

Source: MassGIS

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Figure 5-1: Topography
Kingston, MA

December 1997
BTI Project No. W-1335

Section 5

NATURAL AND CULTURAL RESOURCES

GOAL: Preserve and protect natural resources and natural systems.

GOAL: Enhance the overall aesthetics and appearance of Kingston, maintain its small town quality and protect its heritage.

Policy: Maintain the purity of our drinking water.

Policy: Eliminate pollution of water resources.

Policy: Protect the Town's natural resources: open space, water bodies, and waterways, such as Silver Lake, the Jones River, its tributaries, and Kingston Bay.

Policy: Restore and improve shellfish beds and fish habitats in rivers and the Bay.

Policy: Establish measures necessary to preserve and protect the historic properties and sites in Town.

Policy: Establish historic districts where appropriate for protection of Town's heritage.

Policy: Retain the Town's sense of spaciousness and its rural surroundings.

INTRODUCTION

The Town of Kingston offers residents the benefits of living near the ocean in a growing suburban town, with convenient access to both urban and recreational areas in Boston and on Cape Cod. These amenities, while enhancing the attractiveness of the community, are also threatening natural areas by attracting increased residential and commercial development. This development, and the development that may be expected in the future, are real concerns for Kingston. A 1993 survey conducted by the Kingston 20/20 Planning Study revealed that the two most important community goals were protection of critical resources, such as the water supply, and preservation of undeveloped land. Additionally, survey respondents identified open space, water systems, community character and environmental quality as important assets of the Town.

Kingston is blessed with significant natural resources, including frontage on the Atlantic Coast, a large number of freshwater ponds, the Jones River (one of only seven rivers that enter Cape Cod Bay between Boston and Cape Cod), and the Plymouth/Carver aquifer.

Kingston's natural agricultural landscape, historic structures and general spaciousness contribute to the Town's scenic qualities. Scenic resources need not be a specific view or location, but may be a combination of features that together create an aesthetically pleasing situation, such as a tree lined street, a rolling meadow, a hilltop, or an old farmhouse. Interest in and commitment to the preservation of historic resources stem from a belief that the quality of the natural and built environment has a direct impact on the quality of each individual's life. It is vital to preserve important cultural and historic areas, as well as to conserve and protect air and water resources.

NATURAL RESOURCES

In order to preserve as many of our natural and cultural resources as possible, action must be taken to protect them now. Protection of natural resources is not a luxury, but rather a necessity for the future. The benefits of land conservation are many:

- It is often less expensive for local governments than suburban-style development.
- It may improve a community's credit rating.
- It saves public funds by restricting the development of areas, like flood plains, that may create hazards.
- It increases the value of neighboring land.
- It allows nature to continue its valuable work, e.g., purifying water and providing for groundwater recharge.
- If the land is used for agriculture, as in the case of Kingston's significant number of cranberry bogs, it can provide employment and add to the Town's economy. It permits not
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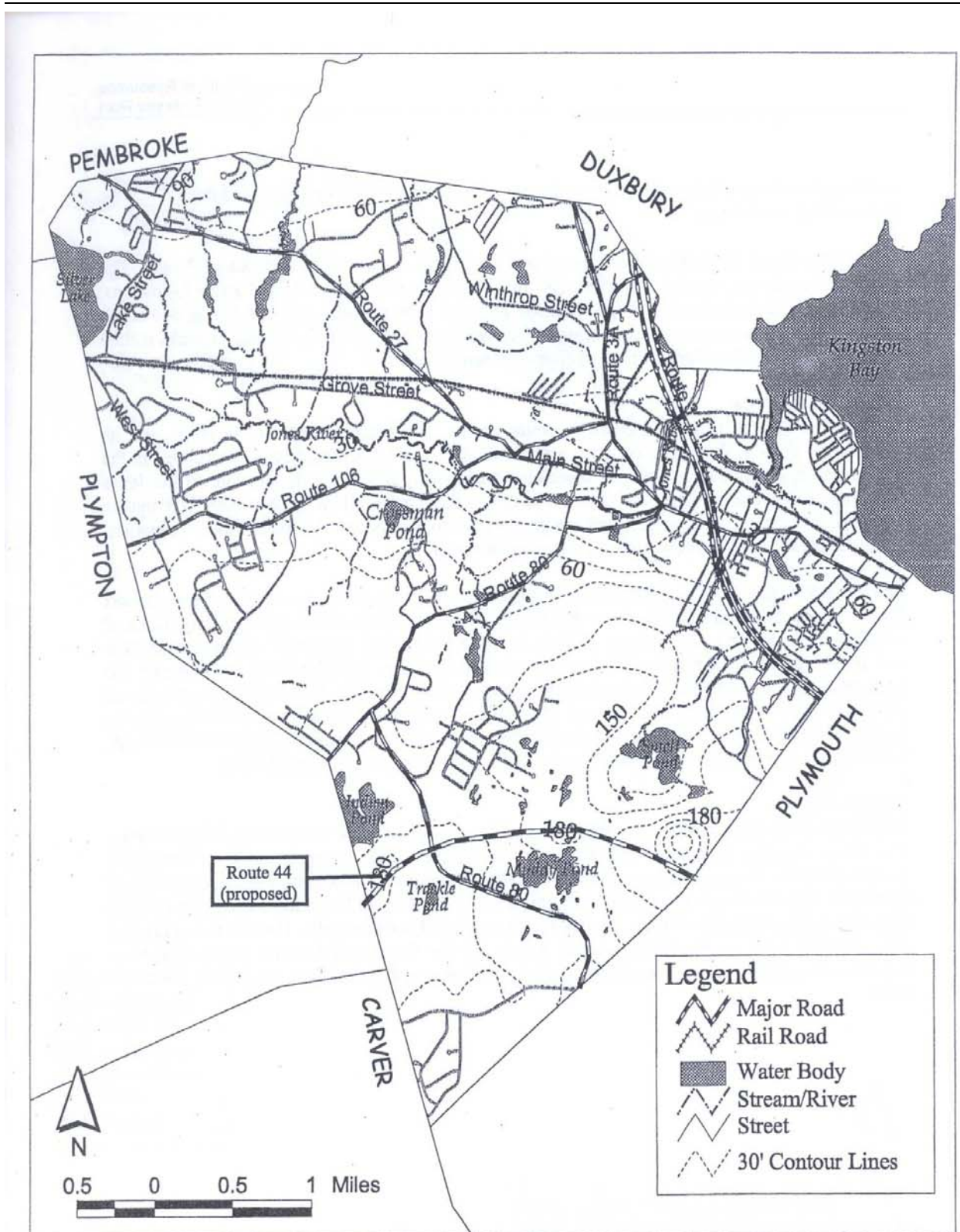
The Town of Kingston completed an Open Space and Recreation Plan (OSRP) in 1995. The OSRP was used as a major source in developing this element; therefore the reader is advised to refer to the OSRP for more detail.

Geology/Topography

Kingston's local landscape was shaped primarily by the Wisconsin period of glaciation (10,000 to 15,000 years ago). The glacier shifted deposits left by earlier glaciers and deposited additional rock, sand, silt and clay as it receded. Rivers of melting ice carried sand and gravel with them,

having to treat drinking water because of natural percolation through the ground and filtering through wetlands¹ creating the characteristic soft rolling landscape, Silver Lake and other ponds,

¹ "How Much Is Nature Worth? For You, \$33 Trillion." The New York Times, p. C1, May 20, 1997.



Source: MassGIS

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Figure 5-1: Topography
Kingston, MA

December 1997
BTT Project No. W-1335

and the meandering Jones River. Two types of glacial landforms are found in the northern and southern sections of Town. The irregular bumpy terrain of the southern part of Town is made up of kettle and kame formations. The depressions in the local terrain are known as kettle hole or ponds. Silver Lake, at 640 acres, is the largest of these water bodies formed when chunks of ice within the glacial deposits melted away. Kames are the ridges formed by rivers beneath the glacier.

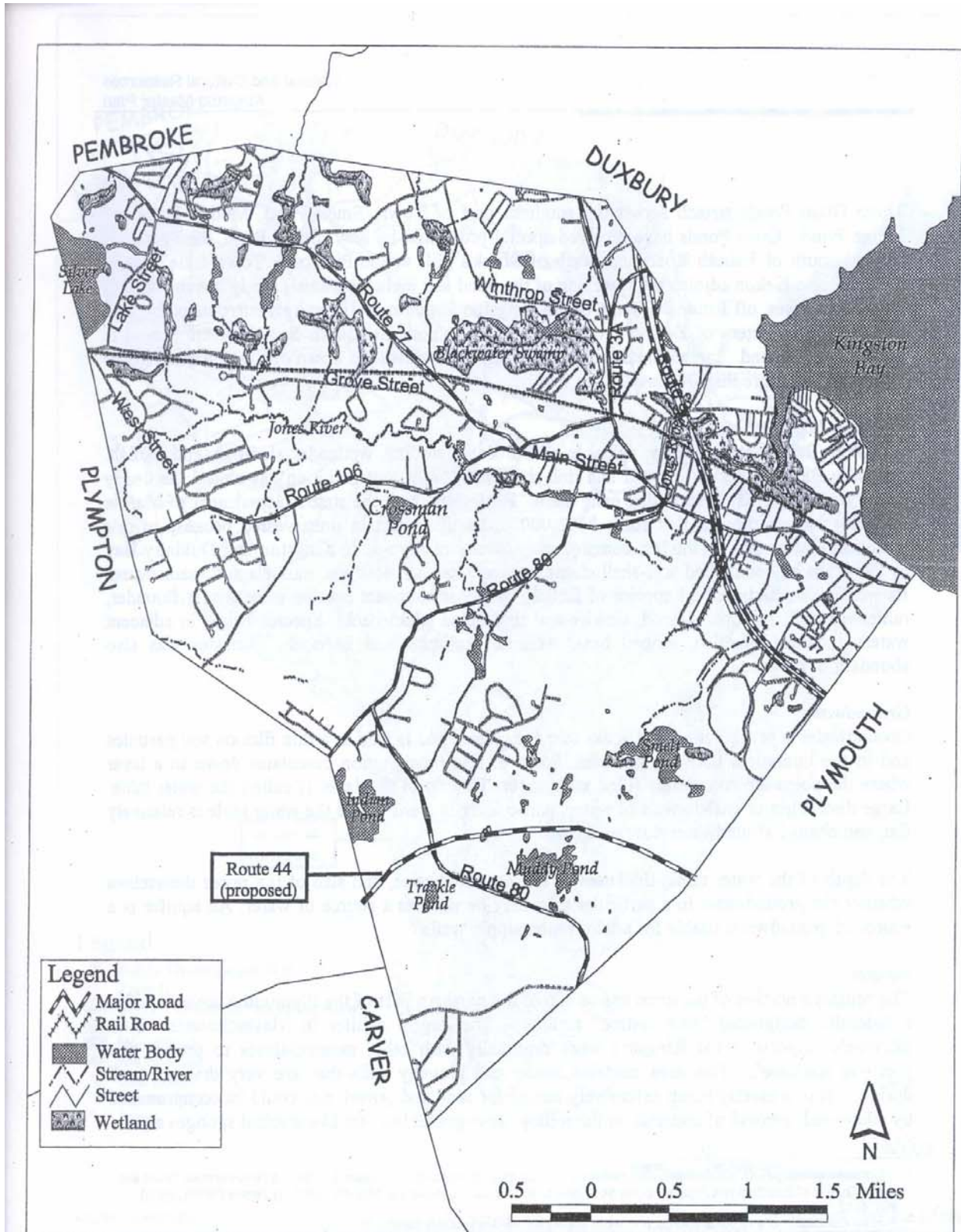
Water Resources

Kingston is rich with diverse types of water bodies and wetlands due to glaciation and its location by the sea. Kingston is dotted with kettle hole ponds, particularly in the south. In the north, one finds extensive wetlands associated with poorly drained soils adjacent to the Jones River and its tributaries. Most of the ponds in the northern half of Town, most likely wetlands in their original state, are man-made impoundments built to supply water power to early industries. Many of these ponds are now used to irrigate cranberry bogs.

Since the Kingston Comprehensive Plan was prepared in 1970, public awareness of and support for protecting the natural environment has increased. Recognition of the role and importance of ecosystems, in particular has grown. The concept of a “watershed approach” has become current and is utilized by both state and federal agencies in planning and providing grant monies for local projects. A watershed is defined by its natural drainage system. In Kingston, boundaries of the Jones River watershed, which drains 89% of the Town, for the most part coincide with the town’s political boundaries. Only the southernmost part of town, from Independence Mall south, falls into another watershed, the Weweantic River, which drains into Buzzards' Bay.

Surface Water

The Jones River flows seven miles from its origin, in Silver Lake, to its mouth at Kingston Bay. The River contains both fresh and salt water resources. The entire Jones River watershed comprises some 20 square miles, with Silver Lake making up approximately 4.2 square mile of that total. The river has been significantly impacted by the City of Brockton’s diversion of more than nine million gallons of water per day for its municipal water supply. Brockton was granted use of Silver Lake as its primary water supply by the Great and General Court (the State legislature) in 1898, and has been dependent on this lake, and new diversions into it, since that time.



Source: MassGIS

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Figure 5-2: Water Resources
Kingston, MA

December 1997
BTI Project No. W-1335

Three Great Ponds stretch across the southern part of Town, Smelt Pond, Muddy Pond and Indian Pond. Great Ponds have received special protection by law. Smelt Pond, 49.5 acres, is located south of Raboth Road and north of Monk's Hill at the Plymouth Town Line. Town-owned Camp Nekon adjoins the west side of the pond and includes a small sandy beach. Muddy Pond, 48.6 acres, off Route 80, south of the Kingston State Forest, is entirely surrounded by land owned by the Sisters of Divine Providence. A camp associated with Sacred Heart School is located on the pond. Indian Pond in western Kingston borders the Town of Plympton off Route 80 and covers more than 70 acres.

Kingston Bay

Kingston Bay contains many valuable resources, including wetlands, shellfish and finfish. Kingston Bay was once a popular and rich shellfishing area, but pollution has closed the nearly 662 acres of shellfish waters that exist there. Biologists from the state's Department of Marine Fisheries have estimated that some \$750,000 of shellfish remain unharvested because of this pollution. According to the last comprehensive study of Plymouth, Kingston and Duxbury Bay in 1974, the bay contained soft-shell clams, oyster, quahogs, scallops, mussels and razor clams. Its waters also harbored 24 species of finfish, the most abundant species were winter flounder, rainbow smelt, Atlantic tomcod, alewife and threespine stickleback. Species fished in adjacent waters included bluefish, striped bass, Atlantic mackerel and haddock. Lobster was also abundant in the area.

Groundwater

Groundwater is precipitation that soaks into the ground and is held as a thin film on soil particles and in the interstices between particles. Some of this precipitation percolates down to a layer where the pores are completely filled with water. The top of this layer is called the water table. Large discharges or withdrawals of water, particularly in areas where the water table is relatively flat, can change groundwater flow patterns.

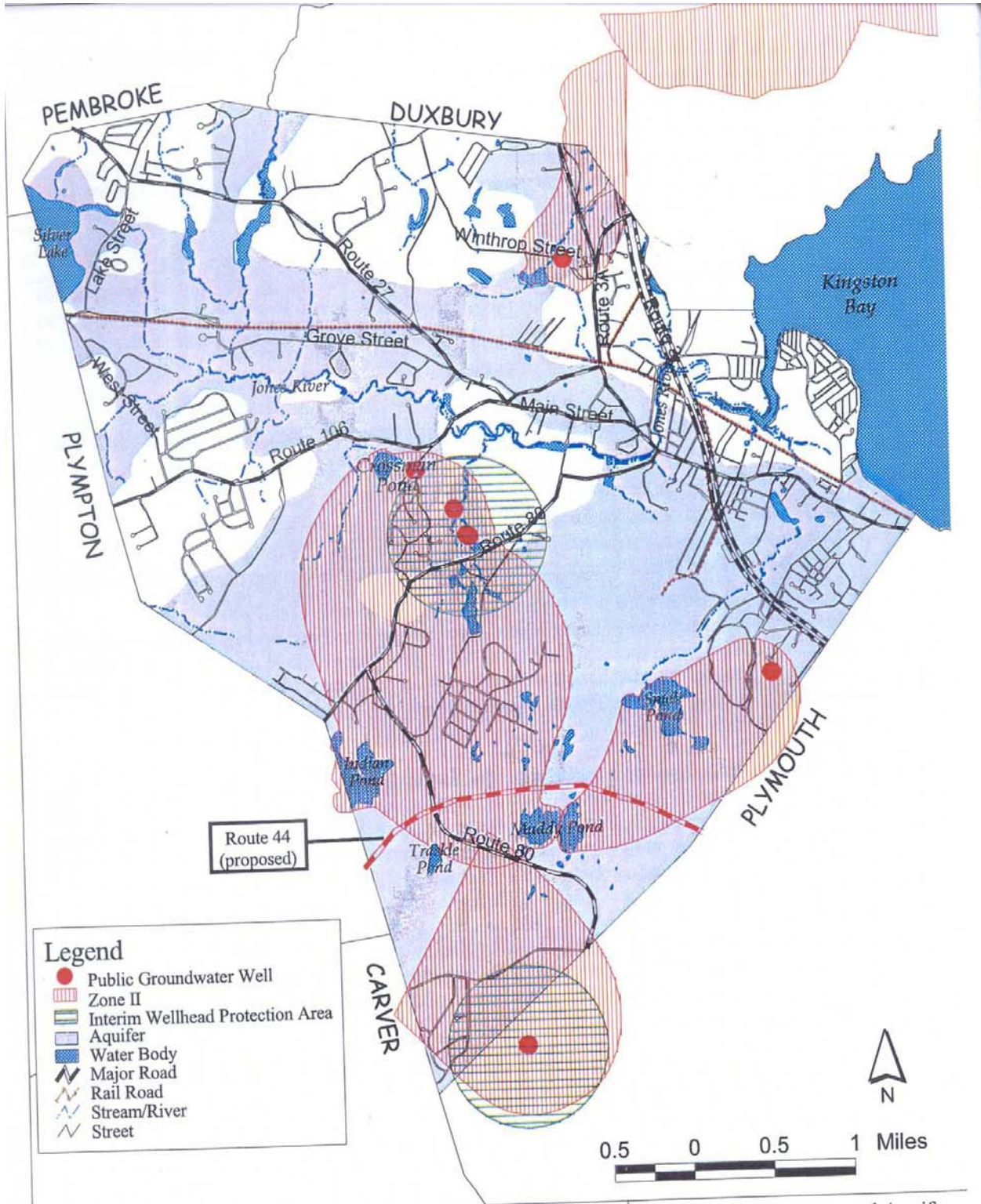
The depth of the water table, thickness of the saturated zone, and size of the pores determines whether the groundwater in a particular area may be used as a source of water. An aquifer is a source of groundwater usable for public water supply wells.²

Aquifer

The southern portion of the town sits on top of the northern part of the Plymouth/Carver aquifer, a federally designated "sole source" aquifer -- the largest aquifer in Massachusetts. It is extremely important that Kingston work regionally with other municipalities to protect this precious resource³. This area contains sandy and gravelly soils that are very dry and well drained. It is presently being extensively mined for sand and gravel, and could be compromised by additional removal of material, as the rolling steep gravel hills act like stacked sponges and

² Information on Kingston's aquifers was documented in a 1993 study by the U.S. Geological Survey in a report entitled "Yield and Water Quality of Stratified-drift Aquifers in the Southeast Coastal Basin, Cohasset to Kingston, MA", by James Persky, report #91-4112.

³ Further discussion of a regional approach to water supply issues is discussed Section 7.



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Figure 5-3: Well Sites and Aquifers
Kingston, MA

December 1997
BTI Project No. W-1335

supply pressure at the base of the aquifer. It is probable that mining will alter the area's water table and the aquifer. In the event the water table is lowered, groundwater, pond and vernal pool water levels could also be lowered. Vegetation types could change and impact many species that use vernal pools.

Kingston is rich with water and wetlands, a legacy of its glacial history. It is especially important to preserve these resources, particularly the four Great Ponds, Jones River and its tributaries, and Kingston Bay. The Town must guard against over development and overuse of these resources for recreational purposes.

Contaminated Sites

There are at least four hazardous waste sites that have been detected within Kingston and currently are in the process of being cleaned up. These sites include:

- the former Cobb and Drew factory off Prospect Street
- the Clean Harbor, Inc., warehouse off Joseph Street
- the Town Fire Station on Maple Street
- The Exxon Station on Summer Street, primarily responsible for the continued shut down of the Winthrop Street well

Also, the Town-owned landfill is in the process of being phased out, and should be monitored as a potential contamination threat in the future. The septage pits located north of Smelt Pond have been phased out. Documented hazardous waste spills should serve as the impetus to develop and implement plans to protect the Town's drinking water.

Drainage

In Massachusetts, stormwater runoff and discharges from stormwater drainpipes are major contributors to water quality problems in the Commonwealth's rivers, streams and marine waters⁴. In Kingston, the Jones River Watershed Association has done a pilot project employing two types of stormwater mitigation systems along the Jones River. Continuing this kind of work is important to the health of all the town's water bodies.

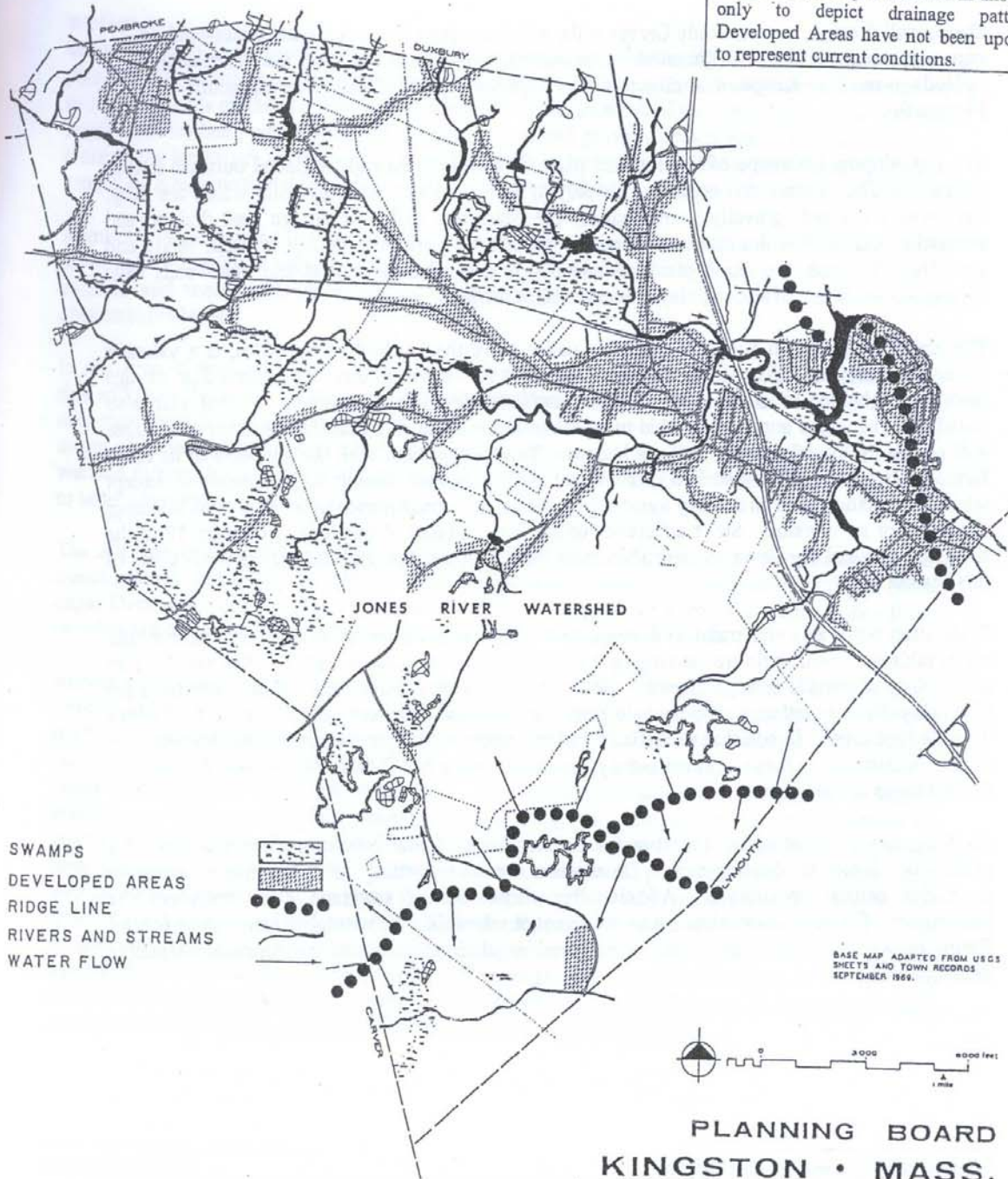
Soils

Moving water tends to sort material by particle size, creating a patchwork of soil types. The soils in Kingston range from predominantly silt and clay to silty boulder gravel; the soil types correspond to the movement and deposition action of the glaciers. Overall, five types of soil are found in Kingston:

1. Dominantly silt and clay
2. Dominantly fine to coarse sand
3. Dominantly fine to coarse gravel
4. Chiefly loose, unstratified, unsorted sandy, silty gravel
5. Silty boulder gravel

⁴ Massachusetts Department of Environmental Protection's "Stormwater Policy Handbook, March 1997.

Figure 5-2a Drainage Patterns
 Note: This Map is excerpted from the 1970 Comprehensive Plan by Charles E. Downe. This map is included in this plan only to depict drainage patterns. Developed Areas have not been updated to represent current conditions.



BASE MAP ADAPTED FROM USGS SHEETS AND TOWN RECORDS SEPTEMBER 1969.

**PLANNING BOARD
KINGSTON • MASS.**

CHARLES E. DOWNE • PLANNING CONSULTANT • NEWTON, MASS.

THIS MAP WAS PREPARED FOR THE KINGSTON PLANNING BOARD AND THE MASSACHUSETTS DEPARTMENT OF COMMUNITY AFFAIRS AND WAS FINANCIALLY AIDED THROUGH A FEDERAL GRANT FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER THE URBAN PLANNING ASSISTANCE PROGRAM AUTHORIZED BY SECTION 101 OF THE FEDERAL ACT OF 1954 AS AMENDED.

Deep, well drained, coarse, sandy Carver soils, which are poor in nutrients and water-holding capacity, dominate southern Kingston.⁵ Consequently, pitch pine and scrub oaks dominate the uplands in southern Kingston, similar to the tree species in parts of Cape Cod and south Plymouth.

The flat, sloping landscape of the northern part of Town is technically a glacial outwash terrace formation. The primary soil types in this part of Town are the Hinckley soils which are deep, excessively drained, gravelly loamy sands; the Merrimac soils, which are well-drained and somewhat excessively drained; and Scarboro soils, which are very poorly drained, sandy and gravelly. Wetlands and flood plains, where poorly drained organic peat and muck soils have formed on the layers of silt and clay, cover much of the land.

The abundant gravel in Kingston, that lies under more than a third of the town, is a valuable economic resource. The town Master Plan of 1970 advised that "the extraction of this resource...(should) be consistent with Kingston's development objectives..." That plan also noted that "adequate controls" needed to be adopted "to make sure that the character of the area will not be destroyed entirely." It has been the Town's intention, with the adoption of its Earth Removal bylaw in 1970, modified in 1989 and 1992, that such mining not be permitted, except when it is incidental to customary agricultural use or as a consequence of an approved building, structure, or subdivision. Strict adherence to and enforcement of this bylaw, Chapter 12 of the Kingston General By-Laws, is critical to meet the environmental and natural resource goals of this Master Plan.

Soils often serve as a constraint to development. Soils that are poorly drained and have a high water table may restrict future development of certain parcels. This restriction often results from an inability to provide sewage disposal. Soils that are poorly drained with a high water table are often classified as wetlands. Wetlands in Kingston comprise approximately 750 acres (6% of the Town's land area). In addition to difficult and expensive development conditions, development in the vicinity of wetlands is restricted by municipal, state and federal regulations designed to protect these natural resources.

As Kingston becomes more desirable for development, natural constraints become less of a prohibitive factor to development. Developers are often willing to spend more money to overcome natural constraints. Additionally, availability of sewerage also minimizes the importance of natural constraints. Kingston cannot rely solely on natural constraints to control future growth, but rather must implement land regulations to ensure appropriate/compatible development.

⁵ Kingston Open Space and Recreation Plan, 1995

Wetlands

Wetlands have been shown to be a significant resource, functioning as “the kidneys of the planet.”⁶ Kingston's wetlands are extremely diverse as to formation and vegetation. The type of wetland depends on the soil deposits underneath and the location of the water table. One type is a water table wetland, which generally occurs on sand and gravel deposits where the water table is close to the land surface or where depressions, such as kettle holes, occur. Septic system failure caused by a high water table usually results from development located too close to wetlands.

Another type of wetland is a perched wetland, generally formed on poorly permeable clay or silt layers where rainfall is prevented from infiltrating the soil. An adequate setback between septic systems and these wetlands is needed to ensure that the system is not located over these impermeable layers.

In any type of wetland, organic peat and muck soils develop from decaying plant material. As this soil layer becomes thicker over time, the wetland vegetation changes as larger plants can take root. Marsh plants, such as those at the edges of shallow ponds, occur in a wetland's early stages. As these plants decay, cattails and shrubs, such as black alder, take hold and fill in the wetland further. In the older wetlands, tree species such as red maple or cedar, which are adapted to large amounts of moisture, are found.

The salt marshes adjacent to the Jones River depend on a different set of circumstances. Salt marsh grasses have adapted to the salinity and fluctuating water levels associated with the ocean edge. Decaying plant material causes these wetlands to grow upward over time. Jones River marshes are considered to be very good quality salt and brackish wetlands.

According to the Kingston Open Space and Recreation Plan (1995), “Coastal plain ponds are directly linked with the underground aquifer, and the water level in the ponds typically reveals the height and fluctuations of the local water table. Many of the coastal pondshore community rarities are "specialists" inhabiting the zone between high (winter) and low (summer) water, where environmental stress can be extreme. The yearly fluctuations in the water table help to maintain a viable coastal plain pondshore community, and also to impede encroachment by woody plants and invasive exotics through inundation. Because Muddy Pond in Kingston has been identified as an exemplary occurrence of a coastal plain, pondshore, natural community, serious consideration should be given to protecting the water resources and shoreline habitat that drive this wetland system and sustain the State-listed species found there." Vernal pools are also a significant resource. They provide a special breeding habitat for many species such as mole salamanders, wood frogs, and fairy shrimp. "Dukes Hole", in the southern part of Town, is an excellent example of a kettle hole which contains water for part of the year. It is an outstanding example of a vernal pool and is rich with associated forms of wildlife.

⁶ New York Times, *ibid.*

Plant Communities

The vegetation in the north and south of Town differs due, in part, to the two major types of glacial landforms and the soils above the landforms. The dry land to the north and west of Town tends to be more open, having once been cleared for use in farming or altered for cranberry growing. A few tree farms still exist that grow fir, spruce, and scotch pine, but much of this old farmland has been developed for housing. Abandoned fields have grown into forests dominated by eastern white pine, with several varieties of oak, maple, cherry, locust, birch, and the occasional abandoned or vagrant apple tree. A few small areas not logged for generations contain beech trees, hickory, and the struggling remains of the once proud American chestnut - all strong indicators of a climax forest. Below the woodland canopy grow mountain laurel, many ferns, greenbriar, holly, poison ivy, etc. On the edges of the woodland are shrub layers containing high bush and low bush blueberry, raspberry, pepperbush, and bayberry. The wetland and river edges contain willow, red maple, speckled alder, silky dogwood, ironwood, many grasses, ferns, sedges, and other similar wetland species.

Leaving Silver Lake to the west and traveling east along the Jones River and its floodplain, much of the adjacent wetlands and many of the small tributaries to the river have been altered to form cranberry bogs and associated man-made water holding ponds. These support many of the above mentioned wetland species. Due to water diverted from Silver Lake by Brockton, the River's decreased flow, and the increase of nitrates and phosphates from agricultural fertilization, much of the middle and lower portions of the River are clogged with aquatic vegetation.

Just west of the Town Center is Blackwater Swamp with large stands of the black spruce, now uncommon in this area. It is also home to some rare wetland mosses. From this swamp emanates Stoney Brook, a lower tributary of the Jones River.

Furnace Brook enters the Jones River above the pond at the Elm Street Bridge. Along its short length grow many holly trees as it meanders its way past many of the Town's wells and through Sampson Forest. From the Elm Street Bridge east, the water in the Jones River becomes increasingly more brackish and influenced by the tides. To the south and east, the rolling kames of sand and gravel support salt tolerant grasses and reeds along the river's edge.

White pine, pitch pine and scrub oak are found on the hills overlooking the Bay. On the slopes of these inclines grow larger oaks, maple, cherry, beech, and other less tolerant species. The kettles below often contain water if they are lower than the water table. On their edges grow red maple, willows, highbush blueberry, swamp honeysuckle, arrowwood and other wetland edge species. Many of these kettle holes contain vernal pools supporting a wide variety of rare and uncommon plants such as Plymouth Gentian and New England Boneset.

Presently, scrub pine and scrub oaks are the dominant species in the southeasterly section of Town, since they can tolerate fire well, while white pine cannot. Like Myles Standish State Forest in Plymouth, this area is prone to brush fires. Until recently, the southeasterly portion of Town had seen very little development because of the soil composition, and was therefore, used primarily as woodlots (except for the area around Smelt Pond). However, vegetation in this area is now being cleared for commercial, industrial, and housing development.

Kingston's vegetation, ranging from pastured farmland in the north and west to scrub oak and scrub pine forests in the Southeast, and many wetland plant species, contribute to the rural and aesthetically pleasing character of the Town, and provide habitat to support these populations.

The State provides incentives for agricultural land and managed forests through reduced tax assessment programs authorized under Chapter 61 and 61A of the Massachusetts General Laws. Currently Kingston has several managed forests under Chapter 61 and many cranberry bogs and surrounding support areas under Chapter 61A.

Fisheries and Wildlife

According to the Division of Marine Fisheries, the Jones River contains runs for Atlantic tomcod alewife, rainbow smelt and shad, but development and pollution have impacted these populations. Smelt Brook was also once an important run for rainbow smelt, but is no longer. These species depend on the waterbodies in which they hatch to reproduce, and require a certain water volume and rate of flow, and certain combinations of chemical constituents to be effective at spawning and maintaining their population levels. For additional information, see "Kingston Bay" in this section, page 5-5.

One major influence on the flow in the Jones River is Brockton's water diversion from Silver Lake. Since 1970 the city has made at least three attempts to divert additional water from the Jones River watershed, but has been denied by the State's Water Resources Commission and court action. A recent plan by Brockton to divert water from the Taunton River would include new management of the water "budget" of Silver Lake, one which many feel would be highly detrimental to Jones River flows and, therefore, to the biota, fish and wildlife in Silver Lake. Kingston should be vigilant about protecting these resources and should work with the State and other towns in the region to craft a reasonable water plan for the twenty-first century which will benefit all the towns in the region as well as the natural ecosystems.

In areas such as Southeastern Massachusetts, where large tracts of wildlife habitat have been interrupted by the construction of homes and roads, the value of small protected parcels for wildlife habitats is enhanced by creating and protecting corridors that provide links between undeveloped parcels. Many local species, such as the whitetail deer and red fox, require access to a mixture of forest, wetland, and open land for food and shelter. Migratory birds and birds of prey also rely heavily on this mixed environment. These species and others, such as coyote, cottontail rabbits, ruffed grouse and quail, are most often sighted at the edges of forests and open areas provided by local utilities, roads, or fields. Hawks are frequently sighted soaring over open fields and wetlands. Protected corridors, such as those provided by powerlines and wetlands along the Jones River and its tributaries, serve as habitats and provide access between one habitat and another (Kingston Open Space and Recreation Plan, 1995). Kingston should create open space corridors by targeting undeveloped parcels for acquisition that would serve to link existing open space parcels.

The U.S. Fish and Wildlife Service identified Kingston as a likely location of the Plymouth red-bellied turtle, a Federally listed endangered species found only in Plymouth County. The Massachusetts Division of Fisheries and Wildlife's Natural Heritage Program houses a database on the locations of rare species and sensitive natural features. The sightings of several rare species have been concentrated in the areas of Wolf Pond, Muddy Pond, and Rocky Pond in the southern part of Town.

Table 5-1: Some Common Wildlife and Fish Species in Southeastern Massachusetts⁷

Animal Species	Fish Species	Bird Species
• Rabbit	• Trout	• Turkey Vultures
• Possum	• Shad	• Crows
• Raccoon	• Herring	• Blue Jay
• Fox, Red and Gray	• Chain Pickerel	• Cardinals
• Coyotes	• Large Mouth Bass	• Chickadee
• Deer	• Small Mouth Bass	• Red Wing Black Birds
• Squirrel, Red, Gray, Flying	• Yellow Perch	• Grackels
• Bats	• White Perch	• Starlings
• Chipmunk	• Sunfish, Pumpkin Seed, Blue Gill	• English Sparrows
• Moles	• Suckers	• Morning Doves
• Mice	• Minnows and other small fish	• Bob White Quail
• River Otter	• Atlantic Tomcod	• Ruffed Grouse
• Beaver	• Striped Bass	• Ring Neck Pheasant
• Mink		• Canada Geese
• Weasel		• Mallard
• Skunk		• Hawk
• Muskrat		• Osprey
		• Gray Horned Owl
		• Bard Owl
		• Screech Owl
		• Saw Wet Owl

Silver Lake, Blackwater Swamp, fields northeast of Indian Pond, the swamp east of Furnace Brook, the Jones River marshes, and Muddy Pond are considered by the Natural Heritage Program to be excellent habitat for uncommon plant and animal associations.

More specifically, Silver Lake, in the vicinity of Forge Pond, is shown on the Natural Heritage and Endangered Species Program's (NHESP) Natural Heritage Atlas, 1993 Edition, to be an important area for rare wetland species. The spotted and eastern box turtles, among other reptilian species, have been found on the Emerson land. The lake also provides an extraordinary resource for a wide array of migratory and resident birds and mammals. Also, according to the

⁷ Source: Dick Turner of Massachusetts Division of Fisheries and Wildlife, Southeastern Massachusetts Field Office. October 9, 1996.

NHESP, Blackwater Swamp is considered to be “. . . a good quality cedar swamp with an extensive shrubby peat bog. It is also the only current site in Southeastern Massachusetts for the black spruce and the hare's cottontail.”

Conservation Organizations

Local and regional conservation organizations, focussed on specific programs, can greatly assist the Town in identifying problems, locating funds for projects, and doing research necessary to assist in the development of grant proposals. Therefore, the town should utilize the resources of these organizations to further Kingston's conservation goals.

Jones River Watershed Association

The principle environmental organization in Town is the Jones River Watershed Association, a grass roots, citizens' organization that advocates for the Jones River and its environment. In its 12-year existence the group has worked to keep the City of Brockton from diverting additional surface water from Silver Lake and Pine Brook, has networked with state agencies which control how water from the watershed is allocated, has overseen the installation of two stormwater treatment systems along the Jones River, and has played a major role in water quality monitoring in the Jones River and Kingston Bay.

HISTORIC RESOURCES

The Kingston Historical Commission has initiated a project to inventory the Town's historic and architectural resources. A preliminary survey carried out by members of the Historical Commission resulted in the identification of approximately 325 historic properties and sites in the Town. A comprehensive survey using methodology developed by the Massachusetts Historical Commission is being carried out in two segments. Segment One was completed in June 1997. Segment Two is underway and is expected to be completed by June 30, 1998. When completed, the comprehensive survey will provide the Town with data to allow effective and consistent historic preservation planning and review of projects that require town permits, funding, or approvals, and to help the Town establish local historic districts and identify buildings and districts eligible for National Register listing.

The Kingston Historical Commission expects that the designation of one or more historic districts may result from this effort. Such historic districts may be designated as National Register Districts by the National Park Service following recommendation by the town and state historical commissions. Alternately, town historic districts may be designated by changes in the zoning regulations that would be subject to approval of two-thirds of the voters at Town Meeting.

Community History

The history of Kingston's land use began long before the arrival of the Pilgrims. The mouth of the Jones River is thought to have been a "regionally significant" source of marine resources for

inhabitants in late prehistoric times.⁸ At that time, the coast was farther out into what is now the bay, since glacial formation tied up enough water to lower sea level significantly. By 1620, the Native Americans had lived along the Jones River for at least 8000 years.

Native American sites were noted as early as 1603 by explorer Martin Pring who navigated the Jones River. Significant Native American sites have been identified at Bay Farm, Pawtuxet Park off Basler's Lane, behind the R.S. Means Company on Smith's Lane, near the various springs and streams near Russell Pond, near Smelt Pond, on Monk's Hill, and in areas adjacent to Muddy Pond and at Evanswood on Silver Lake.

The European settlement in what is now Kingston began with land grants within Plymouth Colony. The First Period of European settlement in America is usually designated as the years 1620 to 1720. From that First Period, approximately a dozen buildings still stand in Kingston. These buildings represent an important resource for the study of colonial history and should have the highest priority for preservation. The area that is now Kingston was known during the First Period as the North Precinct until it was set off from Plymouth and incorporated as the Town of Kingston in 1726. The Jones River and the eleven brooks which are tributaries to the river are the site of the birth of industry in the new world. The availability of water power within the Jones River watershed supported the development of grist mills, textile mills, forges and furnaces, tack nail, and tool making mills. Many of these sites or the remnants of these sites remain and should be a priority for preservation. Lumbering of mature oak and pine supported a large shipbuilding industry. Eventually, most of the land was transformed into cleared pastures. The forests we see today are those that eventually overtook the pastures when farming subsided.

Silver Lake and the bogs associated with the Jones River and its tributaries became sources of bog iron for iron foundries. Once excavated, these bogs provided perfect sites for cranberry bog development in the 1800's. Waterways developed for powering the iron industry provided the water necessary for cranberry growing. The banks along the Jones River provided sites for shipbuilding, saltworks, and fishing.

The vessel that appears on the Kingston Town Seal represents the sixteen-gun brig "Independence". This was the first vessel commissioned for a Massachusetts navy in the revolution, and was built in Kingston in 1776 at the Jones River Shipyard at Landing Road by William Drew and sons. No known drawings or paintings of this brig exist. The anchor on the Town Seal represents the anchor works that were also located along the Jones River and on Silver Lake.

Bog iron is an iron ore source defined as limonite and found in wetland and pond areas. Reddish-brown in color, it can often be seen mixed with other rocks in stone walls built to define property boundaries for some of the older dwellings in town. The early forge-related industries relied upon this local raw material for manufacture of iron-based products, including anchors for ships built in Kingston shipyards.

⁸ Kingston Open Space and Recreation Plan, 1995

The writings on the history of Kingston all attest to the rich native, colonial, and post-colonial heritage of this oceanside, water-rich community.⁹ Scores of historic sites throughout Kingston, discussed in these writings, marked on maps, or in the memory of its people, have yet to be identified by wayside pointers. Johnson Melville lists over fifty “placenames” and “highways”, many of which deserve marker identification. Residents, such as the late Arthur Vantangoli who knew the Town “like the back of his hand” mentioned others.

Here is an excerpt from the "Report of the Proceedings and Exercises at the Celebration of the 150th Anniversary", Kingston, MA, June 27th, 1876

" . . . Leave this village, with its shaded streets and quiet life, cross the bridge whose double arches span the Jones River, turn sharp to the right, bearing to the left after you have crossed a shallow trout brook, and follow the sandy road through thickets murmurous with insect life, through pine woods with the fragrance of balsam in their breath, skirting the shore of Smelt Pond, stopping a moment, if you please, to notice the easy, graceful sweep of an eagle that, startled from some resting place, lifts himself on mighty pinions, as if he scorned the earth, into the blue of the heavens, and then, almost breaking your way through scrub-oak and birches and alder bushes, climb the narrow path whose sharp ascent brings you to the summit of Monk's Hill. Now look about you! You turn almost instinctively to the ocean, but look landward. Far down into the valley, far away to the horizon, south and west, stretches for miles and miles an untravelled wilderness. It needs no extravagant fancy to imagine that thus it looked a hundred and fifty years ago... You see no indication of human life. There are shaded woods where the Indian today might live, and coverts where the timid deer may hide. With any thought of the past in our mind, we cannot fail to be impressed with its lonely and untamed solitude."

Historic Sites

Well-preserved physical evidence of a community's past helps to give each resident and the community a sense of its location in time and space. The present form of Kingston is derived from the numerous decisions made by those who lived here in the past - where to live, the type of structure to live in, how to support families. The evidence of each of these individual decisions is still present in many ways and can remain for our pleasure and edification and for following generations, if steps are taken to preserve this heritage.

Following is a brief sample listing of historic sites located in Kingston.

1. Site of the first 1717 meeting house, now occupied by the third meeting house of the Unitarian Universalist Church. West of the meeting house was the Town Pound. Town pounds were used to enclose stray farm animals and were generally formed by a tall, square stone wall; the burying grounds were adjacent

⁹ Bailey and Drew, 1926; Drew, 1884; Massachusetts Historical Commission Reconnaissance Survey Report; Doris Johnson Melville, 1976

2. Major John Bradford House, built in 1674 by the grandson of Plymouth Governor William Bradford. The site is owned by the Jones River Village Historical Society.
3. Sites of the 1638 John Howland (a Mayflower passenger) home on Howland's Lane, Rocky Nook, and 1676 Joseph Howland home. These sites are owned by the John Howland Pilgrim Society.
4. Fishing Rocks, a Town-owned strip of land on the northeast shore of Rocky Nook, provided access to finfish in earlier times when the channel was further in. Fish drying racks, called "flakes" were located all along the Rocky Nook shore.
5. Ah-De-Nah, near the mouth of the Jones River. This area was part of the Town of Duxbury until 1855 and is now an extensive residential district and includes the Town Landing. Other districts include: "Egypt," in the Grove Street area, later renamed "Frenchtown;" the Ring Road area #(16), where Mother Crewes, a reputed witch, is said to have cast a spell on Sailor Ring resulting in his death by fire; "Seaside," the 1845 railroad stations' name, near the Main Street-Plymouth line, where Italian immigrants settled to be near their work at the Plymouth Cordage Company; "Stoney Brook," a business district along Summer Street between Green Street and Winthrop Street developed after the 1845 railroad tracks were built, and named for the brook that runs under Summer Street; and "Dublin," an Irish area at the intersection of Elm and Brook Streets characterized by half Capes most built in the mid 1800s by Irish immigrants.
6. Abram's Hill, named after 1623 settler Abraham Pierce; between Landing Road, Summer Street, Linden and Maple Streets.
7. C. Drew & Company, in continuous operation from 1847 until recently, situated on Stoney Brook at Maple Street, utilized a water wheel to run triphammers for the manufacture of ship building tools for shipyards everywhere. On adjacent land, the Old Brickyard, next to a natural clay deposit, could become a working museum display.
8. Site of the Isaac Allerton Homestead (1627) at the end of Spring Street, now occupied by a private residence. Also the site of Elder Spring, an early Native American occupation site. These sites were researched by Plimoth Plantation archaeologist James Deetz in 1972.
9. Fuller Homestead site on the east side of Main Street across from Cobb & Drew Company on a hill adjacent to the Charlie Horse Restaurant.
10. Rocky Nook Wharf (1802 - 03), one of the oldest surviving stone wharves in the Eastern United States, original site of fishing fleet. Nearby is the old Rocky Nook "salt rocks" where bedrock was mined for local use and for riprap at the end of Plymouth Beach.
11. Boundry Lane iron mill site, still easily detected, where iron stoves were made.

12. Mayflower Worsted, cloth manufacturer, now a multi-industrial complex, was built on the Jones River at Wapping Road on the site of the earlier triphammer forge. A Native American fish weir was once located at the site. Upstream is an old clay and pottery works site once operated by Stephen Bradford, a descendant of Major John Bradford.
13. Mill sites at the brook crossing Sylvia Place Road.
14. Historic Pulpit Rock, in Centennial Fields, where early militiamen held muster, located on Town-owned land on the west side of Route 3 adjacent to the landfill and the new Old Colony Rail Road Right-of-Way. Said to be the site of worship services, the Rock has early dates chiseled on its surface. Plans for use of the land should include protection of this historic site.
15. Monk's Hill. Signal hill used during the revolution to send messages north to Boston.
16. Quam Homestead, said to have been built by an African American of that name in the early 18th century, located near the Plymouth line on Parting Ways Road.
17. William Bradford House site - Across Maple Street from the Major John Bradford House. Governor Bradford, the most important figure of the Plymouth Colony, and one of the most important in the early history of Southeastern New England, built a house on Stoney Brook where he resided beginning in the 1630s.
18. Captain Thomas Willett House - 21 Wapping Rd. A member of the original Leyden Congregation, Captain Willett was a distinguished figure in the early days of Plimoth Plantation, served as Assistant Governor and succeeded Miles Standish as Captain of the Train Band. He was founder of several New England towns and served as the first English Mayor of New York. Governor Bradford later purchased the property from Willett and it remained in the Bradford family for three more generations. The original part of the house built about 1640, is the oldest house in Kingston and one of the oldest in the United States.
19. Squire William Sever House - Linden St. Squire Sever, as Kingston's Representative to the General Court at the time of the Revolutionary War, was a leading patriot. He recruited and equipped Kingston men to serve in the Continental Army and oversaw the building of the brig "Independence". Built in 1723, the house is a widely regarded masterpiece of early eighteenth century architecture.

Other significant areas include the shipbuilding sites, such as the Drew and Holmes yards, on the banks of the Jones River near the Bradford House on Landing Road, where native timber and bog iron were utilized in the industry between 1713 and 1860. Many old schoolhouses still exist including one room schools all built in 1844, one on Stoney Brook Hill, Summer Street, now a residence, and one on Wapping Road near Anderson's Auto Parts, unused; also the Faunce School on Green Street, renovated for Town Meetings by the 250th Anniversary Committee in 1976. Built later were the Howland's Lane school, which is now a private clubhouse; the Cobb

School, which is now a place of business; and the Maple Avenue School, which currently serves for town offices.

Kingston Village, with its well preserved historic structures and historic importance to the community, should be designated as a historic district.

The James River Village Historical Society, a non-profit educational organization that has been in existence since the 1920's, is a major force in the preservation of historical artifacts and locations and village beautification in the Town of Kingston.

SCENIC RESOURCES

The Department of Environmental Management (DEM) Landscape Inventory mapped scenic landscapes in 1982. The area identified as a "distinctive" scenic landscape in Kingston includes the marshes near the mouth of the Jones River and spans northwest through the Miramar-Bay Farm area.

Monks Hill near Camp Nekon offers a spectacular view of Cape Cod Bay and the forests of southern Plymouth County. On a clear day, Boston and Provincetown can both be seen from the fire tower on the hill. There are scenic views of the south side of Silver Lake from the private property on Lake Street, as well as from a proposed conservation restriction on Evanswood Bethesda Corporation land, and the proposed Silver Lake Sanctuary on the east. The views from the single-lane bridge carrying Elm Street over the Jones River are distinctive, including the view across the millpond to the west, the rushing water of the river dropping over the dam to the east, and the steep banks on the north.

The rock outcroppings on the southeast side of Elm Street just beyond, and adjacent to, the Coughlin and Coughlin building, are significant. They are named Coomer's Rocks in tribute to William Coomer, a weaver, who owned the nearby property prior to 1727. The first outcropping, nearest the building, is approximately 80' x 102'. The second is approximately 150' south of the first and has dimensions of about 36' x 78'. The third rock is 75' further south, approximately 60' x 150' overall. The highest of these formations above ground appears to be in the 10' range.

The farms, forests, cranberry bogs, surface waters, and historic structures of Kingston provide scenic drives along many local roads including Elm Street, Main Street, Summer Street, Indian Pond Road, Brook Street, Landing Road, River Street, Winter Street, Brookdale Street and Winthrop Street. The Scenic Roads Act (M.G.L. Chapter 40, Sections 15c and 7a3) allows a municipality to designate any non-numbered route or state highway as a "scenic road". Once designated, any proposed repair, maintenance, reconstruction or paving work that involves the cutting of trees or destruction of stone walls needs prior approval of the Planning Board.

Designating a road as scenic will allow for the preservation of existing rural and natural aesthetic qualities and historic buildings and sites. Such designations will contribute to historic preservation as well as the overall rural character of the community. Kingston has not officially designated any roads as "scenic roads", however, it has targeted the following roads listed in Table 5-2 for designation.

Table 5-2: Roadways Targeted for Historic/Scenic Designation	
<i>Roadway</i>	<i>Reason for Designation</i>
East Avenue	Coastal views to Kingston Bay, Duxbury Bay and Cape Cod Bay.
Rocky Nook Avenue	Coastal views to Kingston Bay, Duxbury Bay and Cape Cod Bay.
Indian Pond Road	Vistas to Russell Pond, steep hills, winding turns and charming homes.
Sylvy's Place Road	Natural beauty, wildlife preserves and mill remains along the road.
River Street	Views to the Jones River and Kingston Bay, Duxbury and monument.
Bay Farm Road	Views to the Jones River and Kingston Bay, Duxbury and monument.
Winter Street	Fields and stretches of cranberry bogs along the road.
Brookdale Avenue	Stretches of cranberry bogs along the road.
Summer Street	Historic home and public buildings
Elm Street	Historic homes and rural areas
Main Street	Historic homes and public buildings, monuments
Grove Street	Stretches of cranberry bogs along the road.
Landing Road	Views of the Jones River

Implementation Schedule

Natural and Cultural Resources Actions	Implementing Party (ies)	Time Frame
Protect drinking water and eliminate pollution of water resources.		
Identify vacant lands within the zones of contribution of (existing and future) public drinking water supplies and target for acquisition or other means of protection. Acquire these lands around water supply wells and in the Water Resource Districts.	H ₂ O, BOS	1998 & ongoing
Assume a proactive role in regional water supply planning	H ₂ O, BOS, JRWA	1998 and Ongoing
Maintain inter-town communication to protect sources of public water supply that cross town borders.	H ₂ O, BOS	Ongoing

Implementation Schedule

Natural and Cultural Resources Actions	Implementing Party (ies)	Time Frame
Coordinate recreation and conservation land acquisition (between Water Department and other Town entities) to fullest extent possible so as to provide additional water resource protection.	H ₂ O, BOS	Ongoing
Investigate sources of pollution and degradation that affect our aquifer and waterways.	CC	1998 & ongoing
Establish a long-term plan to mitigate identified sources of pollution.	CC	1998 & ongoing
Educate waterfront homeowners and the public regarding preventive measures that can be taken to mitigate non-point source pollution.	CC, PB, JRWA	1998 & ongoing
Enforce Earth Removal bylaw	BOS, BI	Ongoing
Establish community education and outreach program.(1) In conjunction with Water Department, actively educate households residing within zones of contribution to public drinking water supplies and along waterfront about household contaminants, septic systems, and other threats to water quality. (2) Encourage the use of environmentally friendly products.	H ₂ O, BOH	1999
Develop and implement management plans to mitigate leachate from septic systems, stormwater runoff, sedimentation, roadway salt and construction residue.	H ₂ O, CC	1999
Coordinate the approval process used by the various Town Boards to protect the quality of present and future water supplies enforces local land use controls.	PB, TP, CC	Ongoing
Protect the Town's natural resources: open space, water bodies and waterways, such as Silver Lake, the Jones River, its tributaries and Kingston Bay.		
The Town should acquire valuable open space, land adjacent to waters, and in the Water Resource and Conservancy Districts.	BOS, TM	Ongoing
Develop guidelines to prevent recreational uses that conflict with the purposes of resource areas. For example, prohibit the use of motor bikes around well areas.	Rec, CC	1998
Encourage builders to develop cluster type housing that preserves open space.	PB, TP	Ongoing
Encourage the preservation of open space, beyond required minimum levels, near or within residential developments.	PB, TP	Ongoing

Implementation Schedule

Natural and Cultural Resources Actions	Implementing Party (ies)	Time Frame
Protect (through acquisition, purchase, gift, conservation restriction, easement or tax title) the town's significant natural areas, and preserve the natural setting of the Town's built environment (1) Encourage and promote landowner participation in the Chapter 61, 61A & 61B programs, and the donation, restriction or sale of land to the Town or a private trust. (2) Establish a Conservation Fund to have adequate monies available to protect critical parcels when they become available. (3) Establish a land trust	CC, TP, PB, TM, OSC	1998 & Ongoing
Restore and improve shellfish beds and fish habitats in rivers and the Bay.		
Provide sewerage for Rocky Nook, Town Center, Landing Road, the Ah-De-Nah, and all other areas that adversely impact the Jones River and Kingston Bay.	H ₂ O, SC, BOS, BOH	1998
Actively seek opportunities to work with neighboring towns to protect inter-town natural areas and waterways.	BOS, JRWA, H ₂ O, OSC	Ongoing
All appropriate Town agencies should actively seek opportunities to work with all State agencies having jurisdiction over the Town's natural resources.	CC	Ongoing
Pursue designation of the Kingston Bay area as an Area of Critical Environmental Concern to protect its resources.	CC	1998
Establish measures necessary to preserve and protect the historical properties and sites in Town.		
Complete the comprehensive inventory of historic resources in Town.	HC	1998
Establish a demolition delay by-law as an historic preservation tool.	HC	1999
Support the research and development of applications for the National Register of Historic Places.	HC	1999
Create a museum of local history at the Adams Library.	BOS	2001
Encourage the Jones River Village Historical Society to join with the Kingston Historical Commission in developing an educational program on historic preservation for the schools and the community.	HC	2001
Establish historic districts where appropriate for protection of the Town's heritage.		
Actively pursue designating one or more historic districts in the town as a preservation planning tool.	HC	1999
Retain the Town's sense of spaciousness and its rural surroundings.		
Develop Town-wide policies to encourage and maintain the agricultural use of land within the Town.	CC, TP, PB	Ongoing
Provide incentives for small farms and encourage development of alternative mechanisms for the preservation and expansion of small agricultural acreage.	TM	1999