

Harbor Management Plan

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~~AUGUST 2007~~
~~DECEMBER 2020~~

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TOWN OF EAST GREENWICH
RHODE ISLAND

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Adopted by the Town Council on ~~April 23, 2007~~

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Town Council

The East Greenwich Cove
Management Commission

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John M. McGurk, Vice President
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Cover Photo courtesy of Ray Johnson, a lifelong EG resident and photographer.
Hill Harbor Photo, 16 Hyland Avenue, East Greenwich, RI 02818

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Picture 1: Aerial View of Greenwich Cove, Southwest view (picture courtesy of CRMC)

Chapter I. Overview

Introduction

Greenwich Cove has changed dramatically since the mid-1600's. The pace of change was rapid in the 1980s. In that period, the number of recreational moorings and docks significantly increased, but has slowed in recent years as the Cove has reached capacity.

Use of the shorefront has also changed. What originated primarily as an industrial waterfront has been slowly evolving into an increasingly busy commercial area including such uses as private marinas, restaurants, retail stores and commercial shellfishing operations. There is also a significant residential community including single-family, multi-family residences and condominium housing units.

Further physical changes can be expected in the future as commercial incentives rise. Comprehensive planning is one method for anticipating the future requirements for harbor areas. By implementing a comprehensive harbor plan, a community sets the direction for preserving its natural resources, organizes traditional, water-dependent activities, and decides upon the appropriate amount and location of water-dependent development.

This Harbor Management Plan will examine the current condition of and project the needs for various activities of the harbor area. The Rhode Island Coastal Resources Management Council's (CRMC) harbor management planning guidelines offer a framework from which communities may develop a comprehensive harbor plan. Planning tools such as the Rhode Island Department of Environmental Management (DEM) standards for water quality, categories of CRMC water types, Federal Emergency Management Agency (FEMA) and local building regulations, and mooring configurations are available to implement community goals and objectives.

Definition and Purpose

The East Greenwich Cove Management Commission (EGCMC) was established in May 1987(East Greenwich Town Ordinance 514, 1987). The goal of the Commission is to establish and maintain policies and regulations for the Cove for the Town Council's adoption; to promote the health, safety and welfare of all those who use the Cove; and to preserve its natural resources for the future. Responsibilities of the EGCMC include the following:

- Develop regulations for boating safety, use of the cove, moorings, permits and fees;
- Identify, mark and work to maintain accessibility to public rights-of-way in conjunction with the policies of CTRMC;
- Establish the necessary procedures to implement decisions;
- Promote and coordinate activities which encourage improvement to the cove;
- Provide comments and recommendations to the Planning Department, Planning Board, Zoning Board of Review, Town Council or other entity on all public and private development proposals and any permit notifications from state agencies for activities in the area east of the Amtrak rail line.
- ~~There are seven members of the Cove Commission; the Commissioners represent commercial shellfishing interests of East Greenwich, recreational boaters and harbor area residents.~~

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A Harbor Management Plan (HMP) is a comprehensive document that: 1) identifies the issues associated within the harbor area; 2) suggests goals, objectives and policies for guiding public and private use of land and water in the defined harbor area; 3) provides an accurate inventory of both coastal and water resources of the Town; 4) sets forth an implementation program which specifies the strategies for achieving the desired patterns of use on and adjacent to the harbor. Within a harbor management plan, all major issues pertaining to land-side and waterside use, and the relationship among them, are addressed. Relevant technical information pertaining to water quality, navigational hazards, mooring inventory, Rhode Island Coastal Resources Management Program (CRMP) water use designations, current use inventory, and natural resource areas is collected and analyzed in developing goal and policy objectives. In addition, all harbor user groups, as well as the public, are actively involved throughout the planning process.

State Agency Authority

The submerged lands, coastal features and tidal waters of Rhode Island are under state ownership and jurisdiction. The state carries out several management and regulatory programs to protect the public interest in these areas.

The Rhode Island Coastal Resources Management Council (CRMC) is the state's primary agency for planning and management of coastal resources. The CRMC was granted jurisdiction over all activities taking place in tidal waters and along the coastline by the RI General Assembly in 1971. The enabling legislation that created CRMC also established the regulatory authority under which it operates; policies, procedures and regulations are laid out in the document entitled *Coastal Resources Management Program*, also known as the "Red Book."

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The Rhode Island Department of Environmental Management (DEM) has primary responsibility within the state for implementing the requirements of the federal Clean Water Act. Specific regulations and water quality standards are implemented through the DEM Division of Water Resources. Fin and shall fisheries are managed by the DEM Division of Fish and Wildlife.

Federal Authority

The US Army Corps of Engineers is the federal permitting authority for any work seaward of the mean high water line in all navigable waters of the United States. In Rhode Island, navigable waters include those subject to tidal influence. Under the Clean Water Act, the Army Corps must also approve the discharge of fill material into all federal waters. In coastal areas, this jurisdiction extends landward to the high tide line, or the landward limit of any wetlands, whichever is more extensive.

Authorizing State Legislation

~~Title 46, section 4~~ Chapter 4 (Harbors and Harbor Lines) of Title 46 (Waters and Navigation) of the General Laws of Rhode Island grants municipalities the authority to establish Harbor master ordinances and rules and regulations pertaining to the administration of their harbors. The objective of a Harbor Management Plan for Greenwich Cove is to provide a

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comprehensive long-term evaluation of the activities within Greenwich Cove; to provide for a comprehensive evaluation of current and/or proposed municipal harbor management programs; to establish ordinances or regulations consistent with applicable regulatory and management program requirements of the State of Rhode Island; and to promote the delegation of primary authority over consistent management programs and responsibilities to the municipalities.

§ 46-4-6.14. Town of East Greenwich – Powers conferred.

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(a) The provisions of § 46-22-14, or any other provisions of the general laws notwithstanding, and in addition to any authority and powers conferred upon the town council of the town of East Greenwich, authority shall also be granted to the town council of the town of East Greenwich to authorize for the appointment of a harbormaster and by ordinance grant such authority as the town council may deem necessary to the harbormaster for the enforcement and supervision of any ordinances, rules, and regulations governing the public waters within its jurisdiction, to regulate by ordinance the speed, management, and control of all vessels, both wind and power, and the number, size, type, location, and use of all anchorages and moorings within the public waters within the confines of the town including, without limiting the generality of the foregoing, the authority and power to prohibit waterskiing on any of the public waters, to provide for the regulation of skindiving and scuba diving, to designate upon a map of the public waters within the town the places where permanent or temporary moorings or anchorages may be maintained, to assign moorings, to remove moorings, to set and collect a fee for the use of moorings, to provide for minimum mooring specifications, to provide regulations for houseboats that are not self-propelled, to provide regulations for regattas, races, marine parades, tournaments, and exhibitions, to provide for the removal of wrecks or derelict or abandoned boats or docks, and to impose penalties for violation of the ordinances, not exceeding in amount one hundred dollars (\$100) or imprisonment not exceeding ten (10) days in some jail or house of correction, for any one offense, the fines to be recovered to the use of the town.

(<http://webserver.rilin.state.ri.us/Statutes/TITLE46/46-4/46-4-6.14.HTM>)

By creating a comprehensive harbor management plan, the Town of East Greenwich can create a vision for their harbor areas and establish mechanisms for achieving that vision. The harbor management plan will place the Town's harbor policies at the forefront of decisions regarding harbor development and protection and avoid the need to react haphazardly to each problem and project as it arises.

The East Greenwich Harbor Management Plan will provide guidance to the Town government, Boards and Commissions throughout the decision-making process of waterfront development projects. The HMP will also provide a reference to State decision making bodies reflecting the desires of the Town regarding coastal development and other proposed waterfront projects. ~~Upon adoption of the East Greenwich Harbor Management Plan by the Town Council and approval by the CRMC it will be integrated with the 2005, 2013 Community Comprehensive Plan.~~

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~~**Methodology The East Greenwich Harbor Management Plan**~~

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Planning History

The first Harbor Management Plan for the Town of East Greenwich, approved by CRMC in March 1995, was prepared by the E.G. Cove Management Commission, with assistance from the University of Rhode Island Coastal Resources Center. In 2007, the Town initiated a major update of the plan with the assistance from Kevin Cute of CRMC; this plan was approved on January 14, 2011 which replaced the original plan. -

The first step in this planning process was for the Cove Management Commission to meet and review issues and concerns affecting the Cove. The ~~1995~~ 2011 Harbor Management Plan was reviewed, edited and updated by the Cove Management Commission, Planning Department staff and CRMC staff which lead up to a public hearing by the Town Council. Coastal resources were inventoried, harbor boundaries were defined, and all relevant technical information pertaining to Greenwich Cove was collected. Drafts were developed based on the assessment of the technical information and the issues, goals and policies. Revisions were made to the drafts until a final harbor management plan was approved by the town. The town-approved harbor management plan was then sent to the CRMC for its approval.

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Contents of the Harbor Management Plan

The Harbor Management Plan is a comprehensive document which includes the following:

1. A description of the current physical and environmental conditions and uses of Greenwich Cove;
2. An identification of the issues associated with access to and uses of Greenwich Cove;
3. Goals and policies for guiding public and private use of Greenwich Cove and shoreline areas;
4. Recommended actions for the town to undertake to achieve the goals and policies relating to the following:
 - a. Water Quality
 - b. Public Access
 - c. Mooring Management
 - d. Storm Preparedness
 - e. Boating Safety & Navigable Areas
 - f. Fishing & Shellfishing Resources
 - g. Biological Habitats & Wildlife and Conservation Areas
 - h. Dredging within Greenwich Cove
 - i. Waterfront Development of Private and Town-Owned Property
 - j. Preservation of Scalloptown
 - k. Coordination of EG/Warwick Jurisdictional Responsibilities

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Local Enforcement and Planning

The East Greenwich Harbor Management Plan is supported by three local ordinances, those being Chapters 34 (Boards and Commissions), 93 (Fees) and 128 (Harbor Management) of the

Town Code. Chapter 34, Article I sets forth the establishment, responsibilities and authority of the EG Cove Management Commission. Chapter 93 provides the fee schedule for moorings while Chapter 128 sets forth the rules, regulations and policies for the administration of the portion of the Cove within the jurisdictional boundaries of the Town including the authority and duties of the Harbormaster, Harbor regulations and mooring regulations. As a town planning and policy document, the East Greenwich Harbor Management Plan is also referenced in, and compatible with the East Greenwich Comprehensive Community Plan and the East Greenwich Hazard Mitigation Plan.

~~contains a harbor ordinance setting forth the rules, regulations and policies for the administration of the portion of the cove within the jurisdictional boundaries of the Town of East Greenwich. Implementation of the Plan will occur through the enforcement of the East Greenwich Harbor Management Ordinance by the Harbormaster and other appropriate authorities. Additionally, changes in the zoning ordinance will be recommended in order to address the established goals and policies of the Town. Implementation will also occur through review of waterfront projects by the Cove Management Commission and other Town Boards and Commissions guided by the established goals and policies of the HMP. This consistency will be further maintained by all State agencies throughout their review process of any proposed waterfront projects.~~

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Figure 1 Ray Johnson Greenwich Cove



Picture 2: Aerial View of Greenwich Cove (provided by CRMI)

The general goals of this Harbor Management Plan are to:

- 1. Protect and enhance the unique ecological characteristics and natural beauty of Greenwich Cove;**
- 2. Provide for maximum public access to, and use and enjoyment of Greenwich Cove in an equitable and safe manner;**
- 3. Resolve conflicts among different Greenwich Cove uses in a manner which provides for the safe, managed and efficient use of the water and shoreline areas, consistent with the goals, policies and standards of the Rhode Island Coastal Resources Management Program (aka the Red Book).**

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The objectives to reach these goals are to:

- 1. Improve and safeguard the water quality of Greenwich Cove to ensure the use for public recreation, recreational and commercial fishing, and boating;**
- 2. Achieve a proper balance between the preservation of the living resources of Greenwich Cove, and the diversity and intensity of activities that come with it;**
- 3. Improve public access to Greenwich Cove;**
- 4. Establish and maintain defined mooring fields for the equitable and efficient distribution of private and commercial moorings without compromising public health and safety;**
- 5. Ensure that plans and procedures are in place to protect lives and property during severe weather events;**
- 6. Maintain a safe environment for boaters and all other users of Greenwich Cove by enacting and vigorously enforcing boating regulations;**
- 7. Take appropriate measures to prevent encroachment on the impairment of the local fin and shellfisheries, which are important historic and economic resources;**
- 8. Maintain and manage the unique features which create Greenwich Cove;**
- 9. Educate the public on the value of Greenwich Cove and the need for proper stewardship; and**
- 10. Identify action items to implement the goals of the East Greenwich Harbor Management Plan.**

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ENTITY	ACRONYM	LEVEL	RESPONSIBILITY
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Army Corps of Engineers	ACE	FEDERAL	<u>USACE regulates dredge and fill activities in waters of the United States, including wetlands. USACE also regulates the construction of any structures that affect navigable waters. Finally, USACE is involved in environmental restoration, wetlands conservation, fish and wildlife mitigation, and environmental protection.</u> http://www.nae.usace.army.mil <u>Permit all dredging and dock constructions.</u>
Coastal Resources Center (Affiliated with the URI School of Oceanography)	CRC	STATE	<u>Provide technical assistance to municipalities developing their Harbor Management Plan.</u> <u>Provides technical assistance to municipalities become more effective stewards of their marine resources—food, people, and place. To implement best practices, craft sound policy, and promote equitable governance, an interdisciplinary CRC team partners with stakeholders to apply science and promote innovation. CRC empowers communities by facilitating collaboration, advancing knowledge, building capacity, and providing management tools.</u> https://www.crc.uri.edu
Coastal Resources Management Council	CRMC	STATE	<u>Plan and manage coastal resources and the uses made of tidal waters.</u> <u>CRMC is responsible for coastal zone management—preserving, protecting, developing, and where possible, restoring the state’s coastal areas. CRMC jurisdiction extends from the territorial sea limit (3 miles offshore) to 200 feet inland from any coastal feature, such as a beach, but its jurisdiction may be larger for certain activities. CRMC regulates activities on coastal features and in coastal waters, such as aquaculture operations and dredging.</u> http://www.crmc.ri.gov
Coastal Resources Management Program	CRMP	STATE	<u>The management program for the state including such coastal resources as the tidal waters, shoreline, and fish and shellfish resources.</u>
Department of Environmental Management	DEM	STATE	<u>Implement the requirements of the Federal Clean Water Act, managing the living resources of the state’s waters, and overseeing federal and state land acquisition or open space programs. RIDEM’s mission is to protect, restore, and promote the environment to ensure Rhode Island remains a</u>

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			wonderful place to live, visit, and raise a family. <u>RIDEM assists individuals, businesses, and municipalities; conducts research; and enforces laws created to protect the environment. Among other habitatrelated activities, RIDEM manages Rhode Island's fisheries and wildlife; regulates activities in freshwater wetlands; conducts research and monitoring of fish, wildlife, and their habitats; and works to restore fish and wildlife habitat. RIDEM also regulates the possession, movement, and sale of animals used at aquaculture operations.</u> http://www.dem.ri.gov
Environmental Protection Agency	EPA	FEDERAL	<ul style="list-style-type: none"> <u>Mission is to protect human health and the environment. EPA works to ensure that Americans have clean air, land and water;</u> https://www.epa.gov Set water quality criteria and approving all discharges within all states' waters.
Food and Drug Administration	FDA	FEDERAL	Establish the water quality classification criteria followed by DEM Water Resources in deciding safe shellfishery water quality standards. <u>FDA sets allowable levels of contaminants in fish and shellfish for human consumption. Its sanitation standards for shellfish are the basis for state pollution closures of shellfish beds.</u> http://www.fda.gov
Federal Emergency Management Agency	FEMA	FEDERAL	<u>Helping people before, during, and after disasters.</u> Establish coastal areas subject to flooding, and extreme wave and fetch velocities during hazardous storms. https://www.fema.gov
Harbor Management Plan	HMP	LOCAL	<u>A municipal management program that guides the implementation of policies and programs outlining goals for the development of the tidal waters adjacent to a municipality.</u>

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Marine Fisheries Council	MFC	STATE	<p><u>Mission is to research and monitor marine species to support the effective management of finfish and shellfish of commercial and recreational importance.</u>Has regulatory jurisdiction over all fisheries and fishing throughout the state.</p> <p>http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/index.php</p>
<u>RI Emergency Management Agency</u>	<u>RIEMA</u>	<u>STATE</u>	<p><u>The mission is to reduce the loss of life and property for the whole community while ensuring that as a state we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all natural, human-caused, and technological hazards.</u></p> <p>http://www.riema.ri.gov/</p>
<u>U.S. Fish and Wildlife Service</u>	<u>USFWS</u>	<u>FEDERAL</u>	<p><u>FWS conserves, protects, and enhances fish and wildlife and their habitats for the benefit of present and future generations</u></p> <p>https://www.fws.gov/</p>

Chapter II. Harbor Description and Resource Inventory

History

The European/colonial settlement of East Greenwich resulted directly from the King Philips War of 1675-77. Following the defeat of the ~~Indians~~ Native Americans in 1676, the Rhode Island General Assembly founded the town of East Greenwich in 1677 in an attempt to reestablish its control over the territory. Some 500 acres were set aside near Greenwich Cove and divided into 50 house lots for a town center, while the remaining 4500 acres were divided into 50 large farm parcels. (Statewide Preservation Report K-EG- I, Rhode Island Historic Preservation Society, August, 1974, p. 4).

In its initial settlement period, East Greenwich was predominantly an agricultural community, with settlement concentrated on the farm parcels. These areas were accessible to the seaweed and fish used for fertilizer and the water transportation provided by the sea. In addition,

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the high water table of these lands provided farmers with a certain degree of protection from drought.

What is now the downtown area (east of Main Street, north of London Street and south of Division Street) was first surveyed in 1700 and fifty 1/4-acre lots were laid out. There were two shipyards, one on the Cove on the north side of Queen Street and the other at the foot of London Street. East Greenwich's population remained too small to attract imports, but the maritime trade of Newport created a demand for lumber products and even farm produce.

By 1765, East Greenwich's excellent harbor had begun to draw the colonists to mercantile rather than to agricultural pursuits. In 1770 the port of East Greenwich was laid out. In the succeeding four years, the population increased by one-third and the maritime industry flourished. By the time of the American Revolution, East Greenwich had a large coastal trade, mostly of fish products. There was also some slaving and other foreign trade.

As part of this harbor development, Division Street was rebuilt as a major highway into the countryside to enable farmers to bring their produce to port more conveniently. Running from east to west, from the waterfront to the courthouse on Main Street, King Street was the most important street in town because it provided easy access to the waterfront.

Rhode Island recovered quickly from the Revolution and East Greenwich mirrored this development. By 1790 it was the fifth most densely populated town in the state. At about this time, the limits of agricultural expansion and forest resources were nearly reached and the town was relying more and more on maritime endeavors for its economic base.

The village and harbor area developed quickly as East Greenwich became an established shipbuilding and rope-making center, as well as a fishing port. By 1770, East Greenwich had become the fifth-largest shipbuilding town in Rhode Island. The waterfront and the rope-walk area were the focal point of the town. The principal access to the town was by water. Coastal trade was maintained by sloops and schooners carrying passengers with freight. Prior to 1790, the part of King Street where the jail is located had been an open dock, but the town ordered that a wharf 100 feet long and 40 feet wide be built there to retard the filling in of the Cove from sediment washed down from the Street.



Figure 2Nock's Shipyard c.1910

With the Jefferson Embargo of 1808 and the subsequent War of 1812, prosperous foreign trade ended in East Greenwich. Shipbuilding declined so sharply that by 1820 only the fishing industry remained as a survivor of East Greenwich's once prosperous maritime economy. The advent of steam power introduced new activities to the East Greenwich waterfront in the wake of this maritime decline. Steam-powered textile manufacturing appeared in 1827 and is represented today by the Bay Mill of 1840 on King Street. In 1837 the town succeeded in having the Providence and Stonington Railroad routed along the waterfront, where passengers could connect with the various steamboats that docked at the town steamboat wharf. Large segments of the waterfront were turned over to coal yards, lumberyards and warehouses which continued to operate into the 20th century. Scalloptown occupied a distinct place in East Greenwich history for over a century and a half. Physically defined as the margin of shorefront on the east side of Rope Walk Hill, Scalloptown grew up in the first half of the nineteenth century as a haphazardly arranged community of shellfishermen who worked the waters of Greenwich Bay. The platted lots below Rope Walk Hill were granted by the East Greenwich Proprietors as "water" or "shore lots" to be used for "fishing purposes and wharfing" and marine railways (see Land Evidence Book 18, p.55, 113, 1867, and 1868). In addition to these official land transactions, there was a good deal of building on land below the mean high water mark, often by squatting on public property. In accordance with traditional Scalloptown practices, parties had only to raise a building on these lands to assume ownership.



Figure 3 East Greenwich waterfront etching, c.1850

By the turn of the nineteenth century, Scalloptown was a distinctive feature of the East Greenwich shorefront. In 1913, after several years of social work in the neighborhood, the Town Council condemned many of the houses, and a gradual withering away of the community followed. A fire in 1926 eliminated much of the remaining housing. However, Scalloptown never ceased being the center of the fishing industry on Greenwich Bay, and the shoreline remained lined by small shanties and boathouses where the fishermen stored their gear and shucked the shellfish for market. Other activities along the waterfront included boat-building and small operations like blacksmith shops where fishermen could have their tongs and other equipment made or repaired.







In 1934, Water Street was laid out from London Street to Long Street, completing the street in its present configuration (Land Evidence Book 18, p.55, 113, 1867, and 1868). The 1938 hurricane wreaked considerable damage in Scalloptown, destroying many of the buildings along Water Street. After the storm, the fishermen repaired many of their shanties, restoring Scalloptown to its customary appearance.

remaining structures have been restored and preserved.



Also bulkheading with large concrete blocks has created a high shoreline in place of the sloping beach that had formerly characterized the intertidal zone. This process, and the gradual process of erosion, increased the amount of land at the base of Rope Walk Hill. In 1988, the Rhode

Island Department of Transportation widened Water Street which resulted in a significant reduction of the lots directly east of Water Street. Despite these changes, Scaloptown is still functioning as the center of shellfishing in Greenwich Bay. With its surviving shanties, it constitutes one of the most important illustrations of the history of commercial fishing in Rhode Island.

East Greenwich today retains a large portion of the physical evidence of its past. In downtown East Greenwich, the significance of the waterfront was described by the Rhode Island Historic Preservation Society as one of the three historic features of paramount importance to the town. Since 1974, the waterfront has been listed on the National and State Registers of Historic Places as part of the East Greenwich Historic District. Together, the waterfront, the street pattern and a high concentration of the eighteenth and nineteenth century buildings form a highly urban matrix protected by locally initiated historic zoning (see HDC Map #1). The area has a high potential for significant archaeological resources as well.

The historic port area of East Greenwich is a fine example of the architectural, social and historical development of a Rhode Island seaport town. More than one-third of the buildings surveyed in the Hill and Harbor district have high architectural significance. The port area is also well located as a regional center. Housing is available both near the Bay and within easy commuting distance of major Rhode Island cities and employment centers.

Projections of Future Growth

Greenwich Cove is one of the smallest and busiest areas of boating within the state. Some of the existing land uses on the waterfront include the East Greenwich Yacht Club; extensive docks and mooring field; three marinas; four restaurants; and the viable shell-fishing industry which make the area one of the most desirable locales for boating. If not managed properly, the finite coastal resources in Greenwich Cove could become endangered. The waterfront area can be considered built-out but as the popularity of the area grows so will the boat traffic that could result in serious boating safety and navigational problems. A concern of users of the Cove, both for recreational and commercial shellfishing is the water quality resulting from the increased demand in moorings and docking facilities.

During the 1980s, the growth rate for all commercial and recreational slips and moorings in the waters of Rhode Island had been over 75%. This increase in the moorage for the recreational boater has led to great concern by many communities over the current management of their waters. An attempt to analyze this growth pattern is one aspect in the formulation of a municipal harbor management plan.

A 1987 study and a 1988 CRMC recreational boating survey document the increase in the number of moorings within the cove; 277 was the total number of moorings in 1978, and 413 moorings had been documented for 1988; the number of moorings increased significantly from 1978 to 1988. In 2005 there were 385 slips and 420 moorings. The potential for further growth is limited given the limited shore side facilities and boating congestion already evident in the

Cove.

Physical Setting

Greenwich Cove is the largest, deepest and most sheltered of the coves on Greenwich Bay, forming a well-used natural harbor. The Cove is also considered one of the richest seedbeds for quahogs in Narragansett Bay. The East Greenwich shoreline is used for residential, commercial and municipal purposes including condominiums, marinas, the municipal boat launch, restaurants, wastewater treatment plant, and fish processing concerns. In addition to the current uses there is also the former municipal landfill, one of the last remaining vacant parcels on the waterfront. The remainder of the Cove is undeveloped, and is a valuable environmental resource providing important habitats for fish and wildlife. The extreme southern portion of the Cove is very shallow and only navigable at high tide.

For the purposes of this Harbor Management Plan (HMP), the political boundaries of Greenwich Cove are described in the section “Harbor Boundaries.”

CRMC Water Type Designations

Greenwich Cove currently consists of CRMC water Types 1 and 5. Type 1 waters include one or more of the following: (1) Water areas that are within or adjacent to the boundaries of designated wildlife refuges and conservation areas, (2) water areas that have retained natural habitat or maintain scenic values of unique or unusual significance, and (3) water areas that are particularly unsuitable for structures due to exposure to severe wave action, flooding, and erosion (RICRMP, Section 200.1.A). Type 5 waters are those found adjacent to waterfront areas that support a variety of tourist, recreational, and commercial activities (RICRMP, Section 200.5.A). The boundaries for Type 5 (Commercial and Recreational Harbors) have been designated as a straight line from the northerly limits of East Greenwich’s jurisdictional water boundary at Division Street to the tip of Long Point at Goddard Park. Type 5 waters continue to Type 1 (Conservation Areas) waters which have been designated as a straight line running due east from the southern property line of AP 3 Lot 245 (Town Dock lot) across Greenwich Cove to where it intersects with land at Goddard State Park (See Map #2). Except where otherwise noted, the water use classifications along any shoreline and between any two boundary line designations run parallel to the shore and extend 500 feet seaward from the mean high water mark (See Map #2).

The CRMC’s goal is to preserve and protect Type 1 waters from activities and uses that have the potential to degrade scenic, wildlife, and plant habitat values, or which may adversely impact water quality or natural shoreline types [RICRMP, Section 200.1.C(1)]. For Type 5 waters, the CRMC’s goals are to maintain a balance among diverse port-related activities, including recreational boating, commercial fishing, restaurants, and other water-enhanced businesses; to promote the efficient use of space; and to protect the scenic characteristics that make these areas valuable to tourism [RICRMP, Section 200.5.C(1)]. The highest priority uses

of Type 5 waters and adjoining land areas within Council jurisdiction are (a)berthing, mooring, and servicing of recreational craft, commercial fishing vessels, and ferries; (b)water-dependent and water-enhanced commerce, including businesses catering to tourists;(c) maintenance of navigational channels and berths, and removal of obstructions to navigation; and (d) activities that maintain or enhance water quality and scenic qualities, including the preservation of historic features. The Council shall suitably modify or prohibit activities that significantly detract from or interfere with these priority uses (RICRMP, Section 200.5.C (2)).

Harbor Boundaries

For the purposes of the Harbor Management Plan, the Harbor District is the area subject to the jurisdiction of this plan. This district is defined as the northerly boundary originating at stone monument “A” on the northerly side of Division Street at or near Greenwich Cove. The line runs easterly along the extension of the boundary line as referenced in the above described to the centerline of Greenwich Cove, thence running southerly and southwesterly along the centerline of said Greenwich Cove as it meanders in a general southerly and southwesterly direction to its intersection of the mouth of the Maskerchugg River up to Post Road (RIGL of 1986, Chapter 354). The Harbor District is defined as the water as described above and the land east of the railroad tracks delineated by mean high water mark (See Map #3).

Water Depth

The water depths in Greenwich Cove are delineated in the attached NOAA charts 13224 and 13221. The average depth of Greenwich Cove is six feet and becomes extremely shallow (one to three feet) at the southern portion of the cove. A channel of approximately eight to ten feet in depth runs down the length of the cove within East Greenwich’s jurisdiction (See Map #4).

Water Quality

In 1975, the Rhode Island Department of Environmental Management established a set of water quality standards for the waters of Greenwich Cove. These standards guide regulation of uses which may potentially alter the ability of a water area to support specific uses. Greenwich Cove has been designated as “SB1”and “SB” (RIDEM 2000). Areas of Greenwich Cove north of Long Point and west of a line extending from the northerly point of Long Point to the southerly point of Chepiwanoxet Peninsula are designated as “SB”. These waters are designated for primary and secondary contact recreational activities; shellfish harvesting for controlled relay and depuration; and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall also have good aesthetic value. Areas of Greenwich Cove south of Long Point are designated as “SB1”, which provides for primary and secondary contact recreational activities and for fish and wildlife habitat. These waters shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall also have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharge.

Flood Zones

The 1983 FEMA maps do not depict areas of extreme fetch or wave velocities within Greenwich Cove (See Map #5).

Federally Maintained and Navigable Channels

There are no federally maintained and navigable channels within Greenwich Cove. All water areas within the bounds of channel markers, as depicted on U.S. Department of Commerce Charts #13224 and 13221 (1990), are considered navigation channels, and are classified as 3, 4, 5, or 6 waters, by the CRMC, as appropriate. While there is a commonly used fairway adjacent to the mooring area within East Greenwich's jurisdiction of the cove, there is no formally designated channel (See Map #6).

Turning Basins, Anchorages and Special Anchorage Areas

There are no turning basins, anchorages or special anchorage areas within Greenwich Cove.

Dredged Areas

The only dredged areas located in Greenwich Cove include what is now the channel from Greenwich Bay into the Cove. The project entailed the straightening and deepening of the channel from Greenwich Bay to the Town of East Greenwich, so as to secure a channel 10 feet deep beginning at Long Point and extending to the southern end of the cove. The length of the channel measured 500 feet. Under CRMC regulations, dredging is restricted to Type 5 water areas of the cove and those areas located around marinas. However, there will be no dredging projects south of the town boat ramp to the southern portion of the Cove. This area has been designated as "Type 1" waters by the CRMC, and dredging is a prohibited activity (Rhode Island Coastal Resources Management Program, as Amended 1983, p. 39) (See Map #6). There has not been significant dredging in the Cove for the past few decades. Construction of the current boat ramp resulted in 20-30 yards of bottom sediment being removed to make a base for the new ramp.

Coastal Resources

Wildlife and/or Conservation Areas

While there is no formally designated wildlife refuge within the Type 1 waters of the Town, there are natural conservation areas and an extensive wildlife population. The abandoned land fill and Type I waters of the southern portion of the Cove, as designated by CRMC, are specific areas set aside for wildlife, conservation and passive recreation, and are under the jurisdiction of the town of East Greenwich. On January 4, 1994 the Town Council placed an Open Space and Conservation Easement on the "Former Town Landfill." The easement protects the area from any "building thereon and further preventing the removal of soil, trees, vegetative clear cutting and other natural features." (Book 186 Page 360) Goddard Park, on the east shore

of Greenwich Cove, is under the jurisdiction of the state of Rhode Island. In addition, there are currently no formally designated public or private reserves, natural areas identified through state studies or programs, or areas used intensively for scientific research with in Greenwich Cove.

Fish and Shellfish Resources

Greenwich Cove is classified as a shellfish management area by the Department of Environmental Management's Division of Fish and Wildlife, and is included as a part of the Greenwich Bay shellfish management area. Greenwich Cove has played a particularly important role in providing quahog seed to the Greenwich Bay fishery. Greenwich Cove is closed to shellfishing for human consumption due to the unsanitary condition of the Cove. Although these Greenwich Cove shellfish are not certified for harvest and direct consumption, they fulfill an important ecological function. It has been a long accepted hypothesis that larvae spawned from Cove quahogs are set in the western areas of Greenwich Bay.

Greenwich Cove participates in an annual quahog transplant program which also includes Apponaug Cove. The whole program transplants in May an estimated 600,000 to 800,000 pounds of quahogs from high-density areas to shellfish management areas. The annual quahog transplant program serves to cultivate the resource of Greenwich Cove by harvesting over 200,000 pounds of adults. According to Gail Mastratti of RIDEM, on May 10, 2006 116,700 pounds of quahogs and on May 17, 2006 128,600 pounds of quahogs were harvested from the Cove and transplanted to the Higher Banks Management Area, Potowomut Management Area, and the Potowomut Spawner Sanctuary. This action provides space for the future generations, and prepares the bottom substrate to receive new larvae. The value of the quahog resource in Greenwich Cove is in its function as a brood stock. Maintenance of existing water quality or, improvement of it will perpetuate this resource (See Map #7).

Other Fishery Resources

The Cove provides habitat for a wide variety of marine and estuarine species such as: American Eel, Winter Flounder, Menhaden, Bluefish, Striped Bass, Squeteague, and White Perch. These species utilize the Cove for a variety of biological functions during their appropriate seasons. Anadromous species, such as Alewives, also inhabit Greenwich Cove. There are no known anadromous fish runs in the Cove, however the RI Division of Fish and Wildlife (Freshwater and Anadromous Fisheries Section) believes there may be a small run at the lower Masachaug River at the head of Greenwich Cove. Local development of fisheries (recreational and commercial) has not reached its potential due to conflicting uses. Fixed gear would create navigation hazards, and most likely would be vandalized. A certain amount of rod and reel fishing does exist.

Biological Habitats

Coastal wetlands are found mainly in the southern portion of the cove near the Maskerchugg River outlet, with intertidal flats occurring at extreme low water. The Warwick

side of the lower Cove has extensive coastal wetlands, which also occupy much of the coast further north to the mouth of the cove at Long Point Submerged Aquatic vegetation is very scarce with in Greenwich Cove due to historic water quality issues. Only two species of submerged aquatic vegetation are native to Narragansett Bay, these include eelgrass (*Zostera marina*) and Widgeon grass (*Ruppia maritime*). Based on prior studies there is no eelgrass within Greenwich Cove, and it is believed that there is little to no Widgeon grass.

Current Uses

Harbor Structures

There are currently 385 slips divided among seven boating facilities and 11 shellfishermen docks (“Scalloptown”) located in Greenwich Cove within the jurisdiction of East Greenwich. Rental transient boating slips are provided by the East Greenwich Yacht Club. In addition, during winter months the EGYC slips are made available for public rental including shellfishermen (See Map #8). In addition, there are no private, public or commercial boatyards and no boardwalks. To date, there is one registered private residential dock in Town located at 100 Rocky Hollow Road.

Mooring Areas

There are currently 111 existing moorings permitted by the Town of East Greenwich. Of these, 25 are maintained by the East Greenwich Yacht Club and an additional 10 are permitted to commercial users, the remaining moorings are permitted to individual users. Additionally, the City of Warwick regulates approximately 198 commercial and 112 private moorings within Greenwich Cove, totaling 310 moorings within Greenwich Cove. The Town of East Greenwich currently maintains a mooring waiting list of approximately 70 names on a first-come, first-served basis.

The East Greenwich waiting list, as of ~~September 15, 2020~~, ~~May 15, 2006~~, is divided as follows:

In-Town Waiting List: ~~12~~0

Out-of-Town Waiting List: ~~56~~10

Commercial Waiting List: ~~2~~12

Transient boats are provided rental moorings by the East Greenwich Yacht Club on a space available basis to the public. Additional rental services are available at adjacent marinas in the cove.

In July 2005 the mooring field in Greenwich Cove was tracked by GPS. The following seven corner points delineate the mooring area (See Map #8):

East Greenwich Mooring Field Coordinates (State Plane Feet 83)

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POINT	EASTING (X)	NORTHING (Y)
1	341580	207517
2	341813	207346
3	343468	211605
4	343519	211608
5	343571	211609
6	343721	211616
7	343571	210481

The mooring field is bisected by the fairway in the northern section of the Cove. A permanent landmark that is visible from these points is Doyle Sails which is located in a red brick factory building. The Harbourside Restaurant, located at the end of Queen Street is a permanent landmark which can be seen from Point 7. At the southern end of the mooring field, where points 1 and 2 are located, a permanent landmark that can be viewed from these points is Anderson's Marina. The mooring field has been calculated to be 34 square acres by CRMC.

Residential Docks/Wharves

Currently there is one residential dock in Greenwich Cove, located at 100 Rocky Hollow Road on Plat 3, Lot 271.

Shoreline Access Points

Pedestrian access to the cove along the waterfront is accommodated by ROW's (street ends) at Long, King, and London Streets, Rocky Hollow Road, Bridge and Division Streets. Four waterfront restaurants have built access ways to the cove with permits from the Coastal Resources Management Council provided the decks are available to the public. **(Insert new pics of Long & Rocky Hollow ROWS)**

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Picture 3: (Long Street Right of Way)



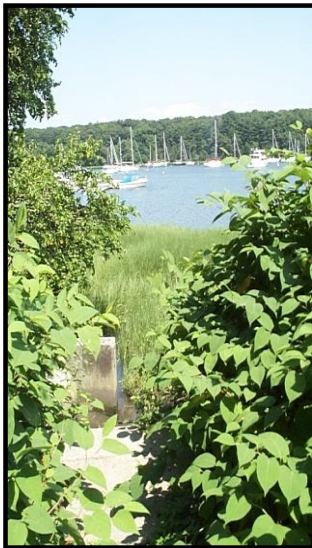
Picture 4: (Rocky Hollow Road Right of Way)



Picture 5: (Division Street Right of Way)



Picture 6: (Bridge Street Right of Way)



Picture 7: (London Street Right of Way)



Picture 8: (King Street Right of Way)

The town-owned land at the sewage treatment plant and municipal boat dock retains frontage on the cove that is accessible to the public. The recent improvements to the Barbara Tuft's Playground (land south of London Street) and the boat ramp provides additional public access. The former landfill will create additional public access opportunities (See Map #9).

Recreational Areas

Of the existing recreational areas of the Cove, one is located at the end of Division Street and consists of a couple of park benches with minimal parking available. The Barbara Tufts Playground, a recreational area located at A.P. 3, Lot 24, consists of playground equipment, park

benches and some parking. Two other recreational facilities include a public boat-launch ramp and the town dock (See Map #9).

The Town also owns 13 acres of land at the southern end of the cove at the site of the former landfill. This site is the planned location for an off-road bike path as an extension of the on-road bike path on Water Street and Crompton Avenue and will bridge the Maskerchugg River on its way to Goddard State Park, a state owned facility. Additionally, the site will be used for passive recreation; it is currently in the process of being capped under the RIDEM voluntary landfill capping program. Goddard State Park, is located across the water on the eastern shore of the cove. Although not in East Greenwich's jurisdiction, a state owned public boat ramp is located in Goddard Park directly across the cove from the Town's municipal dock (See Map #10).

There are currently no designated swimming areas, public beaches, or windsurfing areas within Greenwich Cove.

Waterfront Area

Existing land use in the waterfront includes the East Greenwich Yacht Club with its large areas of parking and boat storage, extensive docks and mooring field; four restaurants with liquor licenses; several offices (some of which are waterfront related); two buildings housing institutional functions (one of which is the restored jailhouse and the other in a complex of townhouses); commercial shellfishing operations, several marinas, seasonal docks, the "Harbor Mill Condominiums," a large multi-unit condominium complex; a large geographically isolated district of historic single-family homes; a sewage treatment plant; several street and access ways; a former landfill (in the process of being capped) and a developed municipal park (a boat ramp), a commercial clam shell business, several marinas, retail sales, and seasonal docks. Additionally, there is the Veteran's Firemen's Association, a piece of property located along the waterfront. There are multiple paved and unpaved parking lots, particularly between London and Division Streets. Greenwich Cove is predominantly used by recreational boaters and shell fishermen.

Shoreline Zoning Districts

The East Greenwich waterfront is currently zoned as Commercial Highway (CH), Waterfront (W), Light Industry and Office (LI/O), Commercial Downtown (CD-1), Residential (R-10), and Planned Development (PD). The town's zoning ordinance restricts these areas by imposing standards for minimum lot size and street frontage, maximum lot coverage by structures and building heights, and front, side, and rear yard setbacks. The purpose of the Commercial Highway district is to provide for those uses which generate a high amount of vehicular traffic in a manner that is safe and efficient. The Waterfront district provides for water dependent and water-related uses along Greenwich Cove, and limits other uses. The Light Industry and Office district provides for low density, low impact industrial and office park development. The Commercial Downtown district (CD-1) permits multiple uses that promote the active use of East Greenwich's downtown area and to promote safe vehicle and pedestrian movement. The Residential (R-10) district has a minimum lot size of 10,000 square feet and is

designated to provide for medium density residential development within the town. The Planned Development district is a designation that allows for residential land uses through environmentally sensitive design on a single parcel (See Map #11).

The Future Land Use Map in the East Greenwich Comprehensive Community Plan calls for waterfront usage along the Cove. The plan recommends that the zoning be amended to designate the area as a special waterfront zone specifying permitted uses as water dependent with restrictions (See Map #12).

CRMC RECREATIONAL BOATING FACILITIES SURVEY

Marinas and Boatyards:

Location and Slip Capacities, November 2005

<u>East Greenwich/Greenwich Cove</u>	<u>Slips/Moorings</u>
1. Greenwich Cove Marina	30/3
2. Harborside Lobstermania	12/0
3. EG Marina	74/0
4. Milt's Marina	17/0
5. EG Yacht Club	60*/25*
6. Harris Marina	57/0
7. Anderson's Marina	21/0
8. 110 Rocky Hollow Road	5/0
9. 100 Rocky Hollow Road	14/0
10. Aud War Realty	0/2
11. The Yacht Shop	0/1
12. NE Yacht Rigging	0/1
13. RI Mooring Service	0/1
14. Rhode Island Clam	2/0

15. Scallop Fishermen Docks (Scalloptown)	93/0
16. Town of East Greenwich residents	0/53
17. Out of Town (non-residents)	0/22
18. Scott Leigh	0/1
19. Richard Poirier	0/1
* located within East Greenwich jurisdiction	
TOTAL:	385/110

Chapter III. Issues, Goals and Policies

Issues, Goals, Policies and Recommended Actions

In preparing the harbor management plan, the Cove Commission identified and assessed all significant harbor-related issues, problems, and needs which are to be addressed through the harbor management planning process.

The issues addressed in the 1988 Harbor Management Plan were originally developed as a result of: an opinion survey of residents conducted in 1986 by Alpha Research Associates; an environmental assessment of the Hill and Harbor District (one section was devoted to study of the Cove) completed in 1986 by the University of Rhode Island Graduate Program in Marine Affairs, and the results from discussions with the Citizens Advisory Committee over a series of meetings during the development of the 1988 Comprehensive Plan. Using the information obtained in the preceding stages of the planning process, the East Greenwich Cove Commission developed goals for the use, preservation and development of the Cove. Such goals indicate what should and should not occur within the Cove and provide direction for the implementation of the harbor management plan. The Town's goals address the previously identified issues and needs within the framework of existing conditions.

~~In 2003 the Town Manager had a Town wide survey conducted. The Planning Department then compared the 2003 survey with a 1986 town wide survey. In 1986, 68 percent of respondents were of the opinion that shoreline access was important whereas the 2003 survey showed 86.3 percent of respondents felt waterfront access was important. However, the response rate for the need to monitor the waterfront dropped from 85 percent to 70.8 percent. Still a significant response, but the drop off could be a result of the Town's improved response to activities there. In 2003 the Planning Department asked if the waterfront was a preferred location for industrial development; only 3 percent agreed; the lowest positive response out of 7 possible choices. This question was not asked in 1986 (East Greenwich Planning Department 2003).~~

1. Harbor District Development Review Process

Issue: The Town of East Greenwich, in particular its harbor use and waterfront development, has a substantial impact on the environmental quality of East Greenwich Cove. The conditions of the Cove also have an impact on surrounding communities, preserves and other estuarine environments (i.e. Greenwich Bay and indirectly Narragansett Bay).

Goal

In order to preserve and protect the natural character of the Cove for the pleasure, education and welfare of the residents of East Greenwich, the Cove Management Commission shall review all major land development as defined in local regulations ~~development~~ which may have an impact on the Cove. In order to ~~enhance the quality of the review process~~ help the Town avoid any negative impacts associated with new development, the Cove Commission shall be notified of any such public or private

~~construction and~~ development which may occur on parcels on or east of Water Street and Crompton Avenue anywhere within the area east of the Amtrak rail lines.



Policy

The Cove Commission shall review all plans for major projects, including those for calling for any alteration, construction, repair, removal or demolition of a structure or accessories

~~of a structure within this area of Town and shall make a recommendation to the appropriate regulatory Board, Commission or the Town Council.~~

Recommended Actions

The appropriateness of the general design, arrangement, texture, material and siting proposed in the plans shall be addressed by the Cove Commission to the Town Council, Town Planning Department and/or Planning Board, as appropriate. In reviewing applications for development, the Cove Commission shall ~~also~~ give consideration to the appropriateness of the residential or commercial use with regards to the character of the Cove. The Cove Commission shall review the application and will issue all of its recommendations in writing and shall articulate ~~and findings and explain the reasons for and basis of each recommendation, within the document.~~ The Cove Commission shall forward a copy of the recommendation to the appropriate Town body. Complete plans, all maps and other data (information which is necessary to evaluate the proposed construction, alteration, repair, removal, relocation or demolition) shall be forwarded to the Cove Commission through the Planning Department, within the appropriate timelines established for Planning Board, Zoning Board of Review or Historic District Commission, as appropriate.

2. Commercial Shellfishing

Issue: Redevelopment pressures along East Greenwich's waterfront, the lack of permanent docking facilities and the absence of shorefront land dedicated to use or owned by commercial shellfishing interests threatens the continued presence and viability of this traditional activity along the waterfront.

~~**Historically,** fishing has been an important activity since East Greenwich's earliest days. Shellfishing, principally of quahogs, has been is a viable, traditional economic activity with a base of operations primarily centered near the corner of London and Water Streets. Currently Over ~~100~~ ????? quahog skiffs are operating out of Greenwich Cove down from (insert #) in years past. Several marinas along the East Greenwich waterfront have designated slips for shellfisherman and parking for the shellfishermen is generally on private property and allowed on the Town's upper parking lot. The fishermen fear eventual displacement from the waterfront as a result of the demand for continued waterfront commercialization and development (~~opinion survey of residents conducted in 1986 by Alpha Research Associates~~). Additionally, shellfishermen do not have a permanent land base. Their existence may be jeopardized by CRMC mooring regulations and changes of ownership and land use of waterfront dock and mooring facilities. The economic vitality of this traditional and valuable water dependent use is subject to influences which can be minimized by policy that ensures the retention of docking facilities and supporting land use (East Greenwich Comprehensive Plan 2005).~~

~~A public opinion poll in 1986 showed 89 percent of respondents identified the need to protect commercial shellfishing and to provide shellfishermen with a place to do business in the Cove; the response rate for the same question in 2003 dropped to 69.3 percent.~~

The shellfishing industry is a historical feature of the waterfront and lends traditional character to the waterfront area and contributes to a diversified economy and employment pattern which ~~will~~ benefits the town in several non-economic ways besides serving the shellfishing community beyond East Greenwich itself.

Goal

It shall be the goal of the Town of East Greenwich to adopt policies and take actions to ensure the continued viability ~~and promote the revitalization~~ of the historically and economically important shellfishing industry along the Town's waterfront.

Every effort should be made to ensure that commercial shell fishing has a permanent home on the waterfront within the Town of East Greenwich. ~~Continued w~~Wharfage and parking for shellfishermen should be provided. All docks and mooring tackle must meet CRMC requirements. Every effort should be made to ensure that this industry not decline. In negotiation with waterfront developers and landowners, the Town should work to develop policies and programs designed to preserve this unique and traditional character and to secure wharf spaces for shellfishermen. Federal and state grants and matching funds should be researched to help finance the development of docks for these purposes.

Policy

It shall be the policy of the Town to undertake every appropriate effort to ensure the continued presence and viability of the shellfishing industry within the Town.

It shall be the policy of the Town to promote an appreciation and understanding of the value of the Town's historic shellfishing industry and maintain that as being East Greenwich's identity as a center of historic and cultural assets.

Recommended Actions

In order to achieve its stated goals, and to implement its policy concerning the preservation and protection of the shellfishing industry within Greenwich Cove, the following actions are recommended:

1. The Town shall develop policies and amendments to existing development controls, as appropriate, to require and promote the preservation of the wharfage and parking facilities for the shellfishing industry during the review and regulation of new waterfront development or redevelopment subject to the jurisdiction of the Town of East Greenwich and this Harbor Management Plan;
2. The Cove Management Commission shall review, and submit recommendations concerning proposed waterfront development projects to the appropriate review board within the Town; such recommendations will assess the consistency of the proposed development or redevelopment project, zone change or other action with the goals and policies of this Harbor Management Plan; such recommendations shall also be submitted to the Rhode Island Coastal Resources Management Council for their consideration;

3. The Town should investigate and pursue participation in any available federal, state or private grant and/or funding programs which may be applicable for use in the acquisition of shorefront land, development, construction and maintenance of wharfage, parking and other support facilities; all facilities constructed under municipal sponsorship shall be in accordance with any applicable state and local regulatory requirements.

3. Public Access

Issue: Public access to the Cove needs to be improved; in particular, more public parking spaces are needed in order to provide quality access opportunities for the public.

Consistent with the Rhode Island Coastal Resources Management Program and the ~~2005~~ 2013 Comprehensive Community Plan, the Town needs to preserve, protect and improve public access to the cove. These areas would provide places for East Greenwich residents to enjoy the cove. There are two elements involved with the definition of public access: lateral and perpendicular access. The concept of lateral access refers to movement along the shore. Perpendicular access involves getting to the shore. A broader definition of access includes the concept of “visual access” or the ability to view the coastline and water from various vantage points, some of which may be physically remote from the shoreline itself (See Map #13).

~~Public opinion indicates that nearly 86 percent of the residents surveyed view that there must be the availability of public access to the cove. When asked if public access should be limited, 94 percent of residents believe that preserving parks and open space is important (2003).~~

~~Scalloptown Park, a now capped former waterfront landfill, is an almost 13 acre passive recreation Town owned property located on the southern portion of Greenwich Cove. The parcel offers spectacular public waterfront access, bike trails, fishing, park benches, plentiful parking, picnic tables, and walking trails.~~

~~Installed in 2018 primarily from grant money was a handicapped accessible kayak and canoe dock located at the northern end of Scalloptown Park with a kayak rack to be constructed this fall, built in 2004. This site also includes a scenic overlook, picnic area, and parking facility all on the street level. The boat launch ramp and overlook provide both passive and active marine recreational opportunities to the Town of East Greenwich, and surrounding communities. Scalloptown Park also includes a bike path with potential to connect the existing statewide bicycle route on Water Street/Crompton Avenue with a proposal for construction across Scalloptown bridging the Maskerchugg River, going on to Goddard Park.~~

There are also six CRMC designated rights-of-ways: These include: London Street, Rocky Hollow Road, Long Street, King Street, Bridge Street and Division Street (see Map Insert 9A).

~~The East Greenwich former landfill provides another option for public access to the cove, and /or potential future ROW designation. The town is currently in the process of capping the landfill under the RIDEM voluntary landfill capping program. Once complete, the area will be for public use including a bike path, thereby connecting the existing statewide bicycle route on~~

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~~Water Street/Crompton Avenue with a proposal for construction across the landfill, bridging the Maskerehugg River, going on to Goddard Park.~~

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~~Rocky Hollow Road ROW is currently occupied by local marinas. The Rocky Hollow Road ROW does need boundary identification, development and maintenance to improve cleanliness however.~~ The Long Street ROW is occupied by the Greenwich Cove marina, is accessible, and has a sign and a medallion depicting its designation. The King Street ROW is ~~well-maintained and used by the Ware House Tavern, is accessible, has a deck for public use and has a sign depicting its designation as an ROW~~ the most problematic ROW with a business clearly using the ROW as a private use. The Bridge Street ROW, a former paper street, runs between a condo development to the south and a private residence to the north. The first two thirds of the ROW is grassy and the last one third rises to a low bluff over looking the cove. There is a sign at the Bridge Street ROW depicting its designation as an ROW. The Division Street ROW has a park-like setting and is accessible. It should be noted that, although five of the current six ROWs are marked with signs, these signs are either of poor quality or are poorly placed and therefore difficult to locate. Although the Division Street and London Street ROWs have a park-like setting, there are no officially designated state parks located with in public access areas. All of the designated ROWs are municipal paper streets except for the Division Street ROW. There is also a total of seven drainage outfalls associated with these ROWs.

Presently, there is a lack of available parking in relation to requirements established by the zoning ordinances along the waterfront. This shortage intensifies during the summer months because of increased waterfront-related activities. To accommodate this summer overflow, many motorists are forced to park along the curbs of residential neighborhoods uphill from the waterfront. This in turn creates a parking problem for local residents. Additionally, few of the ROWs provide for public parking.

~~The Town commissioned a study by Pare Engineering that was completed in February 2005 that discussed parking issues. The report recommended the following, "Although the waterfront area was identified by those interviewed to have major parking problems, field visits revealed no significant shortage. It should be noted that while the waterfront parking issue is seasonal and all field visits were conducted after Labor Day, boat and vehicle traffic were observed at the waterfront on all visits. It appeared that the waterfront area could benefit from a parking deck, possibly designed to accommodate boat storage during the winter season. It is recommended that the Town encourage the businesses to work together on this potential resolution to any parking shortages at the waterfront" (Pare 2005).~~

It shall be the goal of the Town of East Greenwich to improve the quality of public access opportunities to the waterfront district, to expand the capacity for use of existing Right-of-Ways and Town owned properties, and to promote the protection of existing access and improvement of the public's ability to utilize and reach the waterfront when considering development projects or redevelopment of the waterfront, and to accommodate existing and increased parking demands effectively.

The following goals are recommended as steps to address the issues associated with public access to the cove. Sidewalks should be improved in the waterfront area. The Town should continue work with the CRMC toward the designation of additional ROWs. To that end, the Town should enhance those public access opportunities that presently exist. The Cove Commission should work with the Historic District Commission and the Department of Public Works to further enhance the ROWs by providing, where appropriate, trash receptacles and benches and clearly marking the ROWs for public identification. Development standards should be implemented to further protect public access from any potential infringement by future waterfront development projects. ~~Any Significant~~ proposed waterfront development projects should be reviewed by the Cove Management Commission and examined for potential impacts to existing or proposed public access. ~~Zoning ordinances should specifically restrict building heights of waterfront development projects in order to retain visual access to the water. While some accommodations for hardening structures to resist the effects of climate change and coastal flooding can be made, all new construction should comply with local building height restrictions since allowing relief from the caps has the potential to negatively affect visual access~~

Policy

It shall be the policy of the Town of East Greenwich to support and work cooperatively with the State of Rhode Island Coastal Resources Management Council in ongoing discovery and designation of public Rights-of-Way to the shore. ~~It shall also be Town policy,~~ to undertake and direct ~~town~~ actions towards the maintenance, improvement and development of parking and access facilities consistent with the levels of current and future usage, and to work towards the revisions of municipal land use and development controls consistent with these purposes.

a. Public ROWs

The Town of East Greenwich and the Cove Management Commission shall continue to work with CRMC in the designation of public ROWs. Potential CRMC ROWs include municipal paper streets and dedicated easements for drainage outfalls and buried cables.

b. Public Parking

More public parking is greatly needed in the waterfront area. The Town should encourage development of improved parking facilities. The Town ~~should shall~~ require new development projects, and expansion of any existing developments, to provide sufficient means of parking and should not permit private waterfront developments to encroach upon or use without compensation the already constrained public parking which should be reserved for recreation and other public purposes.

Recommended Actions

In order to achieve its stated goals, and to implement its policies concerning the protection, development and enhancement of public access to the waterfront and Greenwich Cove, the following actions are recommended:

1. The Town shall continue to work with the CRMC in the discovery, designation, and up-keep of public Right-of-Ways to the shore along the waterfront area;
2. The Cove Commission should work with the Planning Board, Town Council, Historic District Commission, the Department of Public Works and other appropriate town bodies to develop a program for the enhancement of existing, designated ROWs and town owned properties along the waterfront, including the following elements:
 - a. A program to improve sidewalks in the waterfront area.
 - b. Designation of a clear distinctive linear pathway from Division Street to the former land fill at the head of the Cove as the primary public access way to the waterfront, including a sidewalk linking town-owned street ends, parks, facilities and existing designated ROWs;
 - c. Provision of trash receptacles ~~and~~ benches and other amenities, where appropriate, at existing ROWs;
3. The Cove Commission, in coordination with other appropriate review boards, should review all proposed major waterfront development and/or redevelopment projects, and requests for zoning changes for potential impacts to existing or proposed public access to the waterfront, and for consistency with the goals and policies of this Harbor Management Plan; and make a recommendation on such to the appropriate town review board and the Coastal Resources Management Council;
4. The Town Council should undertake, and direct the appropriate town agents to establish development standards which would protect existing public access from interference or impairment by development and/or redevelopment projects and provide for the development and accommodation of new and/or expanded access; the Town Council should review, and if appropriate revise existing zoning requirements pertaining to the provision of parking in the waterfront area to adequately address existing and future levels of usage;

5. The Town will work extensively to reopen the rights of way to allow public passage and ~~recreation on the public ROW. Public Right-of-Way will be maintained by the town and by the town commission.~~

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4. Water Quality

Issue: Water quality in Greenwich Cove has remained steady over the past few years. The sources of continued contamination are primarily non-point pollutants associated with recreational boating. Although the water quality of Greenwich Cove has improved over the last few years as a result of improvements to the wastewater treatment facility and a marina sanitary pump-out at the East Greenwich Yacht Club, other contributing factors to

~~water quality must be monitored as The Cove, like the rest of Narragansett Bay, is a “no discharge” area.~~

~~Water quality impacts of marina-related activities include marina construction, maintenance dredging to maintain necessary water depth, day-to-day marina operation, land use run-off and boat use. Marina operations may contribute to water quality degradation associated with boat use because raw sewage discharge from boats in addition to detergents, gas, oil, and other waste products contribute to bacterial contamination of shellfish; shellfish beds in marina areas are categorically closed to the taking of shellfish and recreational uses such as fishing and swimming. The primary source of pollution is no longer from the sewage treatment plant since the denitrification facility was built. Marinas operating in the Cove are a source of pollution through gases, oil and toxins associated with boat bottom paint. The existing configuration and density of moorings located within the Cove also contribute to water quality issues. Other non-point sources of pollution include land use run-off from paved surfaces and the transfer station located at the southern end of the Cove.~~

~~Non point sources of pollution include land use runoff from paved surfaces and the transfer station located at the southern end of the cove which is contiguous to Type 1 conservation waters; also included is the town’s abandoned landfill. An environmental assessment has been conducted in order to determine whether or not toxic or hazardous wastes have been disposed of in the landfill and abatement will occur during the capping process. Additionally, concerning storm water runoff to the Cove, the Town has completed a study of the drainage outfalls to the Cove and has designed a structural improvement at outfall #2 by the boat ramp; funding for this project was through RIDEM grants.~~

Goal:

It shall be the goal of the Town of East Greenwich to work towards the improvement of water quality conditions within Greenwich Cove by continuing to adopt and maintain policies and programs to address, within the limitations of municipal jurisdiction, pollution generated by recreational boating activities, shore side development and activities and land use runoff.

The Town should prevent further water quality degradation and, where possible, improve the existing water quality of Greenwich Cove. Currently, there are programs and policies implemented by the town of East Greenwich to address water pollution issues. ~~The town has upgraded the Wastewater Treatment Facilities on Crompton Avenue. Included in this upgrade is~~
Additionally, the Harbormaster ~~may~~ shall visually spot inspect all transient boats to insure that they have a marine toilet in conformance with the LTS Coast Guard standards and the General Laws of Rhode Island. The Harbormaster may inspect all boats with marine toilets of all existing mooring permit holders. Inspection of any boat with marine toilets may also be done prior to issuing any new mooring permits for those people presently on the Town’s wait list.

In addition to addressing direct sources of water pollution to the Cove, non-point sources of pollution should also be addressed. ~~The potential effects of run off from the transfer station should be studied to more accurately determine the effect of its present location on the water~~

~~within the boundaries of Type I and S waters.~~ Regarding new development or expansion of existing development, amendments to the zoning ordinances should be recommended which would require that crushed stone or other materials that accommodate infiltration be used for paving purposes to prevent runoff. Any zoning amendments related to waterfront development should also include provisions such that the proposed project will not degrade the existing water quality or adversely affect the circulation and flushing patterns of tidal waters, or diminish the value of tidal waters and shoreline features as habitats for fish, shellfish, wildlife, and wildfowl.

Policies

It shall be the policy of the Town of East Greenwich to maintain, and where possible, improve the water quality of Greenwich Cove in conjunction with appropriate state and federal agencies and programs.

It shall further be the policy of the Town to regulate the number of vessels and usage of the Cove in order to prevent further contributions to water quality impairment by this source.

It shall be the policy of the Town that new or expanded marine uses of the waterfront shall not contribute to the further degradation of water quality and that aspects of the development subject to municipal authority shall be regulated to this end.

It shall be the policy of the Town to restrict boats from shallow water habitats with in the Cove where significant shallow-water habitats are identified. This will aid in decreasing turbidity and physical destruction of such habitat.

It shall be the policy of the Town to uphold state boat sewage laws, RIGL §46-12-39 through 41.

Recommended Actions

The Town, in working with the DEM and CRMC, should continue to develop and implement programs to ensure the provision of proper sanitation waste disposal facilities at all recreational boating facilities, private marinas and yacht clubs, and where feasible at town boating facilities and launching ramps. In particular, the town of East Greenwich shall support the use of CRMC approved Operation and Maintenance measures (O&M measures) in attaining these goals. As part of this program, the following elements should be included:

- a. The Cove Commission should consider recommending Best Management Practices consistent with Phase II Storm Water Management for all site development in the Cove drainage basin.
- b. The Town Council should review, and revise where necessary , the Town's zoning ordinance and other authorities related to development control and health and safety to require the provision of proper sanitation disposal facilities at all new or expanded

recreational boating facilities, marinas and other waterfront developments as appropriate; the Town Council should petition the Department of Environmental Management's Nonpoint Pollution Management Program and Division of Water Resources, as well as the CRMC and the Division of Planning, Department of Administration for assistance in this program.

c. The Town Cove Management Commission should permit moorings within Greenwich Cove consistent with the goals of this section, and regulate the number of permits issued accordingly.

d. Pursuant to Rhode Island's no-discharge designation, enacted in 1998, it is unlawful to discharge any sewage from a boat into RI waters, including all of Narragansett Bay and all marine waters out to three nautical miles from the coast. East Greenwich Cove is in the no-discharge zone.

e. Coordination between East Greenwich and Warwick for additional Pump-Out Access. East Greenwich is committed to work with the City of Warwick to improve the water quality of Greenwich Bay and specifically Greenwich Cove through the exploration, negotiation, and alternative uses to increased access to marine pump-out opportunities, both on-shore and off-shore, for the users of Greenwich Cove.

f. Town Staff should consistently and continuously enforce and maintain as current all Town codes and ordinances pertaining to Harbor Management.

5. Preservation of Scalloptown

Issue: Scalloptown and other historic uses and structures within the waterfront area are subject to increasing pressures and threat of loss, deterioration and redevelopment.

As previously described in the "History" section of the HMP, the fish shanties, known historically as Scalloptown, represent a 200-year old cultural heritage. These shanties represent water-dependent uses such as commercial fishing, boat building and repair, and other marine related services. Unfortunately, very few of the original structures are still standing. Coastal development, storms and flooding wiped out some of these original structures. Many of the existing structures are in poor condition and in need of repair and rehabilitation. Scalloptown is a vital part of this area of the Town's historic district and needs preservation in order to retain the historic character of the waterfront.

Goal

Scalloptown and all historic uses and structures along the waterfront should be preserved to retain the historic character of the waterfront.

Use of these buildings should be restricted to shellfishing support services and other water dependent uses. The Town should encourage any new development to maintain the historic character of the waterfront district.

Policy

The fish shanties known historically as Scalloptown represent the 200- year old cultural heritage. This area should be preserved. Use of this area should be restricted to shellfishing and related support services and other water-dependent uses.

New development within this area should be designed in such a way as to retain the historic character unique to that portion of the waterfront.

Preserve, maintain and enhance East Greenwich’s identity as a center of historic and cultural assets and activities.

6. Fair and Efficient Allocation of Mooring Space

Issue: The Town should continue to promote the fair and efficient allocation of mooring space. ~~Also, there is a need to regulate the number of moorings to be located within Greenwich Cove.~~

The Harbormaster and Town Administration adhere to the 3:1 resident/nonresident mooring permit. There has been and will continue to be 110 moorings administered by the Town. Due to the current “conventional” mooring system layout there could be an additional room for approximately 6-8 more moorings.

~~THE TOWN SHOULD MAINTAIN A WAITING LIST FOR MOORINGS IN THE EAST GREENWICH COVE. THE TOWN SHOULD MAINTAIN A WAITING LIST FOR MOORINGS IN THE EAST GREENWICH COVE.~~
waiting list maintained by the Parks and Recreation Department of 70 ___ people (resident, nonresident and commercial). The allocation of 25 existing moorings to the East Greenwich Yacht Club is justified in part by the provision of transient rental moorings. Issues such as mooring placement, allocation, fees, fines, abandonment, allowable number and liability are addressed by the Harbor Management Ordinance.

Goal

The Town should update comprehensive mooring regulations which will provide for the efficient utilization and allocation of mooring space consistent with the CRMC Harbor Management Planning Guidelines and the RI Coastal Resources Management Program.

Undertake Mooring Field Redesign by the Use of a “Cluster” Mooring Field. Appoint the Harbormaster to project manager the appropriateness of implementing a cluster mooring system to improve the Cove’s open space, allowing for improved navigation and additional moorings.

Policy

~~The Town shall implement a harbor ordinance in which mooring administration will be addressed. The purpose of this section of the ordinance will be to regulate the distribution of~~

~~moorings and the presence of floating structures in the water. Refer to the Municipal Code, Chapter 28 Harbor Management, Section 66 mooring regulations~~
be caused from new or significant mooring expansions.

It shall be the policy of the Town to ensure adequate tidal flushing or the presence of currents for all new or significant mooring expansions.

It shall be the policy of the Town to ensure that moorings do not obstruct access to designated shellfish management areas, traditional fishing grounds, public recreational areas, and conservation areas.

It shall be the policy of the Town to ensure that moorings do not significantly adversely affect fish/shellfish resources, wetlands, submerged aquatic vegetation and other aquatic habitat areas.

It shall be the policy of the Town that mooring areas shall not be established so as to interfere with the free and unobstructed use of channels, fairways, or shoreside facilities.

It shall be the policy of the Town that all private moorings (excluding riparian moorings) that have been permitted and placed outside the boundary of the Town's mooring area shall be relocated within the mooring area whenever the abandonment or removal of a mooring located within the mooring area provides a vacancy for such relocation.

7. Development of Town-owned Property

Issue: Existing and potential public recreational shoreline property and facilities should be developed and/or expanded for additional public recreational opportunities and other water-dependent uses.

Presently, the town owns 20 acres of waterfront property. One site is the location of the sewage treatment plant. Although the Town has constructed the Barbara Tufts Playground on a portion of this property, additional improvements need to be made in order to further enhance public recreational opportunities along the waterfront. Located on the site is a municipal transfer station. ~~The Town should initiate studies to relocate the facility to an alternate site. This area is needed for parking at the adjacent municipal boat dock. This facility is obsolete, in need of repair and has extremely limited hours of operation. It does not represent the highest and best use of this valuable property and it is incompatible with the residential, recreational and commercial uses nearby. It should be relocated away from the waterfront or simply removed.~~

~~The former municipal landfill has been converted to a public open space site known as Scaloptown Park. Another area which presently remains undeveloped is that of the abandoned landfill. From the top of the municipal landfill site located at the southern section of the cove, one gets a very impressive peaceful view of the entire cove enhanced by Goddard State Park extending to the water's edge on the eastern shore. The park property is solely landfill will only be used for a passive recreation and plans call for site. Additionally, a state planned bike path to will run along the waters edge.~~

A new boat launch ramp at the Town Dock was implemented in 2003. However, active access to Greenwich Cove at the Crompton Avenue boat launch ramp location is limited due to insufficient parking spaces. During the boating season, there is a significant increase in traffic congestion especially of the access road for vehicles with boat trailers obtaining access to the boat launch ramp but also for access to the transfer station as well.



Picture 9: (Town Dock and Boat Launch Ramp)

In 2016 the Rocky Hollow ROW became free and clear from the Harris Marina that had encumbered the 40' ROW for decades. The Town now has the opportunity to potentially enhance and improve this site with amenities for passive use.

Goal

The Town should actively pursue development or improvement of existing town-owned land for recreational uses consistent with appropriate environmental considerations.

Relocation ~~or removal~~ of the transfer station ~~to an alternate site~~ should be ~~pursued as this land use is incompatible with its surroundings and the Town's vision for the future of the waterfront. studied in order to~~ At a minimum removal could facilitate additional parking ~~availability areas~~ adjacent to town-owned land at the wastewater treatment plant and municipal boat launch. This parking might be needed for potential mooring facilities off town-owned land for shellfishermen.

Concerning new development of water-dependent uses, such as marinas, any proposed development should have sufficient parking, pump-outs, ~~and~~ sanitation, ~~and other convenience~~ facilities so as not to further contribute to ~~any the severe~~ parking shortage ~~or and~~ degradation of water quality.

Policy

The Town should undertake discontinuation or studies concerning the relocation of the transfer station ~~to an alternate site.~~

~~If relocated, this area could accommodate additional parking areas for water dependent uses or other productive purposes. However, the waterfront in the municipal area is currently zoned industrial and mooring properties are zoned a mix of commercial and residential. Amendments should be made to the zoning ordinance to change the zoning from industrial to recreational a new "Waterfront Zone" as called for in the Comprehensive Plan. Such cohesive and uniform zoning would provide predictability of uses and consistent development standards. This parking might be needed for potential mooring facilities and the linear park. Additionally, runoff from the transfer station is a source of non-point pollution further degrading Type 1 waters in the Cove. -which provides further rationale for relocation removal. Finally, removal of the transfer station, which is an unwanted use, would provide greatly needed location for water dependent~~

8. Dredging Within Greenwich Cove

Issue: Because of the predominance of recreational boating activity and the preponderance of marinas, dredging is needed in order to maintain navigational channels to provide safe passage through the Cove. Dredging is also needed to maintain the usability of boats slips which have silted in over the years.

Goal

The Town shall encourage only maintenance dredging in accordance with CRMC regulations.

Policy

The Town should encourage interested parties to pursue appropriate dredging projects. Any proposed dredging projects should conform to all state and federal regulations.

9. Coordination of East Greenwich/Warwick Jurisdictional Responsibilities Issue:

Issue: The Town of East Greenwich and the City of Warwick need to coordinate jurisdictional responsibilities within Greenwich Cove. A boundary line bisects the Cove into two separate jurisdictions. There is no visible demarcation of the town boundaries. Coordination is needed between East Greenwich and Warwick concerning mooring administration, enforcement of boating safety and navigation regulations, and the establishment of any goals or policies which may potentially affect the cove.

Goal

In order to coordinate activities between East Greenwich and Warwick's shared jurisdiction of Greenwich Cove, the city and town should pursue a working relationship.

There should be one, nonvoting, ex-officio member from the Warwick Harbor Commission sitting on the East Greenwich Cove Commission. A reciprocal agreement should be agreed upon by the City of Warwick. This would enable the two jurisdictions to work together addressing those problems that affect both municipalities.

Policy

The Town shall endeavor to coordinate jurisdictional responsibilities between the City of Warwick and the Town of East Greenwich within Greenwich Cove. The Town shall propose a reciprocal agreement to the City of Warwick in which there shall be one, nonvoting, ex-officio member from the Warwick Harbor Committee sitting on the East Greenwich Cove Management Commission. This would enable the two jurisdictions to work together addressing those problems that affect both municipalities.



Picture 10: View of Greenwich Cove from East Greenwich Wastewater Treatment Facility

Chapter IV. Ordinances Relevant to Harbor Management

Implementation Strategy for the Town of East Greenwich

Introduction

The harbor management ordinance is a major component of the implementation strategy for the East Greenwich Harbor Management Plan. This ordinance, to be enacted by the Town Council, is designed to implement the policies and recommendations put forth in Section VI. The municipal harbor management ordinance is authorized by Title 46 of Rhode Island legislation which enables coastal communities to manage the waters within their corporate limits (46-4-6. 14 G. L.R.I.). More specifically, the law grants the East Greenwich Town Council the authority to not only appoint a harbormaster, but also any authority deemed necessary for the enforcement and supervision of any ordinances, rules and regulations governing the public waters within its jurisdiction. Title 46 also allows the Town, through its harbor management ordinance, to regulate the speed, management and control of all vessels, both sail and power, within the public waters of the town's jurisdiction and to determine the number, size, type, location and use of all anchorages and moorings, fix permit fees for said anchorages and moorings and to provide penalties, in accordance with the provisions of 46-4-4 G.L.R.I., for the violation of any of the provisions of the ordinances pertaining thereto.

State legislation also confers to the Town the powers to regulate boating activity, skin-diving and scuba diving, and to administrate the assignment, placement, removal and fee for moorings. Additionally, the Town may provide minimum mooring tackle specifications, and regulations for houseboats and other live-aboards. The Town may also impose penalties for violation of any of the ordinances. Upon adoption, the local ordinance becomes part of the municipal code of ordinances, rules, and regulations. CRMC permitting process will include prior review of all applications by the Town, before the approval process. The range of activities regulated by the harbor ordinance is determined by the outcome of the planning process. Resource Inventory (Chapter II), Issues, Goals, Policies and Recommended Actions (Chapter III) determine the ultimate need for regulation. The East Greenwich Harbor Management Ordinance is outlined in Chapter V with sections on General Provisions, Definitions, Ordinance creating the East Greenwich Cove Commission,

Harbormaster duties, Powers and Responsibilities, Harbor Regulations and the Mooring Regulations.

Sections of the Code of East Greenwich which pertain to Harbor Management include Chapter 34: Boards, Committees, and Commissions, Article II – Cove Management Commission and Chapter 128: Harbor Management.

Chapter 128: HARBOR MANAGEMENT

[HISTORY: Adopted by the Town Council of the Town of East Greenwich 6-22-1993 by Ord. No. 595 as Secs. 7-1 to 7-7 of the 1993 Code; amended in its entirety 2-9-2009 by Ord. No. 798. Subsequent amendments noted where applicable.]

GENERAL REFERENCES

General penalty — See Ch. 1, § 1-11.

STATE LAW REFERENCES

Harbors and harbor lines — See RIGL § 46-4-1 et seq.
Appointment of Harbormaster — See RIGL § 46-4-6.14.

§ 128-1. Applicability.

The provisions of this chapter and any rules and regulations adopted pursuant thereto shall be applicable to, and shall govern the use of, the cove, lands, waters, and facilities under the jurisdiction of the East Greenwich Cove Management Commission. This chapter shall be subordinate to all existing federal and state statutes and regulations affecting the Town, and is not intended to preempt any other valid law.

§ 128-2. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

ABODE — The principal, non-water-dependent use of a structure or vessel as a dwelling or home.

ANCHORING — To secure a vessel temporarily to the bottom of a water body by dropping an anchor or other ground tackle from a vessel.

CHANNEL — Any water areas reserved for unobstructed movement of vessels.

COVE MANAGEMENT COMMISSION — The local commission established under and carrying out the responsibilities authorized by Article II of Chapter 34, Boards, Committees and Commissions.

COMMERCIAL MOORING — The rental or lease of a mooring or the use of a mooring to conduct business by a registered commercial business. Commercial mooring holders must submit documentation with the mooring application indicating that the business is a registered commercial business and provide proof of insurance naming the Town of East Greenwich as an additional insured.

FAIRWAY — Any locally designated and/or maintained water areas reserved for unobstructed movement of vessels.

GREENWICH COVE — Those portions of East Greenwich water delineated as such on the official chart which is on file in the Town Clerk's office.

HARBORMASTER — Refers to that person appointed by the Town Manager with the approval of the Town Council.

LAUNCHING RAMP — Any man-made or natural facility used for the launching and retrieval of boats (300.4 R.I. Coastal Resources Management Program).

MARINA — Includes any dock, pier, wharf, float, floating businesses, or combination of such facilities that service five or more recreational boats as a commercial enterprise or in association with a club (300.4 R.I. Coastal Resources Management Program).

MOOR — To permanently secure a vessel to the bottom of a water body by the use of mooring tackle.

MOORING — Refers to that location duly permitted by the Town and registered to the applicant.

MOORING ASSIGNMENT COMMITTEE — Moorings are assigned by the East Greenwich Parks and Recreation Director after consultation with the Harbormaster.

MOORING TACKLE — The hardware used to secure a vessel at a mooring and which is kept in place seasonally.

NONRESIDENT — Any individual, business, or corporation which does not meet the definition of "resident."

QUALIFIED INSPECTOR — Any person or business approved as an Inspector of Tackle by the Mooring Assignment Committee.

RECREATIONAL BOATING FACILITY — Includes marinas, launching ramps, residential boating facilities, recreational wharves, piers and slips, floats or floating docks, and recreational mooring areas (300.4 R.I. Coastal Resources Management Program).

RESIDENT — Refers to any full-time inhabitant, taxpayer or nonprofit organization of the Town. Simply having a PO Box in East Greenwich does not qualify applicant as East Greenwich resident.

RESTRICTED AREA — Those portions of East Greenwich Cove which shall be designated as restricted from mooring or anchoring on the mooring chart.

RIGHT-OF-WAY — An easement or right to pass and repass across a parcel.

VESSEL — Every description of watercraft, other than a seaplane on water, used or capable of

being used as a means of transportation on water. Specifically excluded by this definition are floating homes.

§ 128-3. Authority of Harbormaster.

The Harbormaster, under the direction of the Town Manager, shall have the authority to carry out harbor management directives and enforce all provisions of the harbor management plan, including this chapter. The Harbormaster may cite any alleged violations of this chapter.

§ 128-4. Duties of Harbormaster.

- A. The Harbormaster may assume the following duties:
 - (1) Act as a staff resource as needed by the Cove Management Commission;
 - (2) Be responsible for administration of any designated mooring areas;
 - (3) Keep records of the location of all moorings, users and vessels within the designated harbor areas and other Town waters;
 - (4) Consult with the Parks and Recreation Director on the mooring waiting list;
 - (5) Inspection responsibilities of marine sanitation devices and/or any other overboard discharges to ensure conformance with the U.S. Coast Guard standards;
 - (6) Enforce any ordinance or provision of the harbor management plan, ordinance or any state boating laws as applicable.
- B. The Harbormaster shall work at the direction of the ~~Town Manager~~ Community Services Director

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§ 128-5. Harbor regulations. [Amended 5-11-1995 by Ord. No. 623]

- A. Liability. Persons using the public facilities and areas within the limits of Greenwich Cove shall assume all risk of personal injury and damage or loss to their property. The Town assumes no risk on account of accident, fire, theft, vandalism or acts of God.
- B. Vessel speed. The operation of any vessel within Greenwich Cove shall proceed in a manner which protects all persons and property from wake. Operators of boats within Greenwich Cove shall comply with the state regulations on wake and boat speed which establishes a maximum speed for boats at five miles per hour, no wake.
- C. Obstruction of channels, fairways, and berthing space. No vessel shall be moored or anchored so as to interfere with the free and unobstructed use of the channels, fairways, or berthing spaces within the area designated in § 128-1.
- D. Swimming. Swimming is prohibited in all designated channels and fairways.
- E. Fishing. Fishing from vessels and shellfishing is prohibited in all designated channels and fairways. The placement of pot floats and fish nets is prohibited in all channels and fairways.
- F. Use of vessel as abode. Houseboats or floating businesses are prohibited from mooring or

anchoring unless within the boundaries of a marina. Houseboats and floating businesses shall tie into marina or port holding tank pump-out facilities where available.

- G. Discharge of refuse. It shall be a violation of this chapter to willfully discharge any refuse or waste matter, petroleum product or by-product, paint, varnish, dead animals, fish, bait, or debris into Greenwich Cove.
- H. Marine toilets. No person shall operate a marine toilet at any time so as to cause or permit to pass or to be discharged into the waters of East Greenwich Cove any untreated sewage or other waste matter or contaminant of any kind. Narragansett Bay is a no discharge zone, per Rhode Island's No Discharge Compliance Program.
- I. Use of Town dock. The Town dock shall not be used on a continual basis for more than one hour.
- J. Abandoned vessels/harbor structures. No person shall deposit or abandon a vessel or structure upon a beach, a public right-of-way or in the waters of the Town. Any person violating this section shall be subject to a fine in accordance with the provisions in § 128-7. When any vessel or structure is deposited or abandoned in the waters of the Town, the Harbormaster is authorized and empowered to remove such vehicle or structure or cause such vehicle or structure to be removed.
 - (1) Notice of removal of vessel/harbor structures. If the person who owns, has an interest in, or exercises any control over the vessel or structure, or otherwise is known, the Harbormaster shall give written notice by certified mail to such person to remove the vessel or structure within a specified time.
 - (2) Removal of vessel/harbor structures. If the vessel or structure is not removed within the time specified in the notice and in a manner and to a place satisfactory to the Harbormaster, or if no such person is known to the Harbormaster upon whom the notice can be served, the Harbormaster may proceed to remove, or cause the vessel or structure to be removed, in a manner and to a place the Harbormaster shall deem best.
 - (3) Liability. The owner or such other person of a vessel or structure removed by the Harbormaster in accordance with this chapter shall be liable to pay the cost and expenses of the removal and storage, or to repay the cost and expenses when paid by the Town. The expenses may be recovered in an action brought by the Town Solicitor against the owner(s). If the owner(s) are unknown or the vessel or structure is unclaimed within 90 days of the removal, the Town may sell the vessel or structure. The proceeds from the sale shall be used to defray the costs of the Town incurred in the removal and storage of the vessel or structure, and in the administration of this chapter.
- K. Towing. The Harbormaster has the authority to direct that a vessel be towed pursuant to this chapter or any rules and regulations of the Town Council.
- L. Rafting. Rafting on a single mooring will only be allowed if it does not interfere with adjacent single moorings or anchorages. Boats in a raft shall be manned at all times.

§ 128-6. Moorings. [Amended 5-11-1995 by Ord. No. 623]

- A. Placement of private and commercial moorings.
- (1) It shall be a violation of this chapter to place any mooring in the waters of the Town without a permit from the Harbormaster. No vessel moored or anchored within a mooring area shall extend beyond the mooring area perimeter into any designated channels, fairways, turning basins, or shoreside facilities.
 - (2) No moorings shall be placed within 50 feet of any shoreside structure.
 - (3) All moorings shall be set back at least 25 feet from the fairway and public rights-of-way.
 - (4) No moorings or anchorages are permitted in designated areas adjacent to public rights-of-way.
 - (5) No private commercial moorings are permitted in designated federal navigation project areas.
 - (6) No swimming or water skiing activities shall be allowed in mooring areas.
 - (7) All private moorings (excluding riparian moorings) that have been permitted and placed outside the boundary of the Town's mooring area shall be relocated within the mooring area whenever the abandonment or removal of a mooring located within the mooring area provides a vacancy for such relocation.
 - (8) Moorings are assigned by the East Greenwich Parks and Recreation Director after consultation with the Harbormaster.
- B. Mooring records.
- (1) The East Greenwich Parks and Recreation Department shall keep a detailed record of each mooring, its location, and the owner's name, home address, and business and home telephone numbers, date of application, name of boat, boat length, beam and draft, type of boat and type of head and holding tank to be attached thereto. The Parks and Recreation Department gives a copy of the information to the Harbormaster. The Harbormaster shall keep a detailed record of each mooring and its physical location in the Cove.
 - (2) The East Greenwich Parks and Recreation Department shall maintain in a public place a waiting list for mooring space, and a list for assignment of mooring space, and both lists shall be updated annually.
 - (3) Applications for all moorings shall be renewed annually.
- C. Allocation of moorings.
- (1) After March 1 of each year, the Parks and Recreation Director and the Harbormaster shall determine the number of moorings available for new mooring space as the sum of all authorized mooring spaces for which acceptable applications for renewal were not received. In accordance with CRMC harbor management guidelines, moorings shall be allocated in a ratio no greater than three (3) East Greenwich residents to each non-resident. If at any time a mooring field is established or relocated to with in a Federal

navigation project, then the mooring allocations shall meet the Army Corps of Engineers requirement of “open to all on a fair and equitable basis.”

- (2) Only one mooring permit may be issued to a boat owner other than a commercial user. In order to ensure an adequate number of moorings to be available for individual permit applicants, no more than a total of 35 commercial mooring permits may be issued.
 - (3) Consideration shall be given to water quality concerns, parking, boating safety and public access when determining the total number of mooring permits to be issued.
- D. Original application for mooring permit. Application shall be made on mooring application forms provided by the Parks and Recreation Department and shall be filed with the Parks and Recreation Department. No mooring shall be located or maintained unless the owner has obtained a current mooring permit.
- E. Mooring permit waiting list. A waiting list for mooring permits will be established and maintained by the East Greenwich Parks and Recreation Department. Chronological order of date of application will determine the waiting list. Persons on the waiting list who do not apply for a permit within 10 business days when notified that a mooring location appropriate to their boat size is available will be removed from the mooring waiting list.
- F. Mooring permits valid for one year only. Mooring permits are valid for a period not to exceed one year unless renewed as referenced in this chapter.
- G. Application for mooring permits and renewals.
- (1) Applications for new or abandoned moorings may be made at any time.
 - (2) Applications for mooring renewals must be submitted no later than March 1 of each succeeding year. No applications for renewals of mooring permits will be accepted after March 1. All valid permits, if not renewed, shall expire March 1 of the next year.
 - (3) Failure to renew an existing mooring, properly permitted, by March 1 of any given year shall result in the registered owner's abandonment of all his rights and interest in said mooring.
 - (4) A new permittee will be granted a mooring permit without a boat for no more than one boating season.
 - (5) A current permit holder must have a registered boat on file, but may renew their permit for no more than one consecutive boating season without a registered boat.
 - (6) Commercial mooring holders must submit documentation with the mooring application indicating that the business is a registered commercial business and provide proof of insurance naming the Town of East Greenwich as an additional insured.
- H. Mooring registration fee. All applications shall be accompanied by the registration fee established by the Town Council. Registration fees shall not be refundable. Upon approval of a mooring permit, the full mooring fee shall be paid to the Parks and Recreation Department within 10 days.

- I. Mooring permits nontransferable.
 - (1) Permits issued under this chapter shall not be transferable.
 - (2) An assigned mooring shall be used only by the boat registered to it. The boat using a residential or non-residential mooring must be registered to the mooring permit holder. This restriction shall not apply to commercial moorings or recreational boating facilities/marinas. Exception to this shall be made at the Harbormaster's discretion.
- J. Mooring location. All mooring locations will be approved and designated by the Harbormaster through the Mooring Committee. If replacement vessel is significantly smaller, larger, or of different draft or type, the Harbormaster shall have the right to relocate the vessel to another, more suitable mooring.
- K. Transient moorings. Space for rental transient moorings is made available through the East Greenwich Yacht Club.
- L. Appeal of permit denial. Appeals of permit denial or no action must be made to the Town Manager within 10 working days.
- M. Illegal moorings/abandons.
 - (1) Any mooring on or maintained in Greenwich Cove which has not been issued a permit and/or does not comply with each and every specification set forth in this chapter shall be deemed an illegal mooring and shall be removed at the owner's expense. All existing moorings must be registered and approved and comply or they shall be removed.
 - (2) Whenever any mooring is placed in or remains in Greenwich Cove in violation of this chapter, the Harbormaster shall cause the mooring to be removed.
 - (3) The permit holders or other such persons concerned with moorings that have been removed by the Harbormaster shall be liable to pay the cost and expenses of such removal or to repay the cost and expenses when paid out by the Town, and the cost and expenses may be recovered in an action brought by the Town against such persons.
- N. Mooring tackle specifications. Utilization of proper mooring tackle is necessary to moor vessels adequately at their moorings. This chapter hereby establishes a minimum standard for tackle to moor vessels in Greenwich Cove. The Town assumes no liability for personal injury or property damage which results from the utilization of any tackle which meets or exceeds these recommendations.
 - (1) Boat and/or mooring owners shall be liable for any damage caused by faulty, inadequate, or improperly placed moorings.
 - (2) It is the owner's responsibility to maintain his mooring and to have the tackle inspected by a qualified inspector at least every three years. Certification of inspection will be kept on file with the Harbormaster.
 - (3) Each mooring which has been approved as set forth shall be assigned a registration number. Each mooring buoy or float must be clearly visible and legibly marked with its assigned number. All mooring buoys shall be marked with a clearly legible number (three-inch minimum number height) assigned by the Parks and Recreation Department.

(4) Mooring tackle should meet the following minimum standards:

East Greenwich Cove Mooring System

Registered Boat Length (feet)	Mushroom Anchor (pounds)	Bottom Chain (inches)	Top Chain (inches)	Nylon/Dacron Line (inches)
Under 16	75	3/8	5/16	1/2
16 - 19	150	3/8	5/16	1/2
20 - 22	200	1/2	5/16	5/8
23 - 25	250	1/2	5/16	3/4
26 - 30	300	5/8	3/8	3/4
31 - 35	400	5/8	3/8	3/4
36 - 40	500	3/4	1/2	7/8
41 - 50	600	3/4	1/2	1
51 - 65	750	1	1/2	1 1/4

- (a) The maximum length of the pennant should be 2 1/2 times the distance from the bow chock to the water, plus the distance from the bow chock to the mooring cleat or post.
- (b) All pennant lines running through a chock or any other object where chafing may occur should have adequate chafe guards.
- (c) The total scope of the chain should be 2 1/2 times the depth of the water at high tide. The bottom and top chain should each consist of approximately 50% of the scope.
- (d) All shackles, swivels and other hardware used in the mooring hookup should be proportional in size to the chain used.
- (e) All shackles should be properly sized.
- (f) It is recommended that the pennant be spliced or shackled into the bitter end of the top chain below the buoy so the strain is not carried by the buoy. The use of a second pennant and anchor in heavy weather is encouraged.
- (g) Only mushroom anchors will be acceptable on permanent moorings.
- (h) The minimum distance between any two moored vessels should be 1 1/4 times the total mooring scope, plus the length of the larger vessel.
- (i) The Harbormaster may approve installation of other types of moorings if they are deemed sufficient for the area in which they are located.
- (j) Winter mooring stakes shall be readily visible in a vertical position above the water at all times and shall be removed not later than June 1 of the next succeeding year. Winter stakes shall not be set until on or after October 1 of each calendar year.

§ 128-7. Violations and penalties.

The violator of any provision of this chapter shall, upon conviction, be punished in accordance with Chapter 1, § 1-11.

ARTICLE II Cove Management Commission [Adopted 6-22-1993 by Ord. No. 595 as Secs. 7-36 to 7-40 of the 1993 Code; amended in its entirety 2-9-2009 by Ordinance No. 799.

§ 34-4. Establishment; purpose.

It is the intent of the Town to establish a Cove Management Commission to set forth the policies and regulations that apply to the use and management of the tidal waters adjacent to the Town known as East Greenwich Cove for adoption by the Town Council. The Town further recognizes that it has a responsibility to promote the health, safety and welfare of all who use the cove and to preserve this important natural resource for the future.

§ 34-5. Responsibilities.

It shall be the responsibility of the Cove Management Commission to:

- A. Develop regulations for boating safety, use of the cove, moorings, permits, fees;
- B. Identify, mark, and work to maintain accessibility to public rights-of-way in conjunction with the policies of the Coastal Resources Management Council;
- C. Establish the necessary procedures to implement decisions;
Promote and coordinate activities which encourage improvement to the cove.
- D.
- E. Provide comments and recommendations to the Planning Department, Planning Board, Zoning Board, Town Council or other entity on all public and private development proposals, and any permit notifications from state agencies in the area east of the Amtrak rail line.

§ 34-6. Authority.

The Cove Management Commission shall have the power to:

- A. Recommend regulations for the speed, management, and control of all vessels on the public waters within the confines of Greenwich Cove.
- B. Recommend regulations for the number, size, type, location, use, and maintenance of all anchorages, moorages, and ramps within the waters or cove of the Town.
- C. Recommend regulations for minimum mooring specification, inspection of moorings, assignation and removal of moorings and fees and collection of fees for mooring use.
- D. Recommend a job description for the position of Harbormaster.
- E. Designate upon a map of the public waters within the Town the places where permanent or temporary moorings, anchorages, and boat ramps may be maintained.
- F. Recommend regulations for regattas, races, marine parades, tournaments and exhibitions.
- G. Recommend regulations for waterskiing, skin diving and scuba diving in East Greenwich Cove.
- H. Recommend regulations for houseboats that are not self-propelled and for the removal of wrecks or derelict or abandoned boats or docks.

§ 34-7. Availability.

The Cove Management Commission shall be available to the Town administration and other boards and commissions for consultation and advice.

§ 34-8. Membership; meeting procedure.

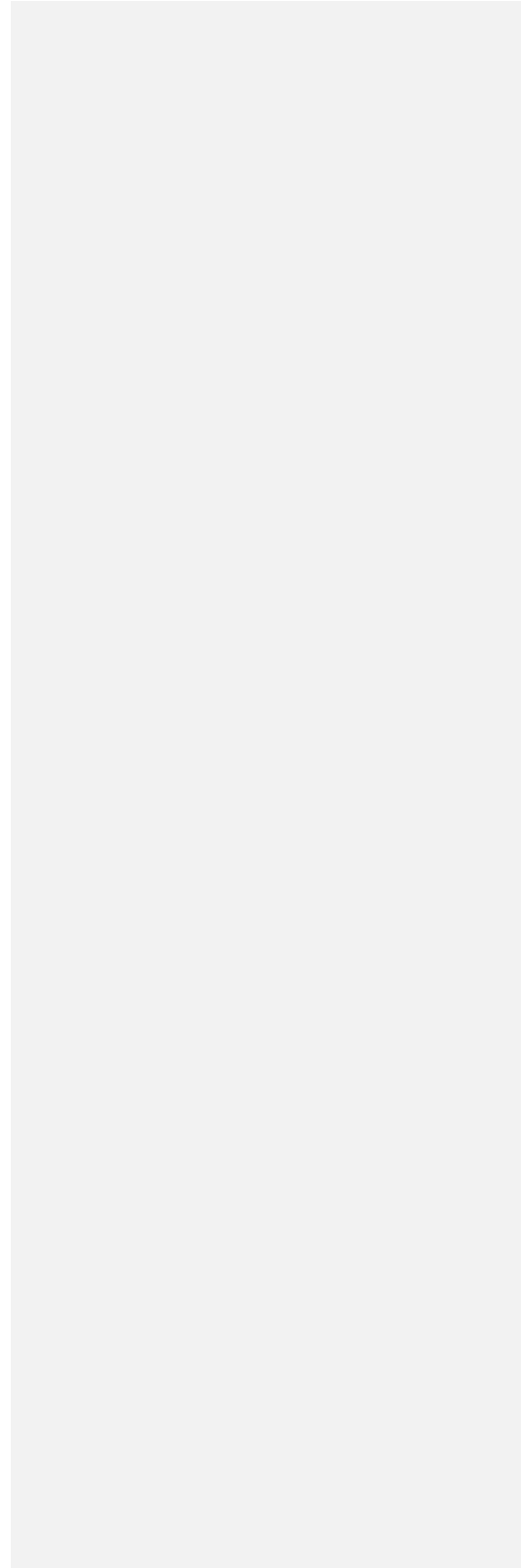
- A. The Cove Management Commission shall be comprised of seven members who are qualified electors of the Town.
- B. The Commission shall be appointed by the Town Council, each member to serve for a term of three years.
- C. A Chairperson, Vice Chairperson, and Secretary shall be elected by the members of this Commission; the Commission shall adopt bylaws and any rules of procedure deemed necessary for its own governance.
- D. No member of the Commission shall pass on any matter in which he may have a conflict of interest.
- E. The Commission shall meet at the request of the Chairperson. All meetings of the Commission shall be open to the public.
- F. The Commission shall keep a record of its proceedings and actions which shall be on file and open to public inspection at the office of the Town Clerk.
- G. A majority of the members of the Cove Management Commission shall constitute a quorum.

The concurring vote of a simple majority of members present and eligible to vote is required to pass on any issue.

H. There may be one nonvoting, ex officio member from the Warwick Harbor Committee.

APPENDIX A MAPS AND CHARTS

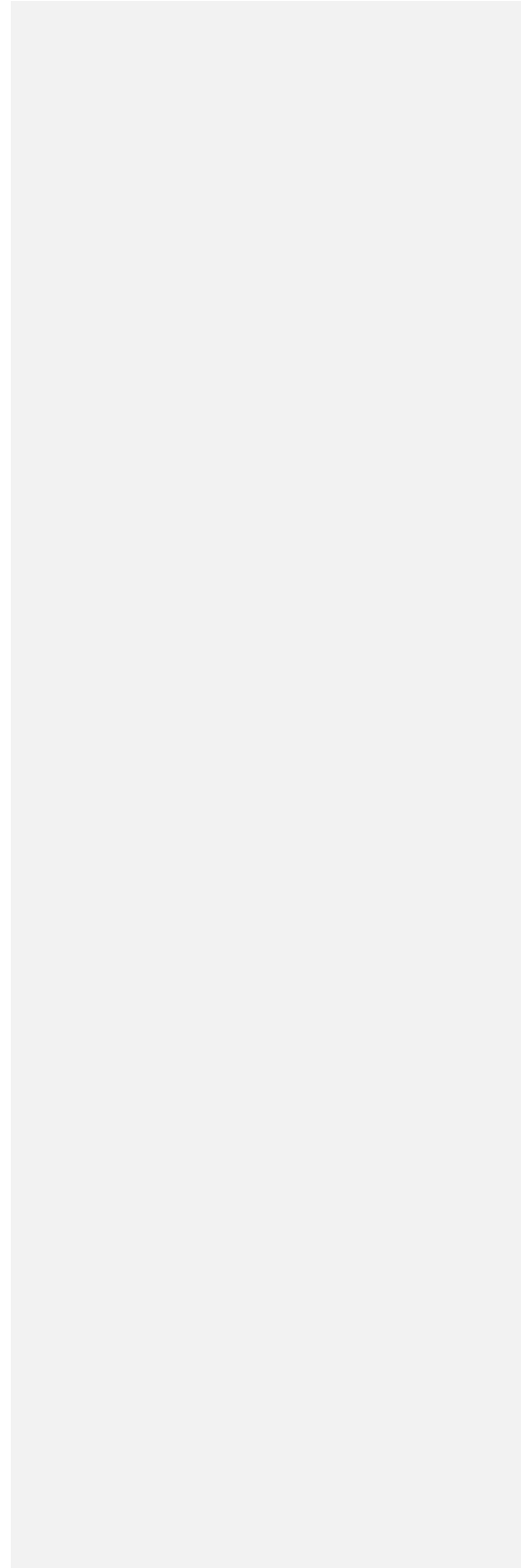
MAP 1 – Historic District Map



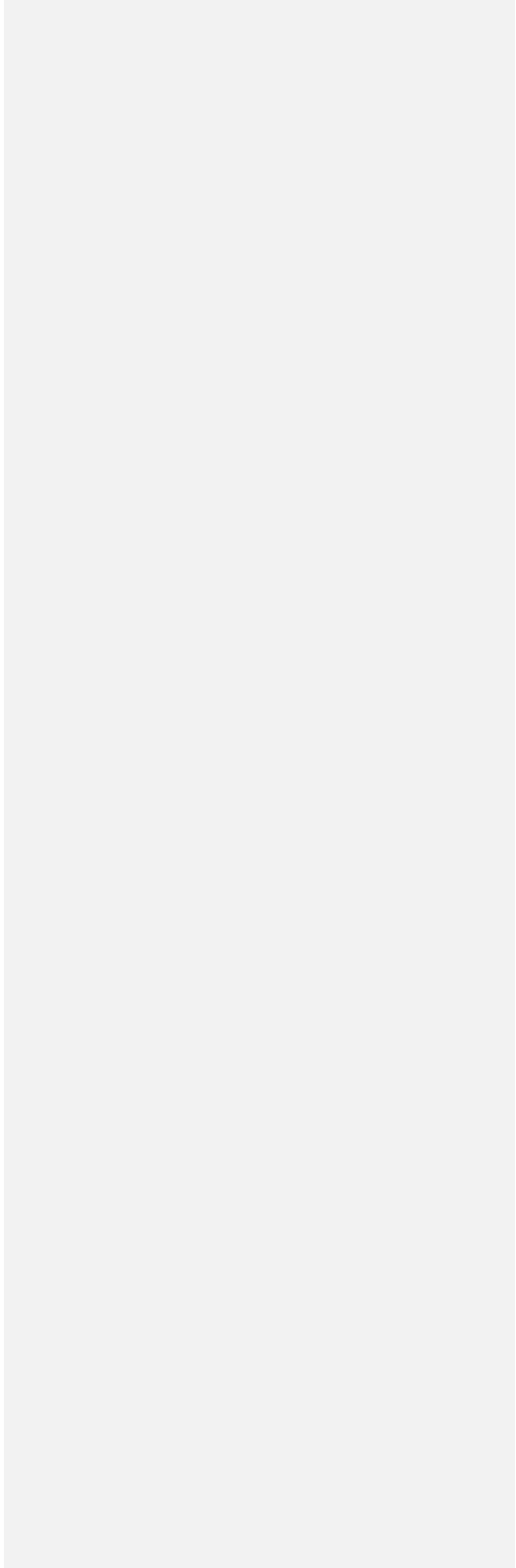
Map 2 – CRMC Water Types



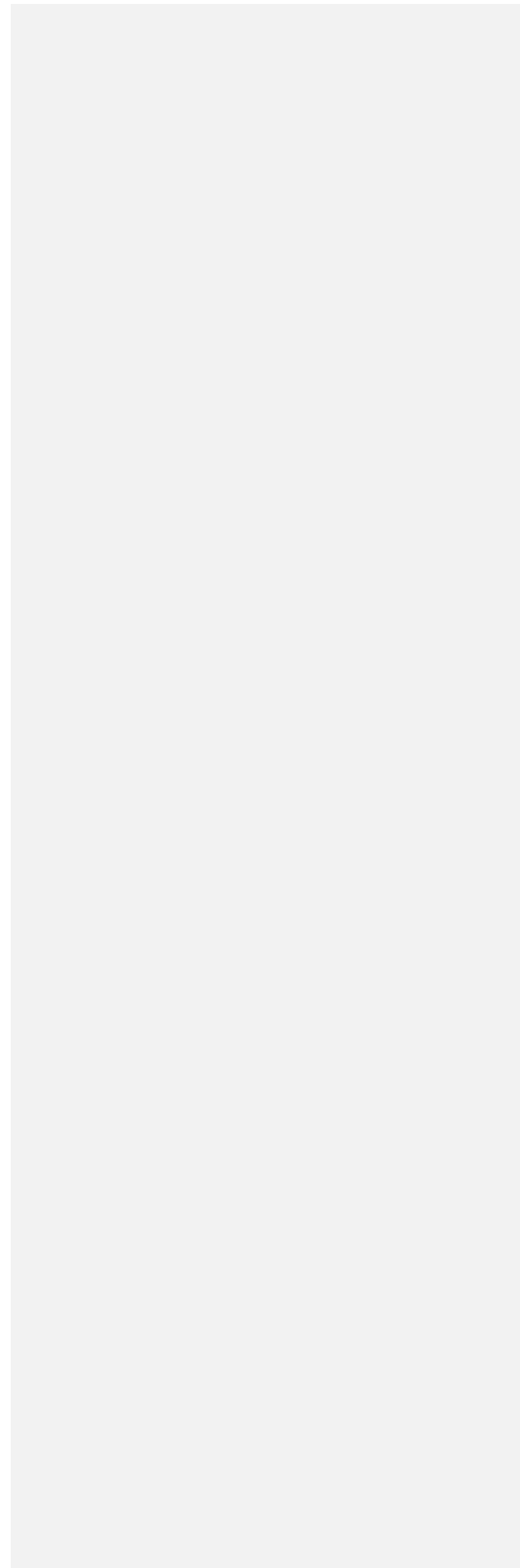
Map 3 – Harbor Boundaries



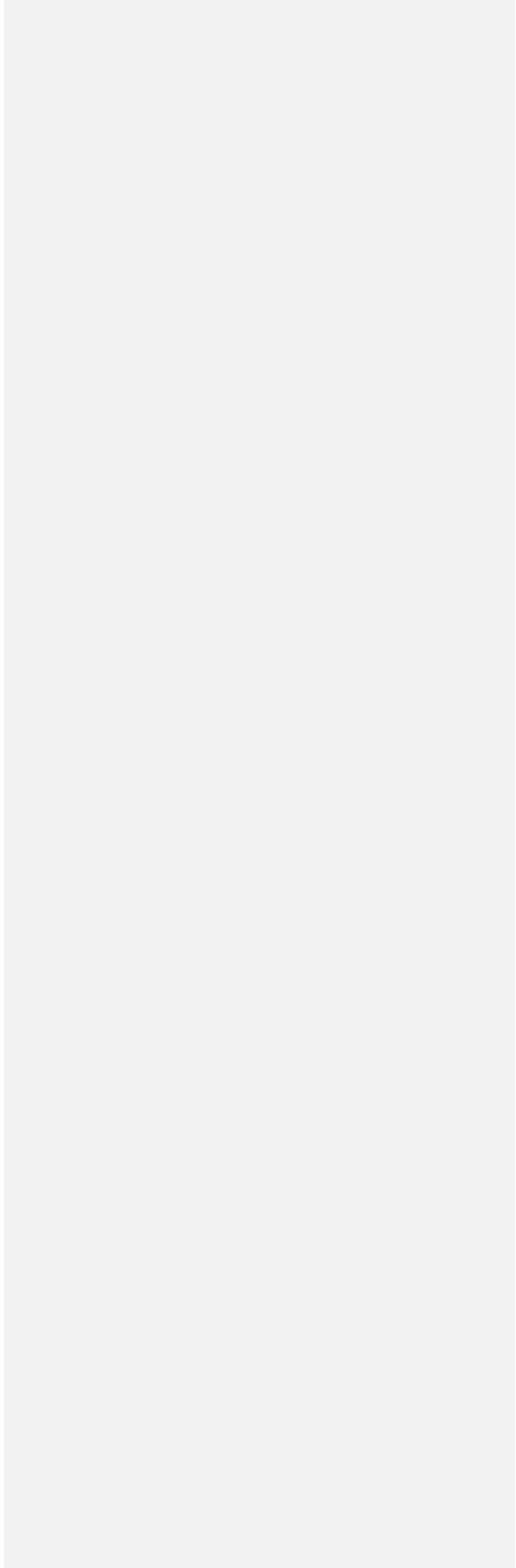
Map 4 - Water Depths



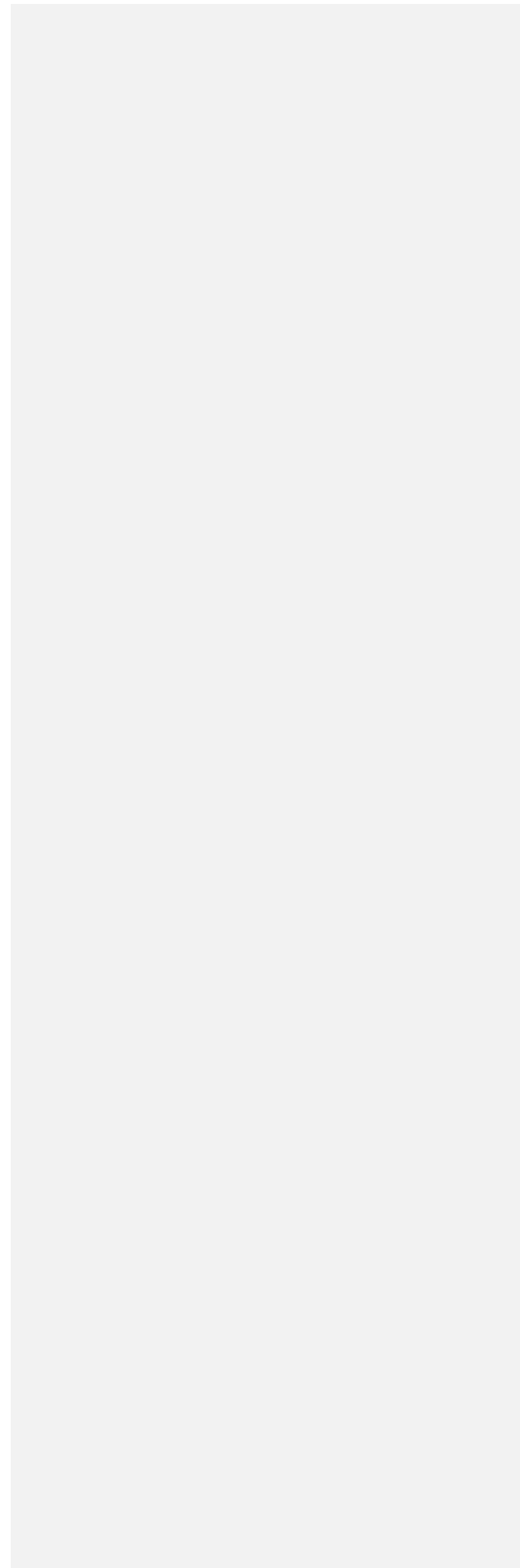
Map 5 – Flood Maps



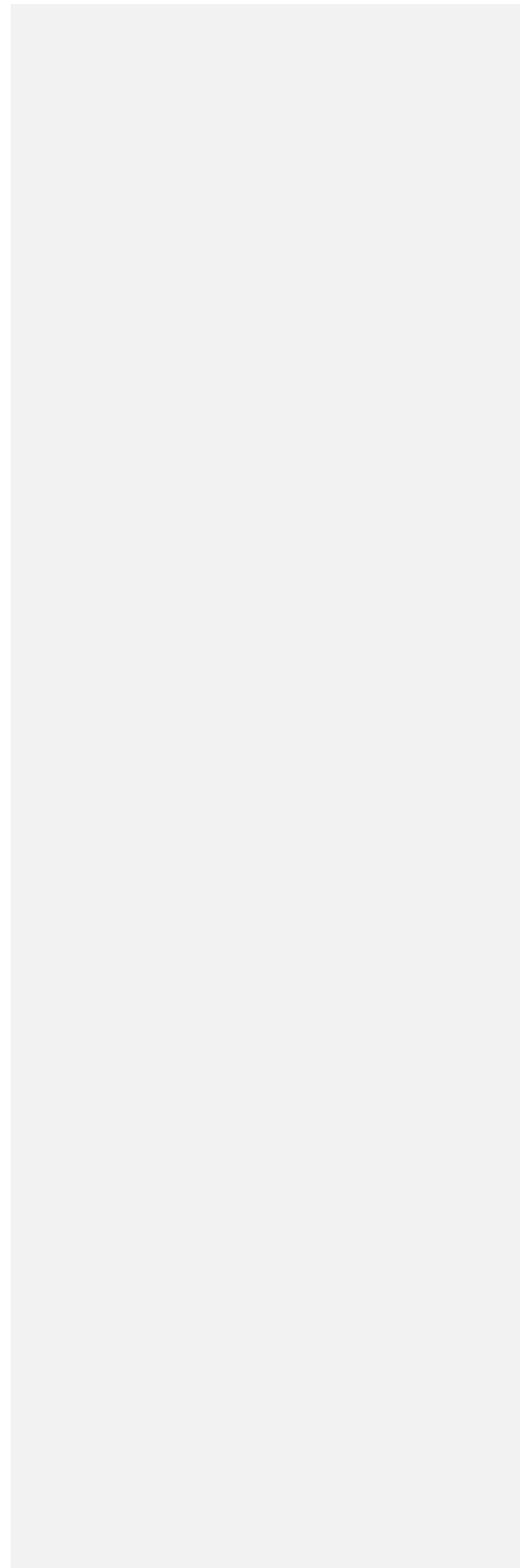
Map 6 – Dredged Areas and Navigable Channels



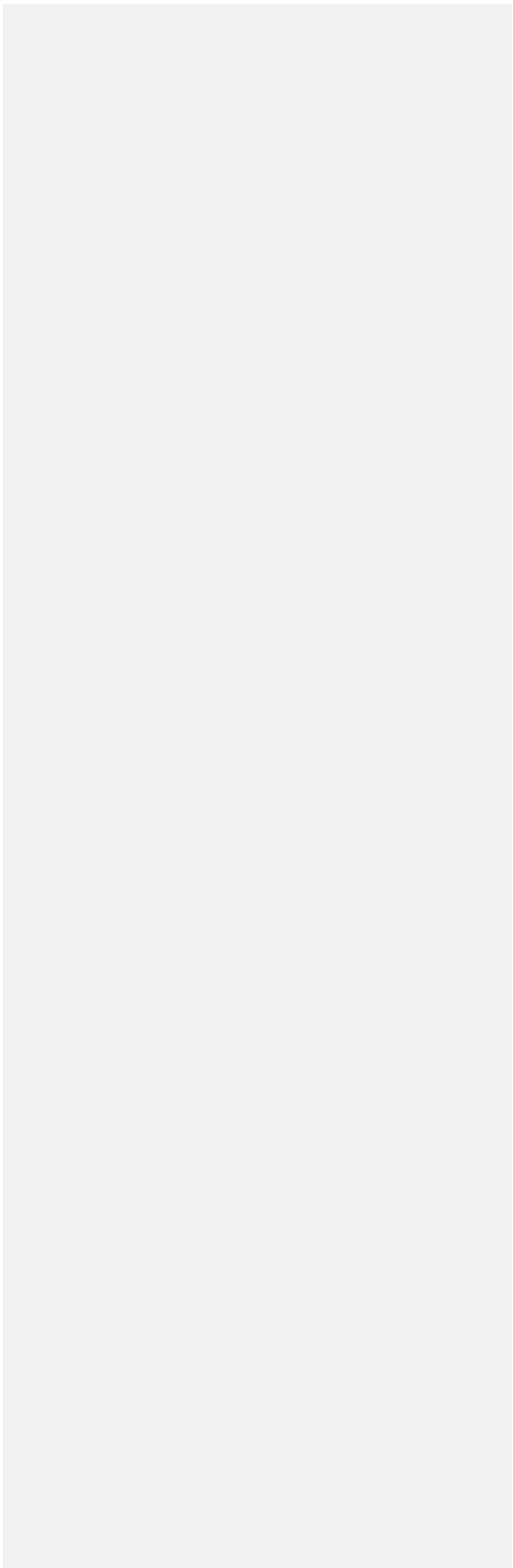
Map 7 – DEM Shellfish Pollution Closures



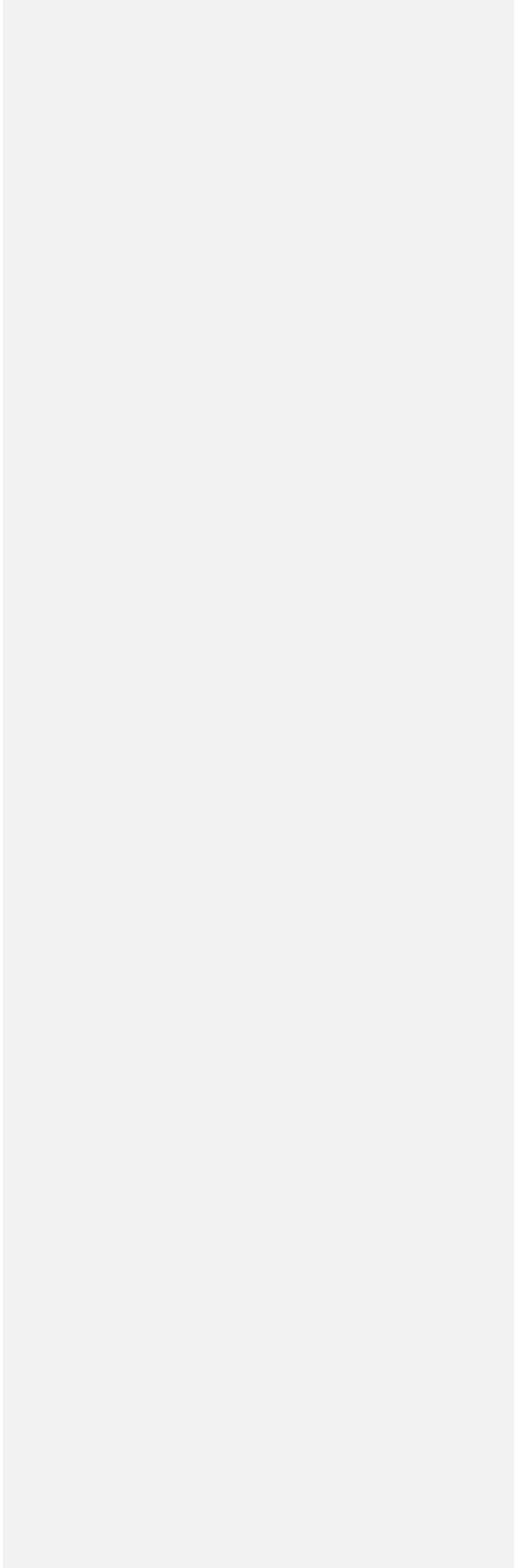
Map 8 – EG Mooring Field



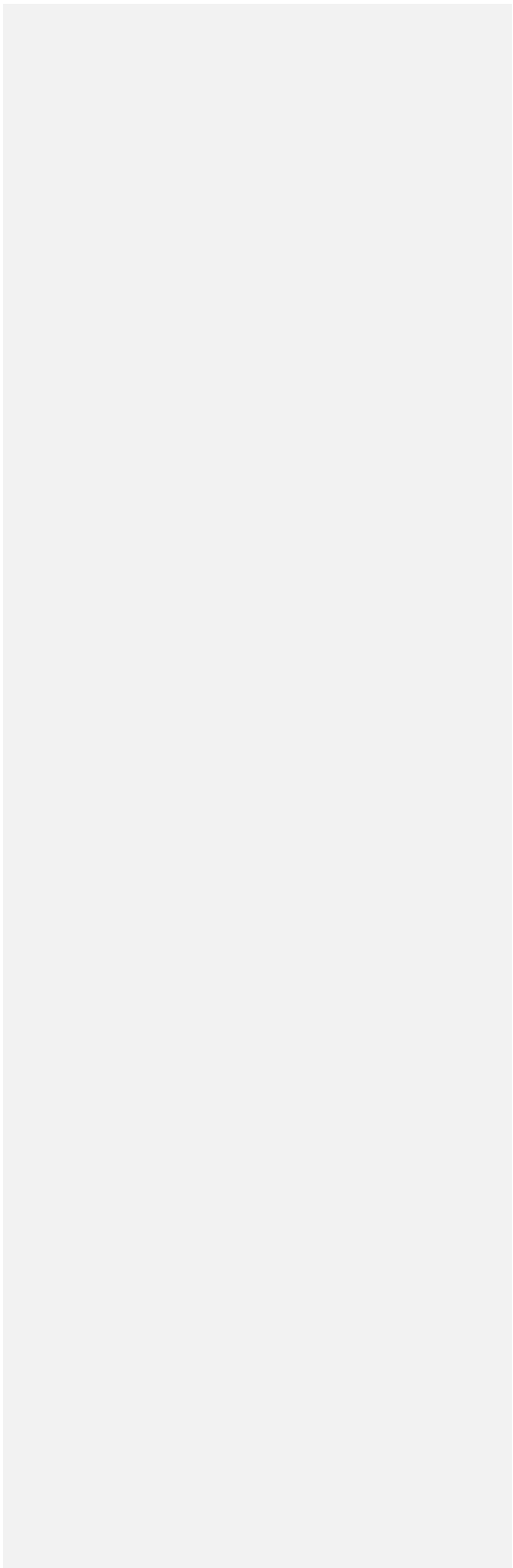
Map 9 - ROWs



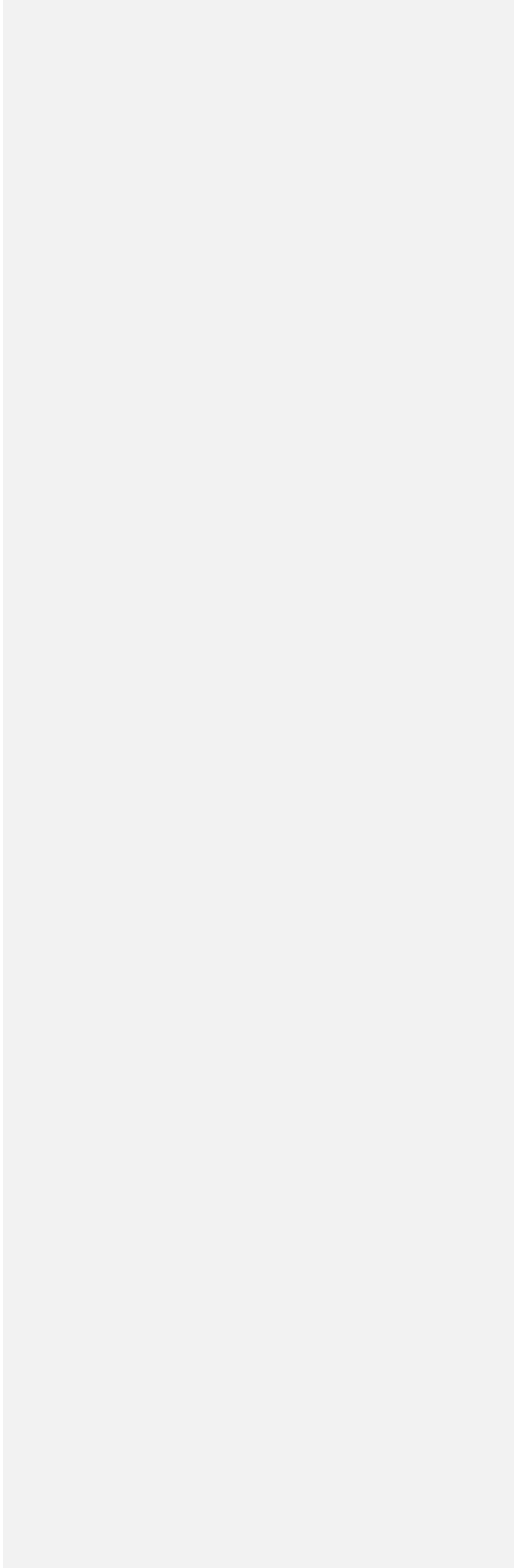
Map 10 – Waterfront Concept Plan



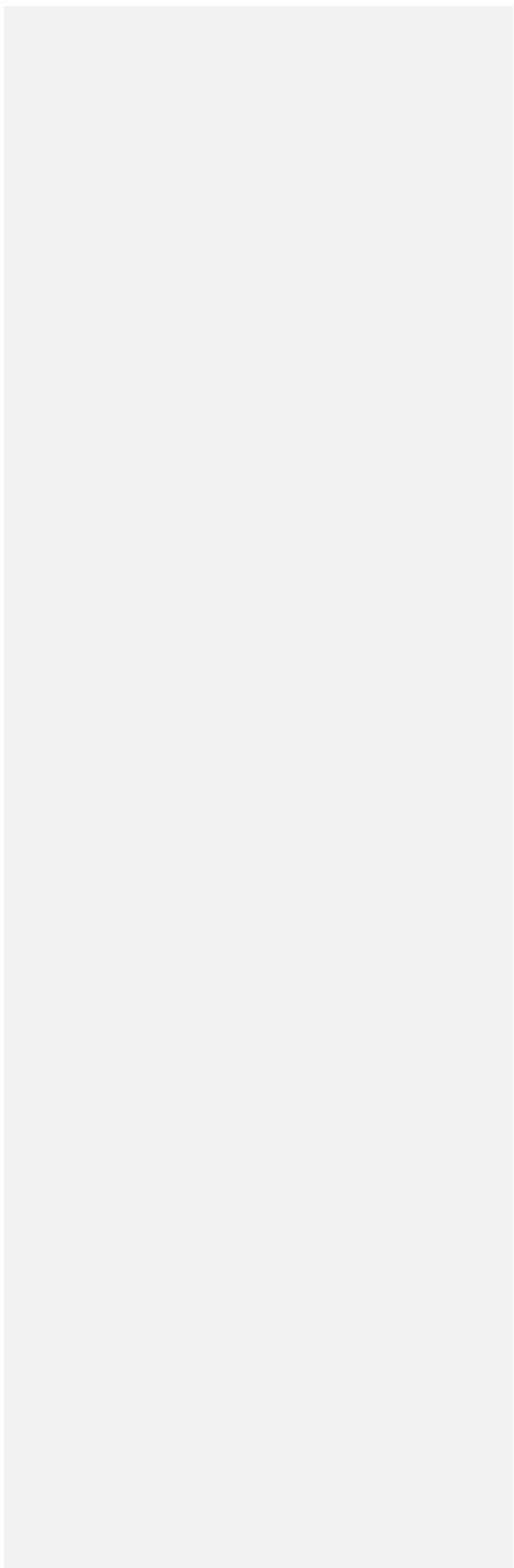
Map 11 – Zoning Map



Map 12 – Future Land Use Map



Map 13 – Visual & Aesthetic Resources



Appendix B

Storm Preparedness

One of the critical harbor and shoreline users is the individual boater. Because they are often the primary occupants of the harbor area, they should be given special attention. As part of this element of the harbor plan and related ordinance, each boater should complete and submit to the Parks and Recreation Department a preparedness plan. Town officials realize requiring boaters to submit a preparedness plan may not be the most efficient; at a minimum, a recommended plan of action be submitted to boaters for steps to take in a storm as boaters take place in the renewal process of moorings, registrations etc.

There is a growing amount of technical and educational material being developed for individual boat owners about to prepare for storm events.

The following is a summarization of key points contained in the current literature.

Boat owners will be faced with the decision of what to do with their boats in advance of a storm event.

If the storm is less than tropical strength and the decision is made so that boats can remain tied to the docks, all lines should be doubled and chaffing protection provided where dock lines pass through fairleads and chocks over the vessel's side. Dock lines should be attached to the high end of the pilings, if on a floating dock, rather than to cleats or other fastenings on the dock.

If mooring tackle has been recently inspected and serviced, leaving the boat on the mooring may be the best option. One of the drawbacks to staying on a mooring, as with staying at a dock, is the threat of storm surge. Check with expected storm-surge forecasts to determine if the scope of the mooring will provide sufficient holding power at maximum tidal flow. All individuals using their moorings during a storm must notify the Harbormaster that they will be weathering the storm on the mooring. Those same individuals will also be required to notify the Harbormaster again when finally leaving the vessel. The Town of East Greenwich requires mooring inspections to be done every three years. Inspection reports are due upon mooring renewal.

Regardless of whether the boat remains at a dock or mooring, there are some basic steps that need to be taken before the storm strikes. The first step is to minimize the amount of surface area the wind can work against. The more surface area the wind has to push on, the greater the strain on all components of your boat and securing devices. Remove sails entirely and stow them below deck, especially roller furling jibs. Secure or remove everything in the cabin that is not fastened down, with particular attention to the galley area and chemicals stored in lockers. Secure all ports and hatches, and remove and cap all funnels. Tightly secure the tiller or wheel with strong lines from either side of the cockpit, do not leave coils of line on deck, and take out all slack from running lines on the deck or mast. In order to minimize damage caused by impact of loose boats

in a crowded harbor, it is important to place fenders on both sides of the boat. Once all precautions have been taken, the boat owner should leave the boat and seek shelter.

Can the municipality tow a disabled vessel?

According to the U.S. Coast Guard, assistance cases fall into two broad categories: distress and non-distress. Distress is defined as imminent danger requiring immediate response and assistance (U.S. Coast Guard COMDTINST 16101.2B, p. 2). If the situation is life threatening, the historic law of the sea obliges the Harbormaster, or any boater, to render assistance.

In cases of distress the Coast Guard should be notified immediately of the situation and of the intent of the Harbormaster. The Harbormaster plays a key role in the hierarchy of emergency response, as he/she is often the first to arrive on-scene. If the Coast Guard deems it necessary, it may direct other private/public resources, in addition to its own, to respond. If the Coast Guard arrives and finds a stable situation with the first responders capable of assisting, it may withdraw its response equipment.

However, if the Coast Guard finds the situation unstable, and if the first responders are unable to provide the necessary assistance, it will intervene immediately. When a Harbormaster responds to a distress situation, and provides some form of emergency aid, he/she is afforded protection from liability through Title 46, Section 2303 of the US Code which states:

Any person...who gratuitously and in good faith renders assistance at the scene of a vessel collision, accident, or other casualty without objection of any person assisted, shall not be held liable for any civil damages as a result of the rendering of assistance for any act or omission in providing or arranging salvage, tonnage, medical treatment, or other assistance where the assisting person acts as an ordinary, reasonable prudent man would have acted under the same or similar circumstances.

The key phrase here is “act as an ordinary, reasonable prudent...” which dictates that the Harbormaster must act in good faith and in a reasonable, seamanlike manner. Any variance from this standard may invoke liability.

This potential liability, and the fact that alternatives exist, should dissuade the Harbormaster from towing. Other resources that may be able to offer assistance can be contacted. The Coast Guard will issue a Marine Assistance Request Broadcast (MARB) which solicits voluntary response of anyone who can assist the disabled mariner (including Coast Guard Auxiliary Units and Good Samaritans) (U.S. Coast Guard COMDTINST 16101.2B, p. 2). A Harbormaster may also contact a friend or family member of the boater for assistance.

Another viable form of assistance may be sought through professional towing companies that work in the area. The Harbormaster can provide the disabled boater with information on how to contact these companies, and their current rates. In most instances these firms will contact the boater directly in response to the MARB. Once the boater decides upon a service and a verbal

agreement is made, the Harbormaster cannot interfere with that contract. Safe Sea - 401-294-2360 Sea Tow - 800-338-7327

It is clear that "good faith" actions of Harbormasters are protected, to some degree, by the "Federal Boating Safety Act of 1971," but to what extent remains uncertain. Unfortunately, there is no statutory framework from which to formulate guidelines. Issues such as this are decided by customary law, which means each case is reviewed individually by a judge and jury. Because there are so few cases involving Harbormaster liability, judges and jurors lack prior judicial decisions which set precedents. It is therefore difficult to predict the extent to which Harbormasters will be protected by the state. In order to limit the potential of being found liable, Harbormasters must realize the extent of their liability and must make rational, professional decisions which can be supported as reasonable actions before a court of law.

What is the municipalities mooring liability?

The major concern focuses on the Harbormaster's involvement with setting mooring standards, placing ground tackle and conducting inspections. In order for a Harbormaster to avoid or minimize the amount of liability he/she must exercise reasonable care. This includes:

- (1) Setting mooring standards which are appropriate for the area. The Harbormaster must be able to justify the standards which have been set. The maximum load the mooring gear is expected to withstand must be identified and documented (Taylor, 1992);
- (2) Providing mooring occupants with information on the stress points of moorings and offering advice on dealing with extreme weather conditions; and
- (3) Ensuring that all mooring gear under town control is routinely inspected, and that proper records of these inspections are kept. The Town of East Greenwich places the burden of mooring inspection on the boaters. Moorings are to be inspected every three years.
- (4) Identifying and correcting situations which may cause damage to a moored vessel. If a Harbormaster learns that two boats are hitting one another while on town managed moorings, the situation needs to be rectified quickly. The Harbormaster must first stop the vessels from hitting. This can be achieved by removing one of the vessels from its mooring. The Harbormaster then decides where to move the vessel. Information on mooring specifications and storm preparedness can be obtained through the East Greenwich Recreation Office.

HAZARD MITIGATION PLAN

SUMMARY FOR EAST GREENWICH COVE

- Land Use: The land use along the shores of East Greenwich are a mix of residential and minimal water dependent commercial development, such as marinas, boat yards, commercial seafood businesses and restaurants, etc. The northern edge of the cove and commercial properties will be significantly affected in the event of severe weather combined with high tides and a substantial storm surge.
- Moorings: The town regulates mooring fields in East Greenwich Cove.

1. Authority:

The primary authority for carrying out the responsibilities detailed in this plan is vested with the Harbormaster, who will work in cooperation with the harbor commission and East Greenwich Recreation office. However to successfully complete the activities outlined in this plan, the Harbormaster is required to work with other town departments including the: planning board, police and fire departments, town planners, building code official, department of public works and the emergency management officer.

2. Goals of the Harbor Hazard Mitigation Plan

To prevent the loss of life and property by:

- properly preparing for storm events
- having a completed and enforceable response and recovery plan
- working in cooperation with harbor and shorelines users to ensure that a coordinated approach is applied to hazard mitigation
- integrating harbor hazard mitigation activities with other, ongoing, local hazard mitigation programs.
- identifying and completing long term actions to redirect, interact with or avoid the hazard.

3. Risk Assessment

General Harbor Characteristics:

The bottom consistency is sandy. East Greenwich Cove has a soft bottom. The average depth in the East Greenwich Cove is approximately 6 feet.

The surrounding harbor uses can be divided into four general uses:

1. Residential – Generally, the single family dwellings are built upon lots that are approximately 10,000 sf. in size or larger. There are also two residential condominium properties.
2. Light office/Industry.
3. Commercial – commercial waterfront uses such as marinas, vessel repair businesses and restaurants are located in the harbor. There are eight marinas located in the East Greenwich Cove. Fuel is available to boaters at the East Greenwich Yacht Club.

4. Recreational/Open Space – Town boat ramp, Barbara Tufts Playground and the former landfill.

4. High Hazard Areas:

Historically, flooding has always been significant during storm events for East Greenwich along the northern edge of the waterfront from London Street to Division Street.

5. Risk Assessment Table

Threat	Marine Interest	Effect	Result
Flood/Surge	Boaters on Moorings and Docks	Decreased scope	Dragging
	Marine Facility	Flooded facility	Floating debris
			Spills of hazardous materials
			Environmental Damage
		Docks topping piles	Freed docks and boats
	Private Residences	Flooded property	Personal property loss
			Structural damage
		Docks topping piles	Freed docks and boats
Wind	Boaters on Moorings and Docks	Windage	Dragging or pennant breakage
			Boat damage
	Marine Facility	Windborne debris	Structural damage

6. Strategies for Preparedness, Response and Recovery

1. Town of East Greenwich - The Harbormaster will coordinate all harbor activities related to preparation, response and recovery. This will be done in coordination with the emergency management officer and other department heads.
2. Preparedness - The Town of East Greenwich , through its Harbormaster, will activate the following preparedness, response and recovery plan 72 hours prior to a severe storm event or as necessary for unpredictable events.

THE SAFFIR-SIMPSON HURRICANE SCALE

The Saffir-Simpson Hurricane Scale is a 1-5 rating based on the hurricane's present intensity. This is used to give an estimate of the potential property damage and flooding expected along the coast from a hurricane landfall. Wind speed is the determining factor in the scale, as storm surge values are highly dependent on the slope of the continental shelf and the shape of the coastline, in the landfall region. Note that all winds are using the U.S. 1-minute average.

Category One Hurricane:

Winds 74-95 mph (64-82 kt or 119-153 km/hr). Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage. Hurricane Lili of 2002 made landfall on the Louisiana coast as a Category One hurricane. Hurricane Gaston of 2004 was a Category One hurricane that made landfall along the central South Carolina coast.

Category Two Hurricane:

Winds 96-110 mph (83-95 kt or 154-177 km/hr). Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings. Hurricane Frances of 2004 made landfall over the southern end of Hutchinson Island, Florida as a Category Two hurricane. Hurricane Isabel of 2003 made landfall near Drum Inlet on the Outer Banks of North Carolina as a Category 2 hurricane.

Category Three Hurricane:

Winds 111-130 mph (96-113 kt or 178-209 km/hr). Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtainwall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences with several blocks of the shoreline may be required. Hurricanes Jeanne and Ivan of 2004 were Category Three hurricanes when they made landfall in Florida and in Alabama, respectively.

Category Four Hurricane:

Winds 131-155 mph (114-135 kt or 210-249 km/hr). Storm surge generally 13-18 ft above normal. More extensive curtainwall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes.

Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km). Hurricane Charley of 2004 was a Category Four hurricane made landfall in Charlotte County, Florida with winds of 150 mph. Hurricane Dennis of 2005 struck the island of Cuba as a Category Four hurricane.

Category Five Hurricane:

Winds greater than 155 mph (135 kt or 249 km/hr). Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required. Only 3 Category Five Hurricanes have made landfall in the United States since records began: The Labor Day Hurricane of 1935, Hurricane Camille (1969), and Hurricane Andrew in August, 1992. The 1935 Labor Day Hurricane struck the Florida Keys with a minimum pressure of 892 mb--the lowest pressure ever observed in the United States. Hurricane Camille struck the Mississippi Gulf Coast causing a 25-foot storm surge, which inundated Pass Christian. Hurricane Andrew of 1992 made landfall over southern Miami-Dade County, Florida causing 26.5 billion dollars in losses--the costliest hurricane on record. In addition, Hurricane Gilbert of 1988 was a Category Five hurricane at peak intensity and is the strongest Atlantic tropical cyclone on record with a minimum pressure of 888 mb.

Steps for Storm Preparedness

Level 3 – 72 Hours Prior to Storm

1. If hurricane, begin tracking and monitoring hourly weather reports.
2. Contact any services under contract for after event to assess their readiness.
3. Manage harbor traffic as it increases during marina/boater preparation activities.
4. Ensure fuel tanks are full and reserve batteries are charged.
5. Inventory and update first aid equipment and other onboard emergency tools.
6. Contact local marinas and boat moving companies for statuses to relay to mariners.
7. Maintain radio watch.
8. Alert local port community, encouraging boat owners to seek safe refuge, remove boats from water, or take action to minimize damaging effects.
9. Alert local marinas, marine interests, holders of mooring permits, and occupants of special anchorage areas to impending emergency.
10. Keep Marine Safety Office (MSO) Providence apprised of hazardous conditions in harbor.
11. Monitor East Greenwich Cove with vessels taking refuge.
12. Document waterfront using photographs or video.
13. Start tracking time and resource allocations for possible state and federal reimbursement.
14. Post notice to have all vessels removed from Town docks and boat ramp.

Level 2 – 48 Hours Prior to Storm

1. Continue to perform activities in level 3.
2. Contact mooring permit holders who are not complying with preparedness plan.
3. Assist marinas/waterfront business with special requests.
4. Continue to manage harbor traffic as it increases.
5. Finalize emergency work schedule with Harbormasters and police/fire departments.
6. Confirm arrangements to have Harbormaster vessel hauled and stored.
7. Preparation of town properties with department of public works, that includes:
 - removing all town equipment from flood plain;
 - securing all items such as trash bins, benches, etc.
8. Establish liaison with police, fire and public works departments.
9. Alert maritime community to unsafe conditions in the harbor as needed.
10. Curtail regular business activities.
11. Begin regular patrols of the harbor to ensure necessary individual precautions are begin taken.
12. Advise MSO Providence as to the status of emergency preparedness in progress.
13. Alert local harbor community to any impending closure of anchorages or waterways.
14. Encourage local marinas to suspend fueling operations and to secure fueling piers sufficiently to minimize pollution threat.
15. Inventory of individuals who plan on staying on their moored vessels during the storm event.

Level 1 – 24 Hours Prior to Storm

1. Final patrol of the harbor:
 - inventory number of vessels and precautions taken by harbor and shoreline users;
 - clear public pier of vessels and equipment.
2. Log information on transient boats.
3. Fuel Harbormaster vessel.
4. Haul and store Harbor Patrol vessel with assistance of the Department of Public Works.
5. Complete shoreline survey and final harbor check from shore.
6. Alert harbor community and MSO to any unsafe conditions in harbor.
7. Continue to perform pertinent level 2 activities.
8. All vessels must be removed from town docks at this time. Transient moorings **will not** be allowed to be used during any storm event.
9. Raise hurricane signal twelve hours prior to storm’s arrival.

Response

The Town of East Greenwich’s policy is that no emergency watercraft will be dispatched for emergency response during a storm event. All requests for assistance will be forwarded to the nearest Coast Guard Station. This policy will remain in effect unless revoked by the Fire Chief or Town Administrator. The Harbormaster will remain on-call to address any harbor related issues. This will also allow the Harbormaster vessel to begin operation immediately at the conclusion of storm. The Harbormaster shall monitor police, fire and marine frequencies throughout the event.

Recovery

Immediately after the event has terminated, the town has three recovery priorities.

Priority 1:

Reestablish the Police Department as an operational unit in order to facilitate the second and third priority.

Priority 2:

Take the necessary immediate action to minimize additional risk to life and property.

Priority 3:

Reopen the harbor for recovery activity.

To achieve these priorities, the following sequential actions will be taken:

Immediate 24 Hours After Storm

1. Assess readiness of the Police Department, correct deficiencies
 - reestablish radio communications.
2. Complete rapid appraisal of damage
3. Provide damage assessment information to town officials and to MSO Providence.

4. Initiate pre-established contracts services companies (towing, salvage) if required
5. Institute security watches as necessary
6. Alert maritime community to unsafe conditions in the harbor
7. Provide damage assessment information to town officials and to MSO Providence
8. Track time and resource allocation of Harbormaster for possible state and federal reimbursement.

Mid-Term 1 to 14 Days After Storm

1. Complete comprehensive inventory of damage using photographs and video if possible
2. Notify appropriate parties regarding damage (i.e., mooring holders)
3. Provide list of unidentified boats to MSO Providence and DEM Enforcement
4. Contact local harbor and shoreline users to assess their situation
5. Provide MSO Providence with a daily harbor status.
6. Begin to remove large pieces of floating debris from the harbor
7. Assist town and state agencies with damage assessments and emergency permitting process.

Long-Term 14 to 90 Days After Storm

1. Analyze effects of storm on the cove. Complete summary report within 30 days of storm event for Town Council and Town Administrator.
2. Review mitigation list and selection actions that could be implemented during the recovery phase
3. Conduct an evaluation meeting for harbor and shoreline users to identify problems not properly addressed by this plan
4. Complete a survey of boat damage
5. Update hazard mitigation plan and identify new mitigation opportunities
7. Assist emergency situations as appropriate
8. Track time and resource allocations for possible state and federal reimbursement.

Harbor and Shoreline Users

Marina facilities - As part of the Town of East Greenwich's harbor hazard mitigation plan, all marina facilities as defined by CRMC, will submit a hazard mitigation plan to the Harbormaster within 90 days of this document being approved. The facility's plan will be updated annually and any changes will be reported to the Harbormaster by January 1 of each year.

Facility plans will include:

- Primary contact person primary and secondary phone numbers.
- VHF channel that is monitored
- List of facility staff who are expected to assist in preparation, response and recovery phases.
- List of hazardous material stored on site (i.e. waste oil, fuel tanks, solvents). This information can be extracted from the facilities Environmental Operations and Maintenance Plan.
- Inventory of potential recovery equipment (heavy equipment, generators), including outside contracts for special equipment for recovery phases
- Debris disposal plan
- Special assistance requested from town
- List of preparation, response and recovery activities and timing

Boaters - Boats moored on possible town managed moorings will be required to submit a preparedness plan. This will be accomplished by adding a preparedness plan questionnaire as part of the annual mooring renewal forms. For a mooring permit to be approved, the questionnaire must be completed and returned with the mooring application. Boaters will be expected to comply, to the best of their ability, with the plan they have prepared. The boat owner should advise the Parks and Recreation Department of any significant changes to the plan made during the boating season.

Mooring standards have been developed to maximize safety during normal weather conditions. To safeguard a moored boat during a severe storm event, additional precautions will be necessary. This actions will include:

- Improving the connection between the vessel and the mooring chain by using chafing gear and extra lines.
- Reducing windage
- Whenever possible, increase scope.

Boaters should also consider:

- Bypassing the mooring swivel and attach the chain directly to the pennant.
- Hauling their boat and storing it upland
- Leave anchor lights and auto bilge pumps on.
- Ensure that self-bailing cockpit drains are clear of debris
- Add an emergency catenary weight at the vessel end of the chain to absorb shock

Boat owners are encouraged **NOT** to stay aboard during major storm events. The town's standard procedure is not to respond to on-the-water requests for assistance during a major storm event. Such requests for assistance will be forward to the nearest U.S. Coast Guard Station.

Waterfront business (excluding marinas) - All waterfront business are expected to take the necessary precautions to protect their property.

Shorefront home owners- All shorefront homeowners are expected to take the necessary precautions to protect their property.

Special Hazards

1. Town Docks- all vessels shall be cleared of the town commercial dock 72 hours prior to expected storm event.
2. Transients- vessels not usually moored in the harbor, but seeking safe refuge will be allowed to moor in the specified anchorage areas. Transit yachts will not be allowed to tie to a mooring if not authorized by both the mooring owner and the Harbormaster. Transient vessels seeking shelter will provide the Harbormaster with:
 - name of owner and captain if different.
 - home port
 - registration/documentation numbers
 - length, draft and type (power/sail)
 - number of persons aboard
 - address and phone were owner can be contacted
3. Passenger vessels and ferries- As deemed necessary by the Harbormaster, local passenger vessels and ferries will submit individual plans to the Harbormasters. These plans will include information about planned preparedness, response and recovery actions.

Inventory of longer term mitigation projects

1. Maintaining the existing seawalls. Although it does not provide complete protection, there is a measure of safety gained by having the seawall properly maintained.
2. Methods to increase scope within the harbor without losing surface area maximization should be explored. Actions may include a targeted approach to removing vessels from moorings and increasing the scope with storm pennants for those that remain. In the existing mooring configuration, increasing mooring scope is difficult. Therefore, the town should explore alternative methods for gridding the mooring field that will allow space maximization and increased scope.
3. Implement an annual education and training program conducted by the Harbormaster for the public. This program should focus on storm preparedness for the boater. Other workshops should be conducted with the help of the building inspector and planning board to discuss shoreline construction standards and storm proofing homes and business.
4. The Harbormaster should compile a list educational material that can be shared with harbor and shorefront users.

5. Maintain an accurate lists of principle marine interests including marinas, waterfront business, neighboring Harbormasters, Coast Guard, Towing and Salvage Companies, Environmental Response teams, Key vessel operators (charter boats and ferries) fishing cooperatives, etc.
6. Starting at the beginning of each hurricane season (June 1) the Harbormaster shall:
 - review local harbor hazard mitigation plan and update as necessary
 - distribute and post revised plan
 - inspect all storage sheds, outbuildings, and portable office trailers for proper tie-down.
 - inspect all emergency power sources and lighting systems to ensure they are operational
 - prepare and distribute a storm checklist for to boaters
7. Conduct a Disaster Mitigation workshop for Business and Industry in cooperation with RI Emergency Management Agency. Propose activities that can be implemented to mitigate damage. Suggested actions for local coastal business may include:
 1. Place more essential equipment and functions on higher levels of the structure, above the anticipated flood level;
 2. Construct berms around the facility;
 3. Install or have dewatering pumps;
 4. Provide emergency generators and potable water storage;
 5. Install blowout plugs in floor slabs whose elevation is below anticipated flood elevation.
 6. Install master shutoff valve controls for sewer, gas, and water above anticipated flood elevation;
 7. Reinforce walls to carry hydrostatic and hydrodynamic loads;
 8. Install flood proof electrical systems and utility cores in areas subject to flooding; and
 9. Install safety glass in windows.
8. Assess the feasibility of developing a volunteer who can assist the Harbormaster secure vessels during the phase or maintain security patrols after an event.

Coordination

Memorandum of Agreement shall be entered into with the Department of Public Works to establish the working relationship between it and the Harbormaster for completing the following activities: preparing pubic waterfront property and hauling and storing the Harbormaster vessel

The harbor commission shall work with the planning board and planning department to establish redevelopment policies for shoreline areas. These policies will be consistent with CRMC and DEM regulations.

In order to discourage redevelopment of critical shoreline areas and to reduce vulnerability of life and property to coastal hazards the town should:

1. Encourage and participate in the maintenance, restoration and enhancement of shoreline.
2. Limit development and redevelopment in hazardous coastal areas to protect lives and property from coastal storms and hazards. Post storm development shall avoid extensive rebuilding and intensification of land uses in critical areas and encourage reductions in the amount and intensity of development in order to reduce exposure of lives and property to coastal hazards.
3. Attempt to minimize public expenditures and reduce risk to public infrastructure and facilities through redevelopment.
4. Encourage relocation of structures landward of critical areas. This can be done by influencing State policies, expenditures, and programs to reduce the amount and intensity of development and redevelopment.
5. Require shorefront areas replacement of non-conforming uses and eliminate unsafe conditions and inappropriate uses as opportunities arise.
6. Identify shorefront areas that shall be subject to post-storm regulations and acquisition in order to reduce loss of life and damage to property.

In order to further coordinate local policies contained in the comprehensive land use plan for resource protection, coastal management, the town should consider the following policies.

1. The town should work with appropriate state agencies to ensure that Post-storm shoreline management options for shoreline areas shall be consistent, to the extent possible, with use, density and other land uses policies and standards contained in the comprehensive land use plan.
2. Create local priorities for acquiring coastal properties to promote hazard mitigation, public recreation, and resource management objectives contained in the comprehensive plan.
3. Post-storm redevelopment options should consider impacts to evacuation routes, as determined by emergency management officials.

PAST STORM INFORMATION

THE GREAT NEW ENGLAND HURRICANE of 1938 (CAT 3 - September 21)

The Great New England Hurricane of 1938 was one of the most destructive and powerful storms ever to strike southern New England. This system developed in the far eastern Atlantic, near the Cape Verde Islands on September 4. It made a twelve day journey across the Atlantic and up the eastern seaboard before crashing ashore on September 21 at Suffolk County, Long Island, then into Milford, Connecticut. The eye of the hurricane was observed in New Haven, Connecticut, 10 miles east of Milford. The center made landfall at the time of astronomical high tide, moving north at 60 mph. Unlike most storms, the hurricane did not weaken on its way toward southern New England, due to its rapid forward speed and its track. This kept the center of the storm over the warm waters of the Gulf Stream.

Sustained hurricane force winds occurred throughout most of southern New England. The strongest winds ever recorded in the region occurred at the Blue Hill Observatory with sustained winds of 121 mph and a peak gust of 186-mph. Sustained winds of 91 mph with a gust to 121 mph was reported on Block Island. Providence, Rhode Island recorded sustained winds of 100 mph with a gust to 125 mph. Extensive damage occurred to roofs, trees and crops. Widespread power outages occurred, which in some areas lasted several weeks. In Connecticut, downed power lines resulted in catastrophic fires to sections of New London and Mystic. The lowest pressure at the time of landfall occurred on the south side of Long Island, at Bellport, where a reading of 27.94 inches was recorded. Other low pressures included 28.00 inches in Middletown, Connecticut and 28.04 inches in Hartford, Connecticut.

The hurricane produced storm tides of 14 to 18 feet across most of the Connecticut coast, with 18 to 25 foot tides from New London east to Cape Cod. The destructive power of the storm surge was felt throughout the coastal community. Narragansett Bay took the worst hit, where a storm surge of 12 to 15 feet destroyed most coastal homes, marinas and yacht clubs. Downtown Providence, Rhode Island was submerged under a storm tide of nearly 20 feet. Sections of Falmouth and New Bedford, Massachusetts were submerged under as much as 8 feet of water. All three locations had very rapid tides increased within 1.5 hours of the highest water mark.

Rainfall from this hurricane resulted in severe river flooding across sections of Massachusetts and Connecticut. Three to six inches fell across much of western Massachusetts and all but extreme eastern Connecticut. Considerably less rain occurred to the east across Rhode Island and the remainder of Massachusetts. The rainfall from the hurricane added to the amounts that had occurred with a frontal system several days before the hurricane struck. The combined effects from the frontal system and the hurricane produced rainfall of 10 to 17 inches across most of the Connecticut River Valley. This resulted in some of the worst flooding ever recorded in this area. Roadways were washed away along with sections of the New York, New Haven, and Hartford Railroad lines. The Connecticut River, in Hartford reached a level of 35.4 feet, which was 19.4 feet above flood stage. Further upstream, in the vicinity of Springfield, Massachusetts, the river rose to 6 to 10 feet above flood stage, causing significant damage. A total of 8900 homes, cottages and buildings were destroyed, and over 15000 were damaged by the hurricane. The

marine community was devastated. Over 2,600 boats were destroyed, and over 3,300 damaged. Entire fleets were lost in marines and yacht clubs along Narragansett Bay. The hurricane was responsible for 564 deaths and at least 1700 injuries in southern New England. Damage to the fishing fleets in southern New England was catastrophic. A total of 2,605 vessels were destroyed, with 3,369 damaged.

HURRICANE CAROL (CAT 3 - August 31, 1954)

On the morning of August 31, Hurricane Carol, the most destructive hurricane to strike southern New England since the Great New England Hurricane of 1938, came crashing ashore near Old Saybrook, Connecticut, leaving 65 people dead in her wake. Carol had developed in the Bahamas several days earlier, making only slow progress northward. Carol began her rapid acceleration during the evening of August 30, while passing just east of Cape Hatteras, North Carolina. Carol made landfall on eastern Long Island and southeastern Connecticut about 12 hours later, moving at over 35 mph.

Sustained winds of 80 to 100 mph roared through the eastern half of Connecticut, all of Rhode Island, and most of eastern Massachusetts. Scores of trees and miles of power lines were blown down. Strong winds also devastated crops in the region. Nearly 40 percent of apple, corn, peach, and tomato crops were ruined from eastern Connecticut to Cape Cod. Several homes along the Rhode Island shore had roofs blown completely off due to winds which gusted to over 125 mph. The strongest wind ever recorded on Block Island, Rhode Island occurred during Carol when winds gusted to 135 mph. The National Weather Service in Warwick, Rhode Island recorded sustained winds of 90 mph, with a peak gust of 105 mph. Lowest recorded pressure was at Suffolk County Airport on the south shore of Long Island with a reading of 28.36. Block Island reported 28.51 while Quonset Airport in North Kingstown, Rhode Island reported 28.72.

Hurricane Carol arrived shortly after high tide, causing widespread tidal flooding. Storm surge levels ranged from 5 to 8 feet across the west shore of Connecticut, and from 10 to 15 feet from the New London area eastward. Storm tide profiles show, as in 1938, how dramatically the tides increased just before landfall across Narragansett Bay, the Somerset, Massachusetts area and in New Bedford, Massachusetts harbor. Narragansett Bay and New Bedford harbor received the largest surge values of over 14 feet in the upper reaches of both water ways. On Narragansett Bay, just north of the South Street Station site, the surge was recorded at 14.4 feet, surpassing that of the 1938 hurricane. However, since Hurricane Carol arrived after high tide, the resulting storm tide was lower.

Coastal communities from central Connecticut eastward were devastated. Entire coastal communities were nearly wiped out in New London, Groton, and Mystic, Connecticut, as well as from Westerly to Narragansett, Rhode Island. Once again, as in the 1938 hurricane, downtown Providence, Rhode Island was flooded under 12 feet of water.

Rainfall amounts ranged from 2 to 5 inches across most of the area. The heaviest amounts, up to 6 inches, occurred in the New London, Connecticut area in the vicinity of landfall, and across extreme north central Massachusetts.

Hurricane Carol destroyed nearly 4000 homes, along with 3500 automobiles and over 3000 boats. All of Rhode Island, much of eastern Connecticut and much of eastern Massachusetts lost electrical power. In addition, as much as ninety-five percent of all phone power was interrupted in these locations.

This information was taken from **SOUTHERN NEW ENGLAND TROPICAL STORMS AND HURRICANES, A Ninety-eight Year Summary 1909-1997**, by David R. Vallee and Michael R. Dion, National Weather Service, Taunton, MA.

APPENDIX C

Management Responsibilities within the Tidal Areas of the State

1. The Federal Role

A. US Army Corps of Engineers

The Federal government, through the Army Corps of Engineers (USACE), exercises authority over the placement of structures and obstructions in the navigable waters of the nation. USACE regulatory programs also consider the environmental impacts of proposals and their consequences to elements of the “public interest.” Through the permitting program, the USACE reviews certain projects located in navigable waters, involving dredging, filling, and placing structures such as moorings. Under the Corps program, moorings and their availability for use are considered integral parts of the ability to navigate. As such, moorings are subject to the USACE’s responsibility to ensure equal opportunity in navigation and commerce within the waters of the country. The public interest review often requires that the availability of moorings be non-exclusionary, and that transient vessels be considered. Non-residents must be allowed the opportunity to obtain a mooring space, and a certain percentage or proportion of available mooring space within a harbor must be made available to transients.

B. US Environmental Protection Agency

This federal agency is responsible for setting water quality criteria and approving all discharges for all state waters.

C. US Food and Drug Administration

The Food and Drug Administration (FDA) has the responsibility of water quality and (fish) food quality nationwide. FDA establishes the water quality classification criteria followed by DEM Water Resources in deciding safe shellfishery water quality standards.

2. The State Role

The submerged lands, coastal resources and tidal waters of the state are all subject to the State of Rhode Island’s jurisdiction. These areas are owned by the State and held in trust for the public. The State carries out several different management and regulatory programs to protect the rights and interests of the public in these areas, primarily through the Coastal Resources Management Council (CRMC) and the Department of Environmental Management (DEM).

A. CRMC

The CRMC carries out its responsibilities in three ways: planning and management, coordinating functions and regulatory programs. Adopted in 1978 (revised in 1983), the Coastal Resources Management Program (CRMP) is the planning and management tool for the State. The CRMP identifies and designates six different water “types” in various locations throughout the state. The goals, policies and regulatory standards established for each of these areas, and activities taking

place within them, are based upon an assessment of the characteristics of each individual water area and shoreline, the activity it supports, its potential capabilities for use in keeping with measures necessary to protect its resources, and the areas' role in a balanced statewide plan. The Water Type Category and other regulations set forth what uses may be made of an area and how these uses may be carried out. In order to promote the objectives of the state coastal program, CRMC functions as a binding arbitrator in disputes involving coastal resources and the interests of two or more municipalities and state agencies. Additionally, the Council carries out consulting and coordinating actions with local, state, regional and federal agencies and private interests. CRMC sponsors and conducts coastal research and advises the Governor, General Assembly and the public on coastal matters.

B. Rhode Island Department of Environmental Management

The Department of Environmental Management (DEM) has primary responsibility within the state for implementing the requirements of the Federal Clean Water Act, for managing the living resources of the state's waters, and for overseeing federal and state land acquisition and open space programs. The DEM has promulgated specific regulations and water quality standards to implement its authority under the Clean Water Act, through its Division of Water Resources. The water quality standards are different for the six water-type categories issued by the CRMC. The Water Quality Classifications and Standards are designed to protect and improve the quality of the state's waters where they may be threatened or impaired by discharges of pollutants. The regulations are more restrictive in purer water areas such as Types 1 and 2 (See Map 2). The regulations also contain an anti-degradation clause, which establishes that there can be no degradation of classified high-quality waters from their assigned classification due to a proposed activity. The regulations specifically identify concentrations of vessels, as in a marina or mooring area, as a potential source of pollution. The DEM currently utilizes a methodology developed by the National Shellfish Sanitation Program and the US EPA to determine the potential impacts to water quality from marinas and mooring areas. The DEM ensures compliance of an activity by certification through the issuance of a Water Quality Certification, a prerequisite for CRMC approval of many activities. The DEM Division of Fish and Wildlife, in conjunction with the Marine Fisheries Council, manages the fish and shellfish fisheries within the state. Current programs include the regulation of commercial fisheries, shellfish propagation and transplanting, and establishment and protection of shellfish management areas. The Division provides comments on any proposal before CRMC which might impact the resources within their jurisdiction.

3. The Local Role

Chapter 4 of Title 46 of the General Laws of Rhode Island (R.I.G.L) (Waters and Navigation) confers upon the coastal communities of the state certain powers concerning the regulation of public waters within their boundaries. These powers can be categorized into four different types: 1. management of vessel operation within the harbors; 2. management of anchorages and moorings; 3. regulation of such activities as water skiing, skin diving, regattas and marine parades; 4. management of shoreline resources potentially impacting the Cove. The enabling legislation clearly grants the towns these powers to ensure the orderly development of the harbor areas within their jurisdictions. Specifically, the municipalities are granted authority and power to enact, through ordinance and an appointed Harbormaster, rules and regulations and regulate recreational boating activities such as water skiing and boat speed. They may assign, remove, provide minimum standards for and set and collect a fee for the use of moorings. The cities and towns may also provide for the removal of wrecks, derelict or abandoned boats, docks or

moorings. Finally, they may impose penalties for violations of such ordinances. The powers and duties granted through the enabling legislation may not be construed to abrogate the powers and duties of the CRMC. While the enabling legislation grants considerable authority to the municipalities in managing certain uses of the harbor area, they are not specifically empowered to consider environmental impacts of activities, prevention of conflicts with other water dependent uses, or to decide resource allocation questions.

MANAGEMENT AUTHORITIES WITHIN GREENWICH COVE

TABLE 2

Management Authority	Federal , State, or Regional	Jurisdictional Responsibility
RI Department of Environmental Management (RI DEM)	State	Primarily responsible for implementation of the Clean Water Act, living resources of the state's waters, and for overseeing federal and state land acquisition programs.
Coastal Resources Management Council (CRMC)	State	State's primary agency for planning and management of coastal resources and tidal water use.
Army Corps of Engineers (USACE)	Federal	Permitting authority over all dredging and dock construction.
Environmental Protection Agency (US EPA)	Federal	Responsible for setting water quality criteria and approving all discharges within the state's waters.
Food and Drug Administration	Federal	Responsible for ensuring water quality and food (fish) quality nationwide.
Federal Emergency Management Agency (FEMA)	Federal	Responsible for establishing coastal areas subject to flooding.
Marine Fisheries Council	Regional	Establish rules and regulations pertaining to commercial and recreational fisheries.

**APPENDIX D EAST GREENWICH HARBORMASTER ENABLING
LEGISLATION (RIGL 46)**

**TITLE 46
Waters and Navigation
CHAPTER 46-4
Harbors and Harbor Lines
SECTION 46-4-6.14**

§ 46-4-6.14 Town of East Greenwich – Powers conferred. – The provisions of § 46-22-14, or any other provisions of the general laws notwithstanding, and in addition to any authority and powers conferred upon the town council of the town of East Greenwich, authority shall also be granted to the town council of the town of East Greenwich to authorize for the appointment of a harbor master and by ordinance grant such authority as the town council may deem necessary to the harbor master for the enforcement and supervision of any ordinances, rules, and regulations governing the public waters within its jurisdiction, to regulate by ordinance the speed, management, and control of all vessels, both wind and power, and the number, size, type, location, and use of all anchorages and moorings within the public waters within the confines of the town including, without limiting the generality of the foregoing, the authority and power to prohibit waterskiing on any of the public waters, to provide for the regulation of skindiving and scuba diving, to designate upon a map of the public waters within the town the places where permanent or temporary moorings or anchorages may be maintained, to assign moorings, to remove moorings, to set and collect a fee for the use of moorings, to provide for minimum mooring specifications, to provide regulations for houseboats that are not self-propelled, to provide regulations for regattas, races, marine parades, tournaments, and exhibitions, to provide for the removal of wrecks or derelict or abandoned boats or docks, and to impose penalties for violation of the ordinances, not exceeding in amount one hundred dollars (\$100) or imprisonment not exceeding ten (10) days in some jail or house of correction, for any one offense, the fines to be recovered to the use of the town. No powers or duties granted herein shall be construed to abrogate the powers or duties granted to the coastal resources management council as provided in chapter 23 of this title.

APPENDIX E – REFERENCES

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