notified immediately in the event of a chemical spill or unexpected discharge. Take this opportunity to educate others about water supply protection.
4. **Provide comments** to municipal boards in other cities/towns in the watershed about proposed development, land use controls, Best Management Practices (BMPs) for stormwater flow into tributaries, and other issues to avoid future problems.
5. **Post signs** along major roads in watershed which direct the public to call "911" or other appropriate local number in case of spills. Be aware of accident-prone areas and transport routes of chemicals if possible.
6. **Educate** the public, local officials, Civil Defense, local emergency response team, and others about water supply protection issues. Educate businesses about toxic use reduction.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

7. **Conduct household hazardous waste collection days** and establish permanent collection sites, away from sensitive watershed areas, for used batteries, paints, motor oil, etc.
8. **Conduct drills**, in coordination with local/regional response teams, to test policies and procedures and to practice responding to various situations. Including businesses, local officials and staff, Fire Departments, Boards of Health, Civil Defense, school administration, and others in planning and implementing the drills will allow for several town or region-wide concerns to be addressed and tested at the same time, including: issuing health advisories, conducting neighborhood and/or school evacuations, and evaluating the town's communication system (both making responders aware of the emergency and issuing advisories to the public when necessary via television, radio, and other news media), equipment and emergency plan in general.
9. Critique the drills and **modify components** of the emergency response system as needed.

Responding to Emergencies

Drinking water supply professionals responding to local emergencies need to be adequately prepared and trained, and know their roles and responsibilities. Here are some suggestions.

1. **Know regulatory reporting requirements** of state and federal agencies. Know who to call, telephone numbers and what information to report.
2. **Know your role & responsibilities.** Have access to, and be familiar with, the emergency communication list, policies and procedures for emergency response; know when, and how, to safely handle spills or other events until first responders arrive on scene; know what steps to take to avoid drawing contaminants into the water supply system; be familiar enough with local watershed characteristics to provide incident commander with information and advice.

3. **Provide training and materials to responding staff.** Water supply staff, including new employees, should be adequately trained, have access to appropriate materials (storm drain covers, absorbent pads, booms, etc.), up-to-date policies, procedures, and communication lists to perform tasks for which they are responsible.

Follow-up

Steps can be taken to ensure better preparedness in the event of future emergency situations. Here are some suggestions.

1. **Provide follow-up reports** to the public on the resolution of the situation.
2. **Share the information** learned from drills and real situations with others in order to better protect all public drinking water sources.

Section 4: Source Water Protection Conclusions and Recommendations

As with many water supply protection areas, the system watersheds contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2.

**When you wash your car in the driveway,
Remember
you're not *just* washing your car in the driveway.**



All the soap, suds, and oily grit runs along the curb. Then into a storm drain and directly into our lakes, rivers, and streams. And that causes pollution which is unhealthy for everyone. So how do you avoid this whole mess? Easy! Wash your car on the grass or gravel instead of the street. Or better yet, take it to a car wash where the water gets treated or recycled.

The Massachusetts Department of Environmental Protection One Water Street Boston, MA 02108

Current Land Uses and Source Protection:

As with many water supply protection areas, the system watersheds contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- The review of development plans in the City of Beverly and the Town of Wenham
- Conducting monthly stream monitoring throughout the watersheds that includes routine chemistry and microbiology
- Managing geese on Wenham Lake by keeping reservoir levels high during summer months

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Develop and implement a Surface Water Supply Protection Plan.
- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in watersheds and to cooperate on responding to spills or accidents.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or hazardous materials contamination site.
- ✓ Work cooperatively with Boards of Health to develop an inventory of septic systems in Hamilton, Topsfield, and Wenham.
- ✓ Work with businesses and others who have landscaped areas in the watersheds to encourage BMPs for the use of fertilizer and pesticide.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Continue to inspect the Zone A areas regularly, and when feasible, remove prohibited non-water supply activities.

Conclusions:

These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community. The Department's Wellhead Protection Grant Program and Source Protection Grant Program provide funds to assist public water suppliers in addressing water supply source protection through local projects.

Protection recommendations discussed in this document may be eligible for funding under the Grant Program. Please note: each spring DEP posts a new Request for Response for the grant program (RFR).

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: <http://mass.gov/dep/brp/mf/mfpubs.htm>.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination

and land uses. Local information should be maintained and updated periodically to reflect land use changes in the watersheds. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

Section 5: Appendices

- A. Protection Recommendations
- B. Regulated Facilities within the Water Supply Protection Area
- C. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
- D. Additional Documents on Source Protection

For More Information

Contact Anita Wolovick in DEP's Wilmington Office at (978) 661-7768 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, town boards, and the local media.

MAPC Projected Population

Age	1990	2000	2010	2020	2030
Salem					
00-04	2,491	2,264	2,366	2,353	2,363
05-09	1,971	2,453	2,603	2,530	2,660
10-14	1,714	2,247	2,316	2,212	2,278
15-19	2,374	2,328	2,780	2,545	2,431
20-24	3,667	3,073	3,430	3,288	3,047
25-29	4,263	3,314	3,156	3,507	3,114
30-34	3,879	3,563	3,207	3,526	3,380
35-39	3,049	3,479	3,388	3,149	3,558
40-44	2,441	3,127	3,487	2,914	3,221
45-49	1,856	2,859	3,385	2,822	2,622
50-54	1,475	2,658	3,054	2,941	2,469
55-59	1,482	1,869	2,541	2,970	2,527
60-64	1,667	1,457	2,123	2,518	2,382
65-69	1,645	1,365	1,640	2,224	2,568
70-74	1,514	1,432	1,306	1,987	2,349
75-79	1,248	1,275	1,150	1,384	1,851
80-85	800	899	1,087	980	1,502
85+	555	745	1,064	1,052	1,178
Total	38,091	40,407	44,082	44,902	45,500

MetroBoston DataCommon



General Population Statistics

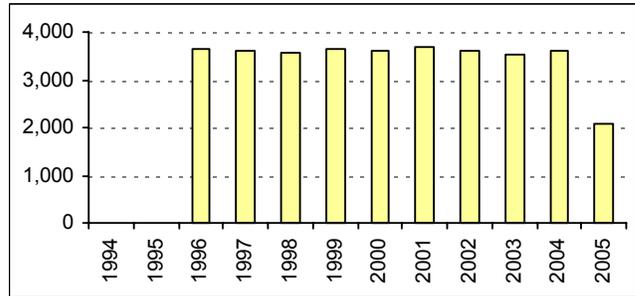
	1990	2000	% Change
AGE AND GENDER			
Total population	38,091	40,407	6.1
Males (All).....	17,626	18,745	6.3
Females (All).....	20,465	21,662	5.8
Under 5 years.....	2,427	2,264	-6.7
5 to 9 years.....	1,977	2,453	24.1
10 to 14 years.....	1,741	2,247	29.1
15 to 19 years.....	2,252	2,328	3.4
20 to 24 years.....	3,667	3,073	-16.2
25 to 34 years.....	8,192	6,877	-16.1
35 to 44 years.....	5,554	6,606	18.9
45 to 54 years.....	3,339	5,517	65.2
55 to 59 years.....	1,505	1,869	24.2
60 to 64 years.....	1,657	1,457	-12.1
65 to 74 years.....	3,152	2,797	-11.3
75 to 84 years.....	2,061	2,174	5.5
85 years and over.....	567	745	31.4
Median age (years).....	33.3	36.4	9.3
RACE / ETHNICITY			
One race.....	*	39,408	*
White.....	35,410	34,497	-2.6
Black or African American.....	1,017	1,274	25.3
American Indian and Alaska Native.....	106	87	-17.9
Asian.....	501	807	61.1
Native Hawaiian and Other Pacific Islander.....	21	19	-9.5
Some other races.....	1,036	2,724	162.9
Two or more races.....	*	999	*
HISPANIC OR LATINO			
Hispanic or Latino.....	2,548	4,541	78.2
Not Hispanic or Latino.....	35,543	35,866	0.9
White alone, Not Hispanic.....	34,348	33,277	-3.1
HOUSEHOLD TYPE			
Total households	15,806	17,492	10.7
Family Households (families).....	9,417	9,707	3.1
With own children < 18.....	3,846	4,229	10.0
Married-couple.....	6,874	6,790	-1.2
With own children < 18.....	2,645	2,621	-0.9
Female householder, no husb....	2,009	2,319	15.4
With own children < 18.....	1,046	1,352	29.3
Nonfamily households.....	6,389	7,785	21.9
Householder living alone.....	4,995	6,105	22.2
Householder 65+.....	2,032	2,015	-0.8
Households with under 18.....	4,096	4,584	11.9
Households with 65+.....	4,370	4,281	-2.0
Average household size.....	2.34	2.24	-4.2
Average family size.....	2.97	2.95	-0.7

Source: U.S. Census 1990, 2000

Environment and Recreation

Open Space Protected Acres: 750

Water Usage: Yearly Water Use (Million Gallons)



Source: Massachusetts Department of Environmental Protection

Water Supply System: Beverly/Salem-Local Joint

* MWRA: Massachusetts Water Resources Authority

Civic Engagement and Governance

Form of Government:

Mayor - Council

Voting

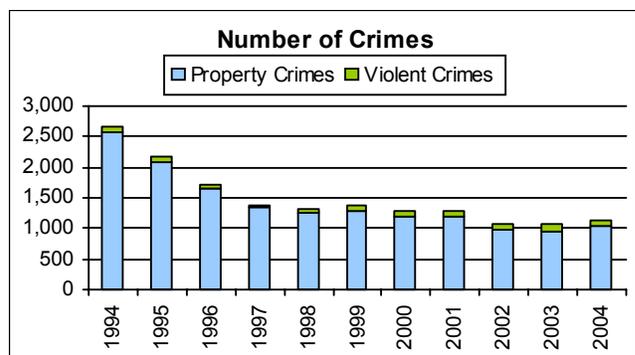
State Election Party Enrollment

	2002	2004	2006
Registered Voters	28757	26645	26096
Democrat	11011	10800	10572
Republican	3246	2449	2250
Unenrolled	14500	13344	13003
Population Over 18 Years	32250	32250	32250

2000 US Census

Source: Massachusetts Secretary of the Commonwealth

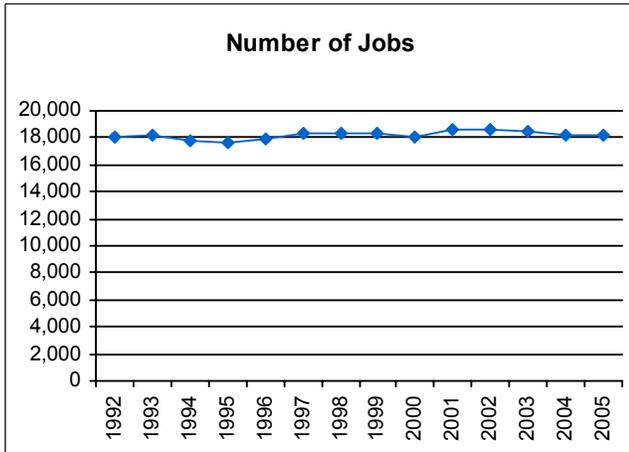
Public Safety



Source: Massachusetts State Police

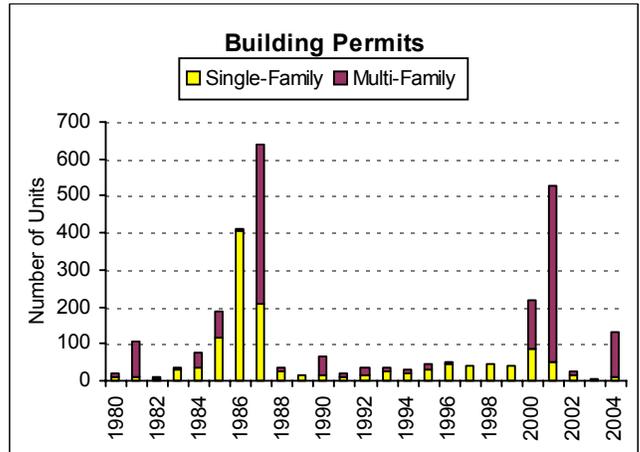
Blank years indicate missing/incomplete data

Economy

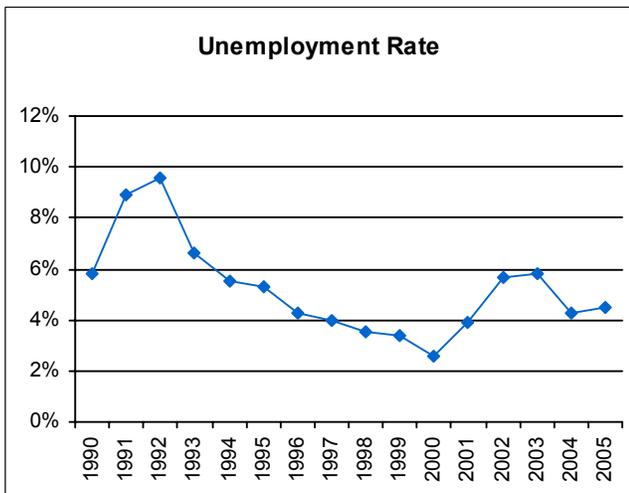


Source: Massachusetts Department of Workforce Development

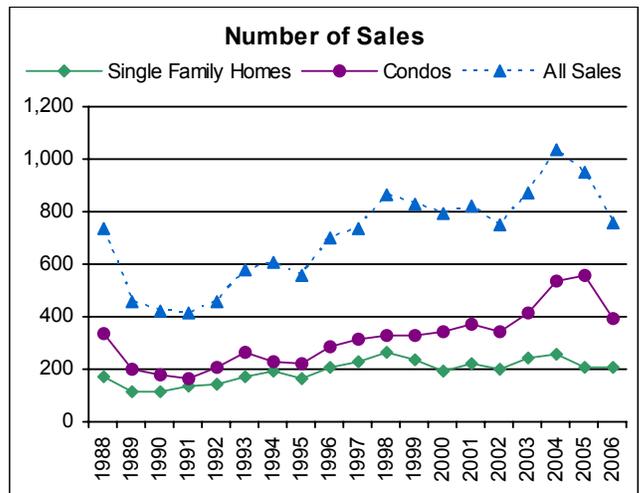
Housing



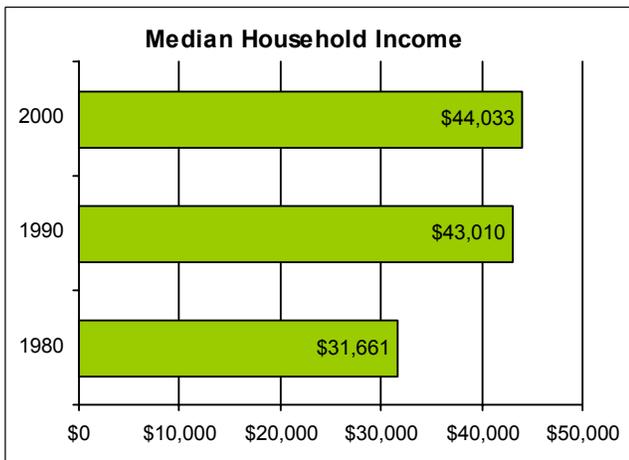
Source: US Census Building Permits Survey



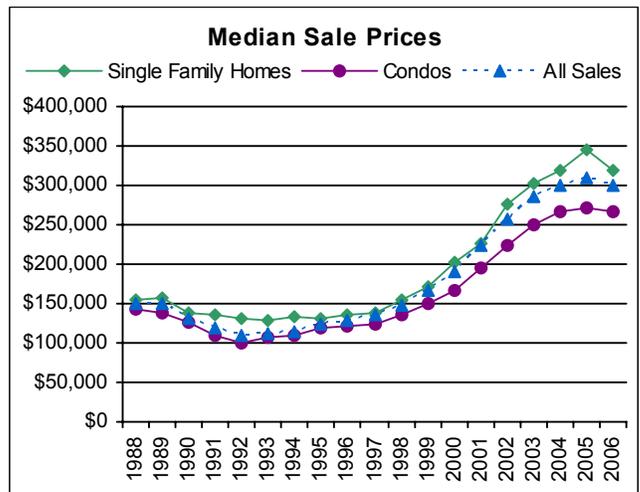
Source: Massachusetts Department of Workforce Development



Source: Banker & Tradesman



Source: 2000 US Census, SF3
Numbers adjusted for inflation.



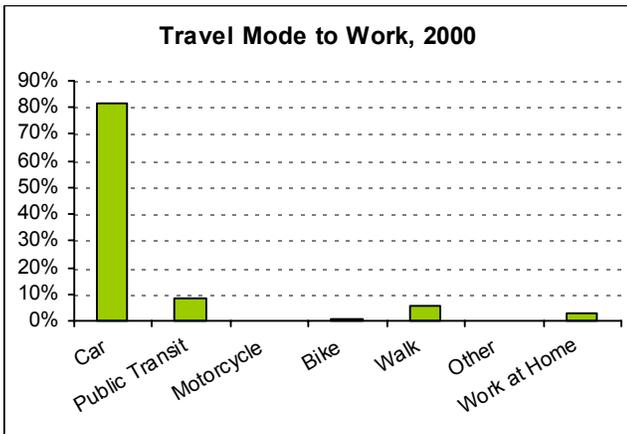
Source: Banker & Tradesman

Transportation

Journey-to-Work

Workers who travel within community:	6,015
travel from outside to community:	12,549
travel from community to outside:	15,255
Net Commuters:	-2,706

Source: US Census Transportation Planning Package 2000

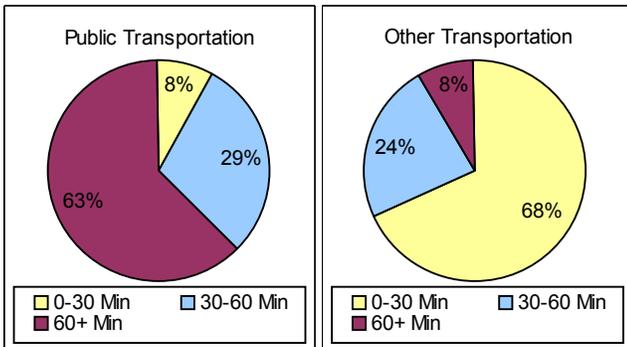


Source: US Census 2000



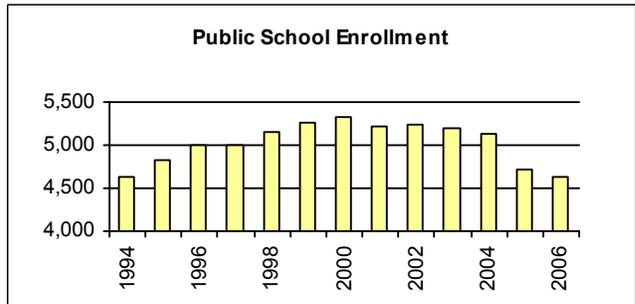
Source: US Census 2000

Travel Time to Work, 2000

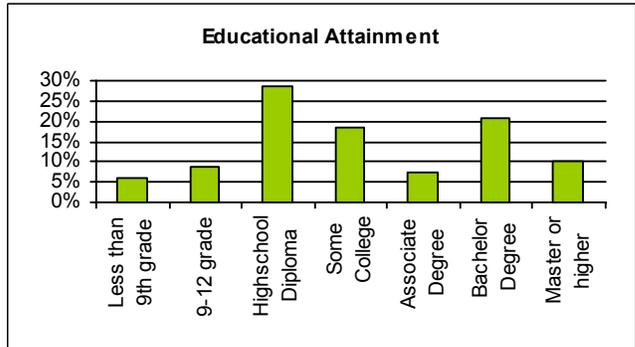


Source: US Census 2000

Education

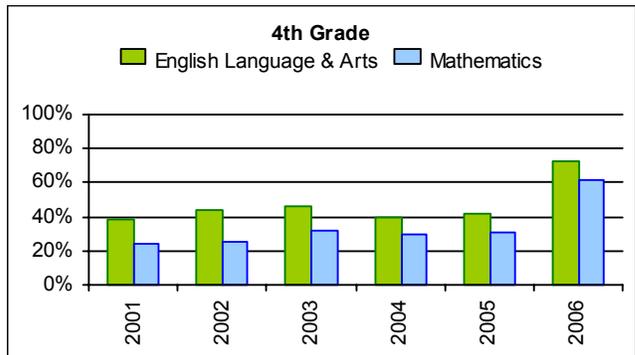


Source: Massachusetts Department of Education

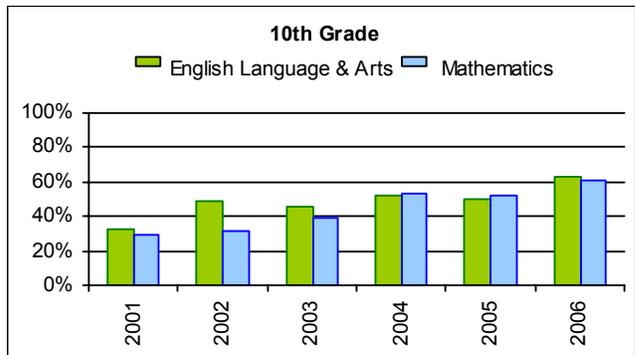


Source: US Census 2000

MCAS - Percent of Proficient



Source: Massachusetts Department of Education



Source: Massachusetts Department of Education



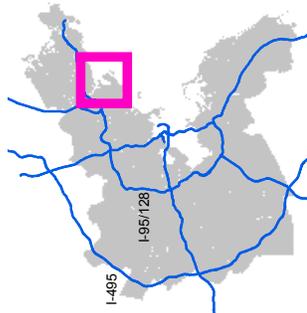
SALEM



SALEM
Massachusetts

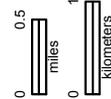
- Legend**
- Town Boundaries
 - Open Space
 - Water
 - Major Roads

Area of Detail within Metro Boston



All data and analysis not otherwise credited are the property of the Metropolitan Area Planning Council (MAPC). For further information, contact MAPC at 617-451-2770.

DATA SOURCES
MassGIS and MAPC



SCALE: 1:71,577



Aug 04, 2006

