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Town of Salisbury Harbor Plan Phase 1

October 2008



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INTRODUCTION

This document presents information developed during the first phase of the planning process to develop a Harbor Plan for the Town of Salisbury, Massachusetts. The initial phase consists of compiling and mapping existing information on natural resources, uses of the waterways and shoreline, relevant government regulatory programs and jurisdictions, identifying issues, and conducting some analyses of recreational boating-related needs. A mooring plan and mooring field delineation plan are required by the Harbor Management Plan and will be periodically updated as needed. This phase concludes with a preliminary identification of long-term goals and the development of recommendations for next steps in the planning process and implementation.

PURPOSE OF THE PLAN

The purpose of the plan is to guide decision making by the Salisbury Harbor Commission. The plan provides information that can be used as the basis for decisions and/or for recommendations to other regulatory authorities on development proposals and capital investments affecting the waterfront and waterways of the town. It is anticipated by the Harbor Commission that the Harbor Plan may become an element of the Town of Salisbury Master Plan.

PLANNING PROCESS

The planning process was initiated by the Salisbury Harbor Commission in the summer of 2004. The Urban Harbors Institute, University of Massachusetts Boston was retained to assist the commission with researching, compiling and mapping information, conducting a public planning process, and developing some preliminary recommendations on improving boating access. Regular public meetings were held by the Commission to review and discuss information as it was developed, coordination was initiated with the Newburyport Harbor Committee, and a public meeting held in November 2005 to present preliminary findings and solicit input on waterways issues. In the next phase the Harbor Commission will develop goals and policies and further develop and refine action recommendations.

VISION FOR THE WATERFRONT/WATERWAYS

The Town of Salisbury's river and ocean frontage are key assets contributing significantly to the community's economy, image, and quality of life. The condition and quality of the land and water resources should be maintained and improved while appropriate and adequate provisions are made in support of increased access for boating/kayaking, fishing, clamming, hunting, and similar recreational pursuits.

EXISTING CONDITIONS

Overview

The Salisbury Harbor Plan covers all of the navigable waters within the jurisdiction of the Town of Salisbury and the land area adjacent to those waters. The main focus of the plan is on the Merrimack River and shoreline as this is the primary area of boating-related activity. The other areas, for planning purposes, are the Atlantic Coast Area and the Blackwater River Area (Figure 1).

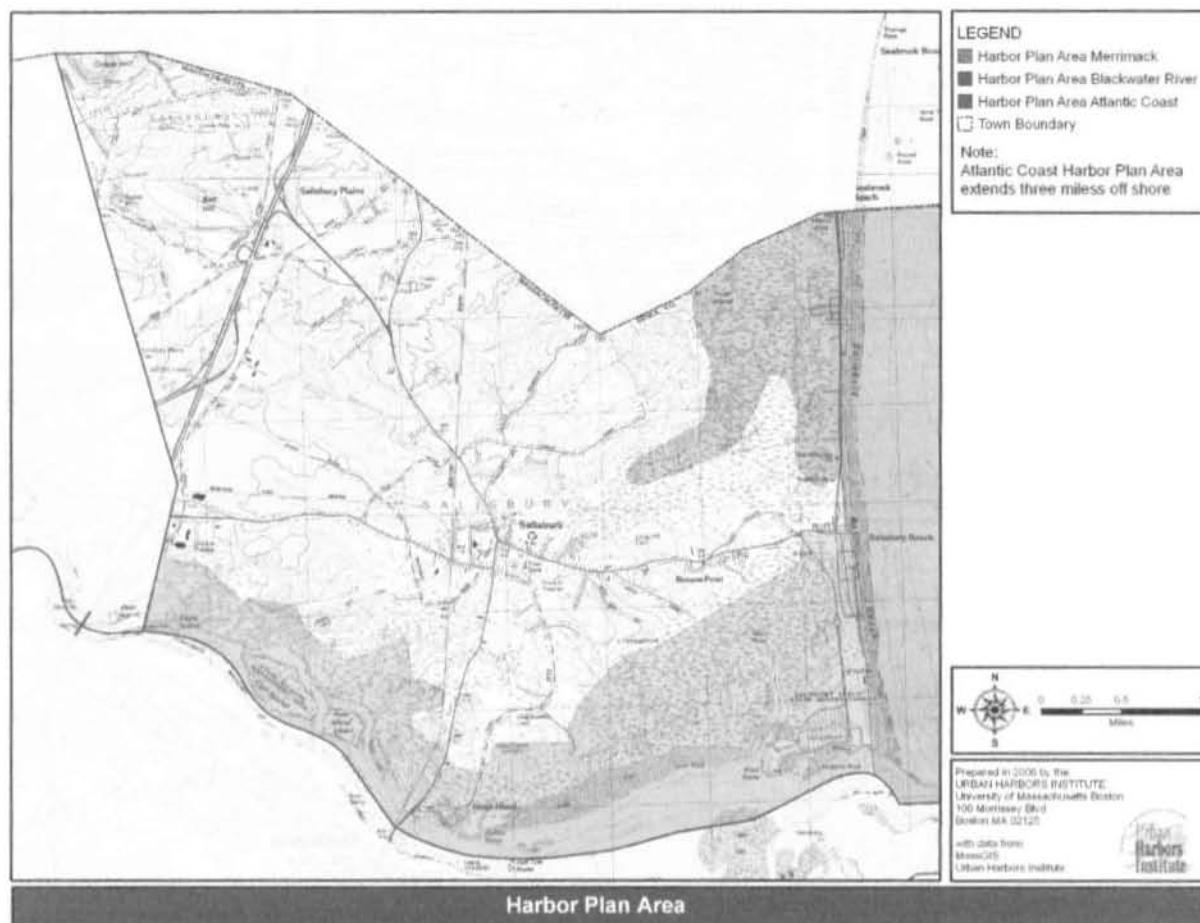


Figure 1: Map showing the three Harbor Planning Areas.

Merrimack River

The Merrimack River originates in central New Hampshire and flows through Southern New Hampshire and northeast Massachusetts for 110 miles, draining a watershed of just over 5,000 square miles, until it empties into the Atlantic Ocean between the communities of Salisbury and Newburyport.

The Town of Salisbury's shoreline borders the Merrimack River estuary for approximately five and three-quarters miles. The southern border of the town lies in the river as depicted on Map 1-2 in the Map Atlas (Appendix 1). Municipal boundaries are established by survey of the Massachusetts Highway Department (MHD). The survey has been finalized for the boundary north of the US Route 1 Bridge. The boundary shown on Map 1-2 south of the bridge is approximate, pending completion of the MHD survey.

Several tidal creeks meander through the salt marshes that comprise much of Salisbury's Merrimack River frontage. Town Creek and Black Rock Creek are both navigable by small boats and offer excellent recreational opportunities for birding and exploring the natural environment.

PHYSICAL AND ENVIRONMENTAL CONDITIONS

Natural Resources

Salt Marsh

The Salisbury riverfront is primarily wetlands (Table 1 and Map 1-24) which are part of the most extensive estuary system in Massachusetts.

The salt marsh habitat is rich in nutrients, providing a valuable nursery for finfish, shellfish and other macro and micro-invertebrates and supports a wide range of vertebrate wildlife. Some of the birds that frequent the salt marsh are the Black Duck (*Anas rubripes*), the Snowy Egret (*Egretta thula*), and the Willet (*Catoptrophorus semipalmatus*). Rare Massachusetts birds that utilize the salt marsh community include the Northern Harrier (*Circus cyaneus* State Threatened), the Seaside Sparrow (*Ammodramus maritimus*), the Saltmarsh Sharp-tailed Sparrow (*Ammodramus caudacutus*), and the Short-eared Owl (*Asio flammeus* State Endangered). The river, salt marshes, and tidal creeks are also important wintering, feeding, and roosting areas for osprey and the Bald Eagle, a state-listed endangered and federally-listed threatened species.

The natural resource value of this area is illustrated by its inclusion as core habitat on the Massachusetts Natural Heritage and Endangered Species Program's (MNHESP) BioMap. BioMap identifies those areas that are the highest priority for biodiversity conservation and protection in the state (see Maps 1-29, 1-30 and 1-31).

Table 1: Waterfront Type/Land Use Along the Merrimack River in Salisbury. Calculated from Town of Salisbury parcel data, Assessor's Department.

Type	Length (feet)	Percent of Waterfront
Wetland	26,423	86.7
Pasture	350	1.1
Single Family	285	0.9
Undevelopable Vacant Residential	1,300	4.3
Multiple Houses on One Parcel	1,059	3.5
Marina	778	2.6
Developable	77	0.3
Bridges	129	0.4
Town	76	0.2
TOTAL WATERFRONT	30,477	100.0

The Great Marsh Coastal Wetlands Restoration Project is looking at a number of sites in Salisbury. The most significant being Town Creek. The Town Creek potential restoration site is a very large degraded coastal wetland system. Hundreds of acres of former salt marsh were disconnected from regular tidal flushing of the Merrimack River over 100 years ago when the railroad line was built across the creek and marsh. Today, a small culvert with a flap gate conveys very limited tidal flow into the upstream marsh. The site exhibits many indicators of degradation, including marsh subsidence, poor water quality, and domination by invasive species. Phragmites dominates vast areas of the marsh, as is readily observed along both sides

of Route 1 driving through the wetland. At the time of this writing, the Town has decided -- at the urging of business owners along Route 1 -- to seek assistance from state and federal restoration programs to assess habitat restoration and flood mitigation options for the entire Town Creek system. The location and elevation of the low-lying Route 1 properties are an important consideration for any restoration actions due to the risk of flooding. The US Army Corps of Engineers has completed a hydrologic model for the site that suggests that tidal flows and flushing could be substantially increased without increasing the risk of flooding. More refined studies are needed to verify restoration feasibility, costs, and projected benefits. Restoration potential is considered high due to the large size and severely degraded state of the marsh, the significant flooding problems experienced by abutting property owners, promising results of the Army Corps hydrologic study, and explicit support for action expressed by town leaders and residents. Further information can be found in the Rapid Site Assessment report that can be found at: http://www.mass.gov/czm/wrp/planning_pages/gmplan/rtsa/rtsa_14.pdf.

Water Quality

According to the US Army Corps of Engineers significant improvements have been realized in the overall water quality of the Merrimack River due to federal, state, local community, and private investment in water pollution control facilities over the past several decades. However, there are still water quality concerns that require significant investigation and remediation on a region-wide basis.

In 2004, the New England District of the U.S. Army Corps of Engineers published a "Summary of Information on Pollutant Sources" as part (Task 2C) of a comprehensive Merrimack River Watershed Assessment Study. The report contains information on combined sewer overflows, stormdrain outfalls, discharges from municipal and privately-owned treatment plans and industries, and other sources including sediments, the atmosphere, groundwater plumes from landfills, erosion, failing septic systems, illicit wastewater discharges, and pump station overflows.

Contributions from non-point source pollution to the Merrimack have not been estimated and could be a major contributor to much of the water pollution problems in the river. Potential non-point sources include stormwater runoff, leachate from landfills in the watershed, and air deposition.

Communities along the Merrimack River in Massachusetts and southern New Hampshire are undertaking planning efforts that could result in as much as \$500 million in combined sewer overflow (CSO) control projects. In addition, future stormwater and total maximum daily load (TMDL) regulations may result in additional responsibilities.

Shellfish

The Merrimack River is excellent habitat for a variety of shellfish. There are approximately 250 acres of shellfish beds on the Salisbury side of the river. Areas of potential habitat for different species of shellfish is shown on Map 1-27. The map depicts generalized areas believed to be suitable for shellfish based on studies, historic information, and local information.

The soft-shell clam flats in the Merrimack River estuary were re-opened in the Spring 2006 for the first time since 1986 (since 1949 on the Salisbury side). Twenty years of effort by federal, state, and local agencies and environmental organizations finally improved water quality to the point where the estuary's shellfish areas are eligible to be open under a Conditionally Restricted classification, meaning that only specially licensed commercial master diggers can harvest clams for depuration at the Shellfish Purification Plant in Newburyport. The town adopted a Clam Flats Management Plan and appointed a Shellfish Warden. Rainfall events, which carry

bacteria into the river, will continue to trigger periods of temporary closure. Map 1-28 shows the designated shellfish growing areas based on data from November 2003. More recent changes have not been mapped at this time.

LAND AND WATER USES

Land use for the Town of Salisbury is shown on Map 1-18. This land use is really land cover interpreted from aerial photographs. Land use derived from town assessor's records for properties bordering the Merrimack River is shown on Map 1-23 and compiled in Table 1. Around 90 percent of the waterfront is undeveloped and undevelopable because of natural resource constraints.

Boating-related Conditions

The Merrimack River is popular for recreational boating and the mouth of the river between Salisbury and Newburyport experiences high volumes of seasonal boat traffic.

Federal Navigation Channel

The Federal Channel between the Route 1 Bridge and the mouth of the Merrimack was originally dredged to a project depth of -9 feet (Mean Lower Low Water). The seaward end of the channel is approximately 400 feet wide but gradually narrows over the first 2,300 feet to its designed width of 200 feet. The 200 foot width continues for another 11,500 feet until it reached a point off the American Yacht Club. At this point the channel narrows to 150 feet and continues at this width through the Salisbury section of the river and into Amesbury.

The 9 foot project depth seaward of the Route 1 bridge has a side slope of approximately 27 feet on both sides of the channel (3 feet of horizontal distance for every 1 foot of vertical distance).

Above the Route 1 bridge the project depth was reduced to 7 feet (with a side slope approximately 21 feet on both sides of the channel). The channel continues to run south of both Ram Island and Carr Island before turning northwest and passing above the northern tip of Eagle Island and north of Deer Island and into Amesbury.

The Map Atlas (Appendix 1, Maps 1-4 to 1-7; Appendix 3) contains a series of maps that depict the location of the federal channel in the lower portion of the Merrimack River. An accompanying table lists the latitude and longitude of each of the vertices of the channel (converted from the northings and eastings of the US Army Corps of Engineers' conditions survey of the Merrimack River). These coordinates make it possible to locate these points in the field using a GPS unit.

The City of Newburyport regulations accommodate small boat navigation in the mooring areas adjacent to the federal channel.

Bridge clearances

US Route 1 crosses the Merrimack River at mile 3.4 with a drawbridge that has a vertical clearance of 35 feet MHW and 44 feet at MLW in the closed position. The drawbridge operation regulations are listed at 33 CFR 117.605 as follows:

- (a) The draw of the Newburyport US1 Bridge, mile 3.4, shall operate as follows:
 - (1) From May 1 through November 15, from 6 a.m. to 10 p.m., the draw shall open on signal; except that, from Memorial Day through Labor Day, from 6 a.m. to 10 p.m., the draw shall open on signal only on the hour and half hour.

- (2) At all other times the draw shall open on signal after at least a one-hour advance notice is given by calling the number posted at the bridge.

The abandoned Boston and Maine railroad bridge crosses the Merrimack River at mile 3.4 (just upriver of the US Route 1 bridge) with a swingbridge that is normally maintained in the fully open position leaving two approximately 80-foot wide navigable passages.

Boating Access Facilities

Marinas and Boatyards

Facility Name	Address	# Slips	# moorings	Max Vessel Length	Max Water Depth MLW	Amenities
Cove Marina Inc.	35 Friedenfels	142	14	55'	15'	Electric and water hookups, ice, restrooms, showers, on-site mechanic
Ring's Island Marina (formerly Dawn)	16 First Street	Approx 120		80'	13'	Electric and water hookups, showers, restrooms, ice, ship's store, club room, winter storage, hauling.
Bridge Marina	179 Bridge Rd	110		50'	15'	Electric and water hookups, gas and fuel, marine store, boat hauling, ice, restrooms, restaurant, fiberglass repair, charter boats, tackle shop
Corbin's Boatyard	#4 2 nd Street					Dealer and boatyard

Moorings

There are about 150 moorings in the Salisbury portion of the Merrimack River, all under the jurisdiction of the harbormaster. The waiting list for a mooring currently has about 90 names. A number of moorings are managed by commercial facilities under group permits granted by the harbormaster.

Boat Launch Ramps

Black Rock Creek Boat Launch Ramp

The ramp is located in the Salisbury Beach State Reservation at the mouth of the Merrimack River. The facility has two boat ramps. The newer ramp has two concrete lanes and a combined launch dock/staging dock. It is suitable for launching large boats. The second ramp is older and has no launch dock so it is used for jet skis. The Department of Conservation and Recreation (DCR) states that about 30 parking spaces are designated for the boat launch ramp, though additional space is often used by cars and trailers. DCR, which manages the reservation, does not keep records of the number of launches, but the ramp is very busy between Memorial and Labor Days. The only cost is an entry fee to the reservation which is \$7.00 per day or \$35.00 for the season for Massachusetts residents (\$45.00 for nonresidents). The hours of operation are 8:00 AM to 8:00 PM.

There are currently no plans to expand the boat launch or associated parking; it is surrounded by tidal marsh.

Town Boat Launch Ramp

There is a municipal boat launch ramp at Rings Island which is usable only at high tide. Dredging is required to make it available throughout the tidal cycle, but the presence of a buried power cable is a restriction. There is also a private boat ramp at Rings Island Marina. The Cashman Park boat launch ramp in Newburyport has two lanes and 136 trailer parking spaces. Fee is \$5.00 per day for launch and parking.

Town Pier, Rings Island

This facility has a dinghy dock with a capacity for 20 to 30 dinghies. Recreational fishing is prohibited at the pier.

Proposed Facility at the MBTA Site

Plans are currently underway to develop a canoe and kayak launch facility at the MBTA property between Bridge Marina and the railroad. Currently, a 99-year lease has been arranged and the hope is that the site will incorporate parking, a launch area and a dinghy dock to allow boaters to access their vessels moored above the bridges (Figure 2).

It may also be possible to develop a fishing pier below the existing railroad bridge.

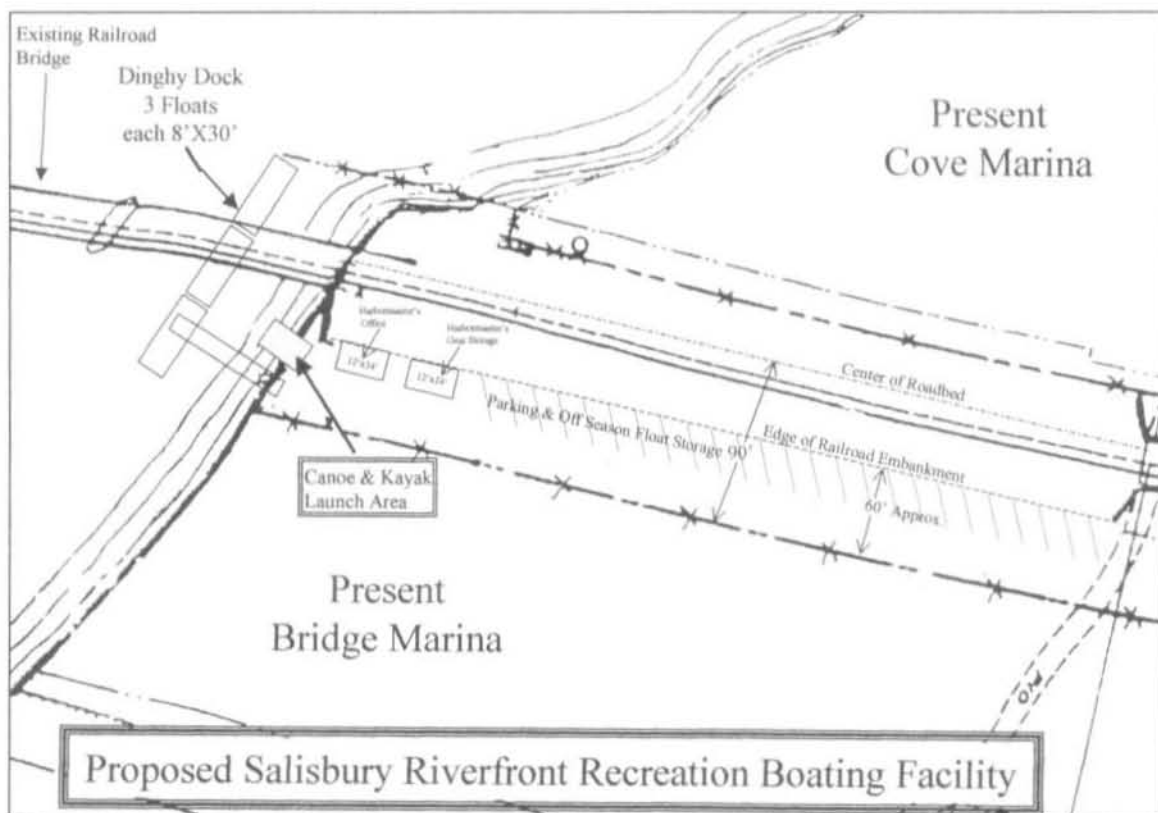


Figure 2: Proposed Recreational Boating Facility.

Vessel Wastewater Pumpout Services

The City of Newburyport has a pump out vessel that services boats in Salisbury. Currently, all boats in Salisbury that are over 20 feet in length are charged an additional \$10 clean water

surcharge with their waterways permit. This money is used to pay an annual bill that Newburyport charges for the pumpout service. In return for this, pumpout services are offered for free within Newburyport and Salisbury.

Atlantic Coast

Land use and natural resources along the Atlantic coast shoreline is shown on Maps 1-19 and 1-25, respectively. Nearly the entire shoreline is a beach system owned by the Commonwealth of Massachusetts. Residential development is dense, but there are a large number of access points from the public roadways to the beach. The coastline's open exposure makes the area unsuitable for boating facilities.

Black Rock Creek and Blackwater River

These two tidal rivers bound the inland side of the Salisbury Barrier Beach. The Black Rock Creek drains into the Merrimack and the Blackwater River drains into the Hampton River. These rivers were once connected by a manmade canal and used for local commerce. The historic connection has been discontinued due to fill at Beach Road. It is desirable to reconnect this waterway for small boat use.

The Blackwater River planning area is almost entirely undeveloped saltmarsh. Consequently, there is very little development potential. The small river and creeks running through the marsh are ideal for boating in small watercraft; additional sites for launching of car top boats is desirable. The wetlands are rimmed by residential development on the beach area to the east (Maps 1-20 and 1-26).

Town Creek

Kayak/canoe landing and picnic area could be added at the tide gate as part of the Rail Trail development.

Management and Regulatory Jurisdictions

PROPERTY OWNED AND MANAGED BY THE COMMONWEALTH OF MASSACHUSETTS

Salisbury Salt Marsh Wildlife Management Area

Massachusetts Division of Fisheries & Wildlife (DFW) owns approximately 520 acres of the extensive salt marsh system that borders the Merrimack River from Black Rock Creek to Rings Island (Figure 3). The Salisbury Salt Marsh Wildlife Management Area (WMA) consists of salt marsh, other coastal wetlands and upland buffer and is managed for hunting, fishing, trapping, birding and other outdoor recreation activities. Access by vehicle is from Ferry Road to Sweet Apple Tree Lane where parking is available for 10 to 12 vehicles. Launching of small car top boats is possible from nearby shoreline. There are no plans for improvements to the property, but the acquisition of additional salt marsh is planned. Eagle Island is part of this WMA while nearby Ram and Carr Islands are managed by DFW as Wildlife Sanctuaries where hunting is prohibited.

According to the Massachusetts Natural Heritage & Endangered Species Program, these marshes "feed roosting and wintering Bald Eagles (Endangered, federally Threatened), Atlantic and Shortnose Sturgeon (both state Endangered; Shortnose is federally Endangered) heading upstream to breed, and Common, Least, Arctic, and occasionally Roseate Terns (all Special

Concern except Roseates, which are both state and federally Endangered) diving for small fish in the tidal waters. Two rare plants – Eastern Saline Sedge (Endangered) and American Seablite (Special Concern) are found in the Salt Marsh itself."

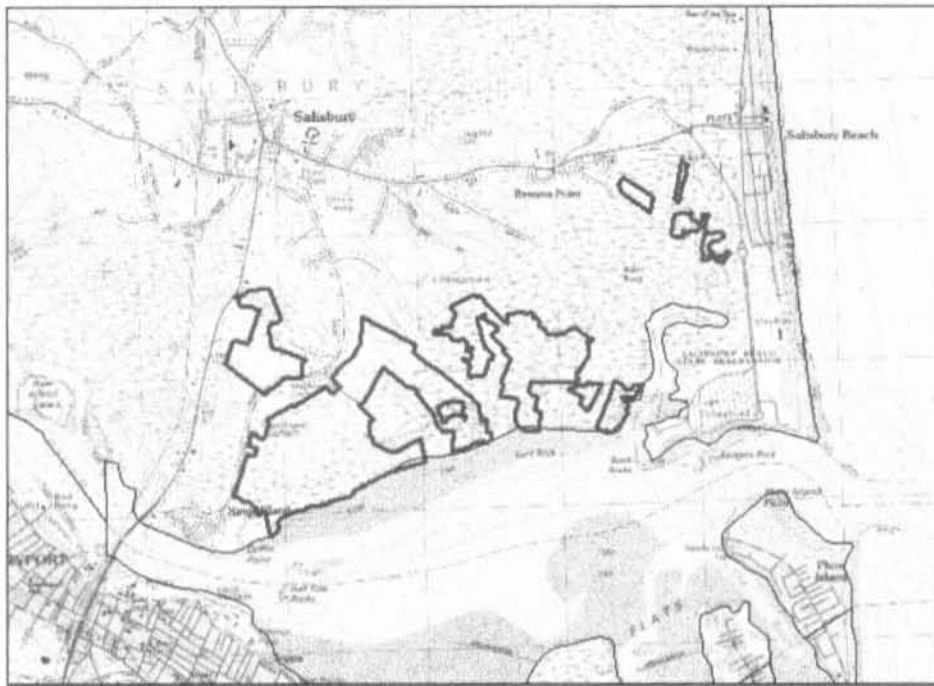


Figure 3: DFW Property along the Merrimack River in Salisbury.

Salisbury Beach State Reservation

The Massachusetts Department of Conservation and Recreation (DCR) owns 521 acres of beach, marsh and upland in Salisbury where the Merrimack River meets the Atlantic Ocean (Map 1-21). The reservation offers swimming, boating, fishing and camping (484 sites). The boat launch facility is heavily used. Inexperienced boaters from this location create patrolling issues for the Salisbury Harbormaster's department.

The Reservation has day parking for 1,500 vehicles and hosts 1,000,000 visitors annually. There are also 484 campsites. It is one of the most popular public beaches in the Commonwealth.

REGULATORY AUTHORITIES

The waterfront and river are subject to regulatory authority of the local, state, and federal governments. Through its Zoning Bylaws the town regulates uses, density and dimensions of development along the shoreline. The town also regulates wetlands and flood prone areas through its Wetlands Bylaws. The Harbor Commission intends to review the process used by Newburyport with the aim of incorporating similar language into the Salisbury Harbor Regulations Bylaws.

The state exercises regulatory authority over the alteration or use of both filled and flowed tidelands under Massachusetts General Laws Chapter 91, the Public Waterways Act. The purpose of this law and the waterways regulations (310 CMR 9.00) adopted to implement the law is to protect the public's interests in the waterways. All existing and new work such as piers, wharves, floats, retaining walls, revetments, pilings, and some waterfront buildings require Chapter 91 authorization.

The federal government, through the U.S. Army Corps of Engineers, also regulates shorefront activities including dredging and fill in or near coastal waters and structures below the mean high water mark.

Salisbury Harbor Regulations Bylaw

The harbor regulations of Salisbury, Newburyport and Amesbury establish a no-wake zone (speeds limited to five miles per hour) in the Merrimack River from the icebreaker in Newburyport up to MacKenzie's Marina in Amesbury. This was extended last year to the area between buoy 8, near Ben Butler's Toothpick, and buoy 11, near Badgers Rocks.

All of the waters of the Merrimack River within the Town of Salisbury are covered by the town's no wake bylaw. The portion of the river on the Salisbury side of Ram, Carr and Eagle islands (known as the "Back River") are not posted no-wake zone, but the presence of rocks and shallow depths at low tide as well as use of this area by nonmotorized small boats and swimmers requires caution. Significant areas down river from the Ice Breaker are also not posted.

Clam Flats Management Plan

This plan was developed by the Salisbury Clam Flats Advisory Committee and adopted by the town in April 2005.

Town of Salisbury Zoning Regulations

Most of Salisbury's Merrimack River waterfront is zoned low density residential (two acre minimum lot size). An area of the waterfront on either side of Route 1 (for a distance of 400 feet in each direction) is zoned commercial. Rings Island and the Friedenfels Street area is zoned medium density residential (one acre minimum lot size). Marinas and other waterfront marine, boat building, selling, renting, servicing, repairing and storage are allowable by special permit issued by the Board of Appeals in all three zoning districts.

Town of Salisbury Wetlands Bylaws

The Massachusetts Wetlands Protection Act (Chapter 131, Section 40) requires local Conservation Commissions to examine and regulate development activities which may alter wetlands, and to issue or deny permits based on whether the proposed activity is consistent with the requirements of the Wetlands Protection Act and DEP regulations. The Salisbury Conservation Commission has also adopted locally-adopted wetlands bylaws. DEP issues superseding orders and variances, and offers compliance, enforcement and technical assistance.

The Salisbury Conservation Commission regulates activities within resource areas such as coastal wetlands, mudflat, bank, land subject to tidal action and coastal storm flowage, land subject to flooding, and in a zone extending 100 feet landward of any of these areas. Also, under the authority of the Rivers Protection Act (1996), the commission reviews projects within 200 feet (measured from the high-water line of the river) of all perennial rivers and streams to ensure that the riverfront area is protected for the eight interests in the Wetlands Act. Regulated activities include dredging, filling, removing, altering, or building in the areas identified above. The commission's concern is to protect public health and safety from flooding, minimize the impact of coastal storms, maintain the natural flow pattern of water courses, and protect the wetlands areas.

In developed areas the commission will review plans for construction in the flood hazard zones to ensure that buildings are constructed to withstand the effects of the projected storm water elevation and, in high hazard areas, the additional effects of storm-driven waves. The

commission also reviews plans to place fill in or dredge sediment from intertidal and subtidal areas.

Chapter 91

M.G.L. Chapter 91 (Public Waterfront Act) and the waterways regulations (310 CMR 9.00) adopted to implement the law, seek to ensure that the Commonwealth's tidelands are utilized only for water-dependent uses or otherwise "serve a proper public purpose which provides greater benefit than detriment to the rights of the public in said lands." The Chapter 91 licensing program is administered by the Waterways Regulation Program of the Massachusetts Department of Environmental Protection.

Chapter 91 applies in tidelands, great ponds, and along certain rivers and streams. Tidelands refer to all land presently or formerly beneath the waters of the ocean. On the landside, tidelands extend to the *historic* high tide line, i.e., the farthest landward tide line which existed "prior to human alteration" by filling, dredging, impoundment or other means. Generally, DEP jurisdiction applies to all filled as well as flowed tidelands, with the exception of "landlocked" tidelands. These are filled areas located more than 250' from existing MHW, and are separated from the shoreline by a public way.

Activities Subject to Chapter 91

Chapter 91 authorization is generally required for the placement of fill, building of structures, and dredging in tidelands. Types of structures include: piers, wharves, floats, retaining walls, revetments, pilings, bridges, dams, and waterfront buildings (if on filled lands or over the water). A new license also may be required if there has been a structural change or change in use of a previously licensed structure. The placement of temporary rafts, floats or moorings in the waterway do not require a Chapter 91 license, if they receive an annual permit from the Harbormaster, as noted elsewhere in this report.

Water-Dependent Uses

In general, uses licensed under the waterways program must either be water-dependent or "serve a proper public purpose, which provides greater benefit than detriment to the rights of the public in said lands."

Water-dependent use is defined in section 9.12(2) of the Chapter 91 regulations. In general, a water-dependent use is one that requires direct access to or location in tidal or inland waters, and therefore cannot be located away from said waters. A full definition of water-dependent uses can be found in the regulations. Among the uses defined as water-dependent are:

- Marinas, boat basins, channels, storage areas, and other commercial or recreational boating facilities;
- Facilities for fishing, swimming, diving, and other water-based recreational activities;
- Parks, esplanades, boardwalks, and other pedestrian facilities that promote use and enjoyment of the water by the general public and are located at or near the water's edge, including but not limited to any park adjacent to a waterway and created by a public agency;
- Aquariums and other education, research, or training facilities dedicated primarily to marine purposes;
- Aquaculture facilities;
- Waterborne passenger transportation facilities such as those serving ferries, cruise ships, commuter and excursion boats, and water shuttles and taxis;

- Dredging for navigation channels, boat basins, and other water-dependent purposes and subaqueous disposal of the dredged materials below the low water mark;
- Navigation aids, marine police and fire stations, and other facilities which promote public safety and law enforcement on the waterways;
- Shore protection structures, such as seawalls, bulkheads, revetments, dikes, breakwaters, and any associated fill which are necessary either to protect an existing structure from natural erosion or accretion, or to protect, construct, or expand a water-dependent use;
- Flood, water level, or tidal control facilities;
- Discharge pipes, outfalls, tunnels, and diffuser systems for conveyance of stormwater, wastewater, or other effluents to a receiving waterway.

DEP: In the case of a proposed structure which extends perpendicular to the shore, the Department shall require its placement at least 25 feet away from such abutting property lines, where feasible. 310 CMR 9.36(2).

Harbormaster Section 10A, Chapter 91

Pursuant to Section 10A of the Chapter 91 statutes, and Waterways Regulations 310 CMR 9.07, the placement on a temporary basis of moorings, floats, or rafts held by bottom-anchor, and any associated ramps, may be authorized by an annual permit from the local Harbormaster. No other Chapter 91 authorization is required for so long as the Harbormaster permit remains valid. (This provision only applies to bottom-anchored moorings, floats, or rafts. No piles may be placed without proper Chapter 91 authorization from the DEP.

US Army Corps of Engineers

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act establishes a permit program to regulate discharges of dredged or fill material into wetlands and other waters of the US. In tidal areas, "waters of the US" extend to the (spring) high tide line. The Section 404 permit program is implemented by the US Army Corps of Engineers. The National Marine Fisheries Service and Fish and Wildlife Service have advisory review role. In addition, Section 404(c) gives the US Environmental Protection Agency veto authority over the Corps' decision to issue a permit.

The Corps of Engineers cannot issue a Section 404 permit unless it determines that:

- 1) The proposed project is not contrary to the public interest. The general criteria for the public interest review are in 33 CFR section 320. The factors involving the public interest include economics, environmental concerns, historical values, fish and wildlife, aesthetics, flood damage prevention, land use classifications, navigation, recreation, water supply, water quality, energy needs, food production and the general welfare of the public.
- 2) The proposed project complies with the Section 404(b)(1) Guidelines. Section 404(b)(1) Guidelines are federal regulations (40 CFR section 230) that provide the environmental criteria to be satisfied before a Section 404 permit involving discharge of dredged or fill material can be issued.

The 404(b)(1) Guidelines prohibit discharging of dredged or fill material if there is a practicable alternative. An alternative is practicable if it is available and capable of being accomplished considering cost, existing technology and logistics, and overall project purpose. The Guidelines also require that the discharger undertake all appropriate and practicable mitigation measures to

minimize any potential harm to the aquatic ecosystem. The Corps' evaluation of a project under this standard progresses through the following stages: avoidance of impacts where practicable through the evaluation of alternative sites; minimization of impacts; and appropriate and practicable compensation of unavoidable impacts through wetlands creation or restoration.

Section 401 of the Clean Water Act requires a water quality certification from the state in which a discharge under a 404 permit will originate. The certification is that the discharge complies with the state water quality criteria.

Section 10 of the Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act of 1899 authorizes the US Army Corps of Engineers to regulate structures and work in navigable waters of the U.S. Jurisdiction extends shoreward to the mean high water line. Regulated activities include construction of piers and wharves, permanent mooring structures such as pilings, intake and outfall pipes, boat ramps, and dredging or disposal of dredged material, excavation, and filling.

ISSUE IDENTIFICATION

1. Increasing boat traffic in the Merrimack River.

The number of boats using the Merrimack River has increased significantly over the past decade as has the number of boating facilities. The increase in boats and facilities in all municipalities upriver of Salisbury has the potential to add congestion in Salisbury's portion of the river due to the town's location at the opening to the ocean.

A 2002 report about the facilities in the Merrimack River counted 16 marinas from Haverhill to Newburyport with a capacity of 3,400 boats. The number of boaters at Salisbury and Newburyport facilities was estimated at 1,800. In addition, the number of private floating docks has been increasing in the river. Concerns with this increase in boating include:

- poses a navigational safety problem
- diminishing of the quality of the boating experience in the river
- damage to natural resources such as wetlands

There are also issues associated with the large commercial charter and party boats operating in the river. As these uses proliferate, there is a commensurate increase in parking, traffic, and noise, and potential navigational conflicts that will need to be monitored and managed.

The following is an inventory of boating facilities in the Merrimack River:

Salisbury

Facility Name	Address	# Slips	# Moorings	Max Vessel Length	Water Depth MLW	Amenities
Cove Marina Inc.	35 Friedenfels	142	14	55'	15'	Electric and water hookups, ice, restrooms, showers, on-site mechanic
Ring's Island Marina (formerly Dawn)	16 First Street	Approx 120		40'	13'	Electric and water hookups, showers, restrooms, ice, ship's store, club room, winter storage, hauling.
Bridge	179 Bridge Rd	110		50'	15'	Electric and water hookups,

Marina						gas and fuel, marine store, boat hauling, ice, restrooms, restaurant, fiberglass repair, charter boats, tackle shop
Corbin's Boatyard	#4 2 nd Street					Dealer and boatyard

Newburyport

Facility Name	Address	# Slips	# Moorings	Boat Ramp(s)	Max Vessel Length	Water Depth MLW	Amenities
Cashman Park	Merrimack Street			2			Dinghy dock, fish pier
Joppa Flats Park	Water Street			1			
Hilton's Marina and Fishing Center	54 Merrimac Street				80'		electrical and water hookups and pump out; 85 ton lift Bait, tackle, ice, fuel (gas and diesel). Whale watching, fishing trips, dinner cruises
Boatworks at Newburyport & Newburyport Yacht Club	300 Merrimac Street	208					Winter storage, haul out, parking, clubhouse & pool
Ferry Landing Marine	346 Merrimac Street	180		1			outboard service. winter storage and winterization, bait shop
Newburyport Harbor Marina	51 Water Street		40				Fishing charters
Yankee Landing Marina or Carr Island Marina	386 Merrimac Street		24 (in Salisbury waters)				
Mackenzie's Channel Marker Marina	61 Water Street						
Merri-Mar Yacht Basin Inc	364 Merrimac Street		12 (in Salisbury waters)				Sales, Service, Boat Hauling, Storage, Full Marine Store, Engine Parts, fishing charters

Windward Yacht Yard, LLC	58R Merrimac Street, McKay's Wharf						boatyard
American Yacht Club	Water Street		50				
River's Edge Marina	126 Merrimac St						
Dockside Marine	356 Merrimac St		4 (in Salisbury waters)				Marine equipment and supplies
North End Boat Club	1 Mason Ave						

Haverhill

Facility Name	Address	# slips	# moorings	Boat ramp(s)	Max vessel length	Water depth MLW	Amenities
Lighthouse Landing Marina	3 Coffin Avenue						
Abbotts Marine Services Inc.	269 E Broadway						
Kazmiera Marina	72 Coffin Avenue						

Amesbury

Facility Name	Address	# slips	# moorings	Boat ramp(s)	Max vessel length	Water depth MLW	Amenities
Marina at Hatters Point	60 Merrimac St,	135			135'		Parking, restrooms and showers
Larry's Marina	14 Merrimac Street						
Mackenzie's Landing Marina	14 Pleasant Valley Road						
Lowell Boat Shop	459 Main Street						

2. Need for additional boating access facilities

Members of the Harbor Commission and the public have expressed the need to provide more access to navigable waters. The Salisbury Community Development Plan also includes in its action plan the following:

Although Salisbury has an abundance of waterfront, its boating access and dockage is quite restricted. Additional study should be made to identify ways to

increase the amount of dockage and mooring space, to create new boat ramps or 'put ins' wherever possible.

3. Concern with the number of /moorings floats in the river, from a navigation perspective.

4. Need for additional locations for recreational fishing.

The Merrimack River shoreline of the Salisbury Beach State Reservation is heavily used for fishing. The area around "The Toothpick," a navigational marker at the end of the jetty at the confluence of the Merrimack River and Black Rock Creek, is a popular and appropriate place for recreational fishing. Just to the east of The Toothpick is an area of remnant piles that would be a good location for an additional fishing pier.

5. Need for additional parking to serve the Town Pier on Rings Island; seek alternative parking location(s). Need for additional parking, in general, to support boat moorings

This issue was raised during the public meeting and also identified in the Salisbury Community Development Plan "parking at the Town Pier on Rings Island is a problem and alternate parking should be sought along, or adjacent to the Merrimack and its tributaries."

6. Establish a formal role for the Harbor Commission in planning, regulatory and capital investment decisions affecting the town's coastal land and water resources.

7. Improve coordination among the municipal boating-related regulations and enforcement activities.

8. Protect the natural resources of the coastal area.

9. Develop outreach material to inform boaters of the need to use pumpout services and why sewage degrades water quality.

Many government agencies, municipalities and organizations have developed pumpout outreach material in the past. The Town of Salisbury could use these to develop its own materials. The Urban Harbors Institute of the University of Massachusetts gathered examples of pumpout outreach materials as part of a study of pumpout services on the south shore of Massachusetts. The "*South Shore Vessel Pumpout Evaluation and Outreach Plan*" report can be found on the Institute's website (www.uhi.umb.edu/publications.htm). The examples of outreach materials are in Appendix 1.

10. How can river generate more revenue for the town?

11. Should the town develop and offer a community boating program teaching youth sailing and boating safety?

Most community boating programs are organized as nonprofit 501(c)(3) organizations whose missions are to provide free or low-cost access to sailing instruction and boating safety to anyone, typically with a focus on youth, and often incorporating life skills such as leadership, teamwork, and responsibility. Funds to support the programs come from a variety of sources including charitable donations (foundations, companies, individuals), municipal budgets, and mitigation requirements of waterfront development.

12. Dredging

The mouth of the Merrimack River requires dredging of shoal areas that reduce navigable depth to less than the federal channel's approved project depth of -12 feet MLW. A plan to dredge a 1500 by 400 foot area roughly between the north and south jetties and use the dredged sand to renourish Plum Island beaches has been developed by the U.S. Army Corps of Engineers, but funding remains uncertain.

13. Small boat facilities

There is a need for additional small boat and fishing access and facilities: docks, floats, launch ramps, and parking. Increasing access to the water is a challenge due to the prevalence of wetlands along the shorefront and limited number of suitable locations for parking and upland facilities.

GOALS AND OBJECTIVES

1. Provide and manage river and ocean access for water-related activity

- a. Identify public access points
- b. Develop a Boat Traffic Management Plan for the river
- c. Provide small boat access
 - Work to develop a small boat inland channel between the Merrimack River and the Hampton River.
 - Provide fishing locations
 - Determine the mooring capacity in Salisbury.
 - Improve launching facilities
- d. Maximize and preserve the Town mooring field as a public resource.

2. Promote safe boating

- a. Patrol presence
- b. Boater education
- c. Navigation channel improvements
 - Boating safety classes

3. Encourage water-related activities

- a. Public fishing from land
- b. Commercial fishing boat support features
- c. Community boating program
 - Aquaculture/clam flats

4. Harbor Management and Administration

- a. Coordinate Harbor Plan goals and objectives with Town plans and regulations
- b. Enforcement
- c. Intermunicipal coordination
- d. Financial

5. Maintain and improve the environment

- a. Repair jetties
- b. Produce hazardous material spill and containment plan
- c. Clean shore line
 - Eliminate pollution sources
 - Investigate inflows
 - Dredge
 - Flood control

RECOMMENDATIONS

The following recommendations and actions are designed to advance the plan's goal and objectives.

GOAL: PROVIDE AND MANAGE RIVER AND OCEAN ACCESS FOR WATER-RELATED ACTIVITY

Objective: Identify public access points

Recommendation: Identify access points for bird watching, hunting, fishing, walking, etc.

Objective: Consult with Newburyport and Amesbury in Order to Develop a Boat Traffic Management Plan for the river

Recommendation: Develop a traffic management plan to address issues associated with present volumes and projected increases in boating in the river. This will need to be coordinated with Newburyport, Amesbury and other up river towns.

A first task is to conduct a boat traffic study to quantify the number of vessels traversing the river per hour for representative times throughout the season and to establish the peak hours. Also make observations of boating origins and destinations, patterns and other conditions such as queuing for bridge openings.

Establish a 50-foot setback from the limits of the federal channel for purposes of small boat navigation. Coordinate with Newburyport.

Objective: Provide small boat access

Recommendation: Develop small boat access points at the small boat facility, MBTA property, and Rail Trail tide gate. Investigate small boat access at Blackwater River, Morril Creek, Salisbury Treatment Plant, and Town Creek.

Recommendation: Investigate the feasibility of creating a navigable connection (for small boats) between the Black Water River and Black Rock Creek connecting the Merrimack and Hampton Rivers.

Recommendation: Work with the Massachusetts Division of Fish and Wildlife to develop access to the water at Sweet Apple Tree Lane

Objective: Provide fishing locations

Recommendation: Utilize the Merrimack River shoreline of the Salisbury Beach State Reservation for recreational fishing. Work with DCR to promote the use of the parking area for fishing access in the off-season and, possibly, construct a fishing dock. Use of the railroad bridge over the Merrimack River should also be investigated

Objective: Determine the mooring capacity in Salisbury.

Recommendation: Determine the carrying capacity of the Salisbury's portion of the river for boat moorings and docks.

This has been started in the first phase of the harbor plan by cataloguing existing conditions representing both constraints and opportunities. The limits of the federal navigation channel (and setbacks), fairways, structures and moorings have been mapped along with water depths and other natural resource considerations. Areas with some potential for expansion of moorings have been preliminarily identified.

Action

During the summer of 2007, data was collected on all the moorings within the Town of Salisbury's waters of the Merrimack River. This data is currently being used to create Geographic Information System (GIS) layers that will be the basis of a comprehensive GIS-based mooring plan which will support the harbormaster in the management of moorings and help ensure optimal utilization of the space available for vessel mooring.

Objective: Improve launching facilities

Recommendation: Implement the methodology for site suitability and identify potential boating access sites.

Action

Site Suitability Analysis

The possibility of developing additional boating facilities or boating access sites in Salisbury is limited by a number physical and natural resource constraints. The Atlantic Coast between Salisbury Beach State Reservation and the Massachusetts – New Hampshire line is exposed to open ocean conditions and storms, making it unfeasible for boating facilities.

The Blackwater River has been suggested for additional boating access. The shallow depth of water limits the river to small vessels as does the clearance under the Route 286 bridge. A further challenge is the amount of wetlands bordering the river which limits access and the ability to develop facilities.

Consequently, the site suitability analysis focused on the Merrimack River waterfront from Black Rock Creek to the municipal boundary with Amesbury. The first step in the site suitability analysis was to disregard those waterfront properties that are entirely covered by salt marsh or whose waterfronts appear to be wetland (Map 1-32). In either situation, it is unlikely that municipal and state regulations would permit the development of anything but a modest launch area for small boats.

The Map 1-33 shows only those waterfront parcels that are largely free of vegetated wetlands or that have a portion of their waterfront that is not classified as wetland. These include:

- a number of properties adjacent to the Salisbury – Amesbury boundary;
- a number of properties on either side of the Route 1 bridge; and,
- the Salisbury Beach State Reserve on Black Rock Creek.

While these properties may be suitable for a boating facility, there are other restrictions that apply. The next step in the analysis looked at the property use for each of the parcels (derived from the Salisbury Property Assessment Data available online).

These properties had various uses and owners that influence their suitability (Map 1-34). The following uses were deemed likely to make the property unsuitable as a potential location for a boating facility:

- Residential (single family, two-family, multiple houses on one parcel, apartment or condominiums);
- Commercial businesses; and,
- Existing boating facilities (marinas and the Town Pier).

Discussions with management at the Salisbury Beach State Reservation suggested that there is little possibility of expansion of the facilities there and so they were deemed unsuitable.

Of two sites that have potential for boating facilities, the first is a narrow strip of land between the Route 1 bridge and the railway bridge (Maps 1-35, 1-36 and 1-37). The town recently secured a 99 year lease on this property from the MBTA and prepared a concept plan for boating support facilities that includes parking, canoe and kayak launch and dinghy docks. A permit application for this project has been submitted to the US Army Corps of Engineers and, pending approval, the site has been secured with a fence and gate.

The other sites that offer potential are close to the Salisbury – Amesbury boundary (Maps 1-38 and 1-39). The first is a small area that is classified as "Pasture" that is located on Poor Farm Road. This appears to have reasonable vehicular access and access to deep water. The major limitation appears to be that it is located at the opposite end of Salisbury than the mouth of the river.

Another possibility is the area shaded in red and classified as areas within vacant residential properties that cannot be developed. There are a number of limitations even with these. Firstly, access would need to be across a residential property to the northwest, which may not be feasible, or via the track that leads off Ferry Lots Lane. However, this area at the end of Ferry Lots Lane is used for hunting that, for safety reasons alone, may prevent the development of a publicly accessible boating facility.

The Rail Trail as it crosses the East Branch of Old Town Creek is another possible launch site for kayaks and canoes. Its limitation is the restriction on motor vehicles.

With any of these possible sites, there may well be other issues associated with them that may only be apparent to local residents.

Recommendation: Promote the use of the "old" launching ramp at Salisbury Beach State Reservation, which lacks a support dock and deep water, for use by kayaks, canoes, rowboats, and dories.

GOAL: PROMOTE SAFE BOATING

Objective: Patrol presence

Recommendation:

Objective: Boater education

Recommendation: Advocate for increased boater education programs and licensing. Support legislation for boater education and licensing requirements.

Massachusetts is one of only 13 states in the US that do not mandate boater education for all boaters. Currently in Massachusetts, boater education is mandatory (meaning that boaters must have passed at least a boating safety course before they may operate a vessel) in the following cases:

- youth aged 12 through 15, who wish to operate without adult supervision, a motorboat of any horsepower, pass a state and National Association of State Boating Law Administrators (NASBLA) approved boating course. They will then be issued a Safety Certificate which they are required to have in their possession when operating.
- youth 16 and 17 years of age who wish to operate a personal watercraft (PWC) must pass a state and NASBLA approved course approved for PWCs. They also will be issued a Safety Certificate which they must carry when operating.

The Massachusetts State Police website posts a current schedule of boater safety courses (www.state.ma.us/dfwele/dle/dlecours.htm). The course runs 10-12 hours in length; the normal format is 5-6 two hours classes.

Since 1990, Massachusetts law requires children under age 12 to wear an approved life jacket when underway (all personal water craft riders and water-skiers must do so as well).

Objective: Navigation channel improvements

Recommendation: Support the current plan to dredge the mouth of the Merrimack River.

Objective: Boating safety classes

Recommendation: Advertise boating safety classes in the Harbor Master's Administrative literature.

GOAL: ENCOURAGE WATER-RELATED ACTIVITIES

Objective: Public fishing from land

Recommendation: Explore the possibilities and design considerations for the construction of boardwalks in wetlands areas for public access to the river.

Objective: Commercial fishing boat support features

Recommendation: Provide convenient moorings and water/land transfer facilities.

Objective: Community boating program

Recommendation: Continue the outreach and training for youth in boat handling and water safety.

Objective: Aquaculture/clam flats

Recommendation: Explore the potential for aquaculture in municipal waters: identify physical (water quality) and regulatory constraints and opportunities.

GOAL: HARBOR MANAGEMENT AND ADMINISTRATION

Objective: Coordinate Harbor Plan goals and objectives with Town plans and regulations.

Recommendation: Amend the Town of Salisbury Zoning Bylaw, Subdivision Rules and Regulations, and Wetlands Regulations to require a referral to the Harbor Commission for advisory comments/recommendations on all applications for approval to conduct activities in, or on property abutting, the town's navigable waterways.

The town agency referral provision in section 300-41 of the Salisbury Zoning Bylaw provides a good model for implementing this recommendation. Also, the Harbor Commission is currently reviewing the process used by Newburyport with the aim of incorporating similar language into the Salisbury Harbor Regulations Bylaws.

Recommendation: Evaluate the type and density of future development possible along the waterfront under existing regulations. Recommend Master Plan or propose regulatory changes to reflect and incorporate objectives of the Harbor Plan.

Objective: Enforcement

Recommendation:

Objective: Intermunicipal coordination

Recommendation: Support greater coordination on boating-related issues among communities along the Merrimack River and state and federal agencies.

Convene a working group of harbormaster, harbor commissions, boaters, and others from the towns along the Merrimack River to consider the issue of a carrying capacity for boating in the river, operating regulations, night lighting, etc.

Objective: Financial

Recommendation:

GOAL: MAINTAIN AND IMPROVE THE ENVIRONMENT

Objective: Repair jetties

Recommendation: Coordinate with relevant agencies and the City of Newburyport on repair and use of the jetties.

Objective: Produce hazardous material spill and containment plan

Recommendation:

Objective: Clean shore line

Recommendation:

Objective: Eliminate pollution sources

Recommendation:

Objective: Investigate inflows

Recommendation:

Objective: Dredge

Recommendation: Work with the City of Newburyport and the Town of Newbury on needed dredging of the mouth of the Merrimack River. Support using dredged sand for beach nourishment by pumping sand on to barrier beaches. This proposal is consistent with the recommendations of the Massachusetts Coastal Hazards Commission (Preparing for the Storm: Recommendations for Management of Risk from Coastal Hazards in Massachusetts, May 2007) which identifies the use of offshore sources of sediment, such as sand dredged from tidal inlets, for beach nourishment as a priority nonstructural measure for controlling erosion and stabilizing shorelines.

Objective: Flood control

Recommendation: