

GUILFORD HARBOR MANAGEMENT PLAN

GUILFORD CONNECTICUT

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Prepared by:

Guilford Harbor Management Commission

Commission Members:

John Henningson, Chairman
Clifford McGuire, Marina Commission Representative
Alison Varian, Commissioner, Shellfish Commission Representative
Drew Kufta, Commissioner
Cesare Sorio, Commissioner
Robert Edmunds– Alternate 1
K.J. Lee – Alternate 2

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1 INTRODUCTION

1.1 Authorization

The Town of Guilford was authorized in 1984 by the State of Connecticut Harbor Management Act (PA 84-247, revised January 1, 1991) to establish a Harbor Management Commission:

From the Connecticut General Statutes, Sec 22a-113m:

“Harbor Management Plan... Approval: The commission in consultation with the commissioners of environmental protection and transportation, shall prepare, or cause to be prepared, a management plan for the most desirable use of the harbor for recreation, commercial, industrial, and other purposes... The plan shall provide for the preservation and use of the coastal resources of the harbor...”

It is generally understood that the overall policies of the Connecticut Department of Energy and Environmental Protection’s Office of Long Island Sound Programs, including authorization of docks, moorings, dredging and other permitted activities, must be such that they can address extremely variable conditions along the entire Connecticut shoreline. Missing are planning initiatives developed at the municipal level, which are tailored to unique uses and coastal, scenic, and cultural resources of a town. Such plans can more precisely and effectively guide state permitting analyses and decisions. This revised Harbor Management Plan for the Town of Guilford has been developed from, and is based on, important local planning initiatives.

In response to increasing and competing demands for the use and development of the Guilford Harbor and coastal shoreline, the Commission was directed to prepare a Harbor Management Plan which would address a wide range of water-related issues for the entire Guilford shoreline including:

- a. Recreational and commercial boating, fishing and shellfishing.
- b. Flood and erosion hazards.
- c. Industrial and commercial water-related uses.
- d. Water related recreational and educational uses.
- e. Water quality and public health.
- f. Public access.
- g. Natural resources conservation including: tidal wetlands, estuaries, beaches, and intertidal flats, and escarpments and rocky shores.

1.2 History

Coastal Guilford developed slowly due to the lack of protected deep water harbors, and because of the existence of the extensive tidal marshes lining its shores. Early settlers, as well as the later colonists, were suspicious of these marshes. They often viewed them as wastelands and believed that they were the sources of diseases. The swarms of mosquitoes that they produced further convinced them of this and prompted the idea of hand digging early mosquito ditches for drainage.

A quote from Steiner, B.C. 1897, "History of Guilford and Madison Connecticut" Pg. 209, best describes the harbor's problems then and now. "Guilford Harbor affords but an indifferent station for vessels. It has six feet of water on the bar at its entrance at low and twelve feet at full tide." In 1680, the harbor is called a "pretty good tide harbor," and it is stated that "vessels of about 30 or 40 ton may come in." Furthermore, Steiner states that "an application was made to Congress in 1837 for an appropriation for building of a breakwater, which probably would have been obtained had it not been for the critical condition of the commercial affairs of the country, which so crippled its resources that no new harbor improvements could be undertaken. The application has not been renewed." Apparently, little has changed in 173 years.

Boats were built at yards in both the East and West River beginning in the early 18th century. The completion of the railroad in 1852 was a significant factor in the decline of boatbuilding, but some small pleasure and work boats continued to be built in the West River until the beginning of World War II.

Prior to the building of the railroad, coasting sloops and schooners delivered goods and coal at the Sluice Dock. Even then, the area had to be dredged to accommodate the vessels. A quote from Lee, K.R. 1979, "Guilford Remembered," is significant. "Since the Creek was not much wider than the schooners, it was necessary to haul them up the creek by ox power, as in the old canals. The basin does not appear to have been large enough to swing ship, so they were probably towed stern-to out to deeper water where they could maneuver." Later, barges replaced the schooners for delivering bulk cargo, probably because of their reduced draft. However, they still required oxen to tow them into and out of Sluice Creek.

The earliest records of the Town confirm that shellfish from both the East and West Rivers were prized both as a food resource and as a cash crop. Currently there is extensive use of both commercial and recreational shellfish areas managed by the Guilford Shellfish Commission.

In 1941, an investigation of navigation improvements resulted in the recommendation for the construction of a 200-foot wide anchorage in the East River, 6 feet deep at low tide, with a 60-foot wide channel in Sluice Creek; both to be served by a 100-foot wide channel in the outer harbor providing access to deep water. These facilities were completed by the U.S. Army Corps of Engineers in 1959. Maintenance of the channel and anchorage area was carried out in 1964, 1974, 1981 1993/94 and 2004. Dredging of the West River was initiated in 1954 by the Guilford Yacht Club and has occurred four times since then. The spoil was deposited originally on land owned by the Yacht Club. In 1986, Guilmar, Inc. bought out the Yacht Club, and over the next four years constructed a 143-slip marina in a large basin dredged out of the Yacht Club's spoiled land. The channel out to Inner White Top has been dredged twice to a depth of 8 feet. Guilmar, Inc. became The New Guilford Yacht Club in 1993.

1.3 Background and Purpose

Guilford's shoreline extends from Hogshead Point on the east to Hoadley Point on the west. Guilford Harbor lies between Hogshead Point and Tuttle Point. Between Tuttle Point and Vineyard Point to the west there is a small, shallow bay: Indian Cove, opening to the south, south east. Westward from Vineyard Point to Chimney Corner, the shoreline is exposed to the south with only minimal protection behind the westerly projection of Vineyard Point. Between Chimney Corner and Joshua Point to the west is Sachem's Head Harbor, a small, shallow, rocky inlet with a partial breakwater giving protection to all but south westerly winds. West of Sachem's Head Harbor are two large coves: Great Harbor / Joshua Cove, and Island Bay. Both are open to the southwest, and provide no shelter from southwesterly winds and waves. West of Island Bay, between Clark and Harrison Points is very small, extremely shallow Little Harbor, which also has a partial breakwater but is exposed to the south and southwest. West of Little Harbor there are two, unnamed, exposed inlets sheltered only by offshore rocks and small islands. These are at the westernmost part of Guilford shore.

Most of the Guilford shoreline outside of the Guilford Harbor Sector is completely lined with private property. There are numerous offshore rocks and shoals as shown on navigation charts. Most of the area requires local knowledge to negotiate. There is effectively no public access to these areas of the shoreline for boating, and only limited access for fin and shell fishing. Riparian property owners, members of private property owners associations, and members of the private yacht clubs have their boats moored in some of these areas, where they are kept under continuous observation for safety. Most are moved to better shelter in advance of major storms. For these reasons the original

Guilford Harbor Management Plan adopted in 1998, concentrated primarily on the immediate locale of the Guilford Harbor Sector (see Fig. I-III) where there is public access, an adequately buoyed navigation channel, and partially protected mooring and anchorage areas.

However, increased shoreline development and other pressures on the coastal resources warrant greater consideration of other areas. To this end, the Harbor Management Commission has identified existing and potential water-related problems that are specific to both the Guilford Harbor Sector and other shoreline areas. The purpose of this Revised Plan is to provide definite goals and recommendations for the development and preservation of all of the Town's shoreline resources for present and future residents.

The Plan describes existing problems and includes appropriate regulations and ordinances to ensure orderly and safe water related activities, and the means for their enforcement. It is the intent of the Harbor Management Commission to administer the Plan in a fair and equitable manner for the greatest benefit to all users of the waterfront: public, private, and commercial.

This Harbor Management Plan draws upon DiCeasare - Bentley Engineers 1985 ancillary scientific and engineering studies entitled "Guilford Harbor Management Plan, SCIENTIFIC AND ENGINEERING STUDIES.- 1985" Numerous other documents prepared for the Town of Guilford over the last 25 years were consulted and analyzed.

There were discussions with members of many Town Departments and Commissions and the local shoreline private property owners associations. In addition, Planning and Zoning provided an analysis of historic aerial photographs in order to document coastal erosion.

It is the objective of this Harbor Management Plan to establish goals which protect, preserve, and enhance the historic and natural resources associated with the shoreline and harbors of the Town of Guilford. These goals include, but are not limited to:

- Preserving, protecting, and enhancing the scenic and historic vistas through minimizing or eliminating the visual impacts caused by docks and other shoreline structures;
- Managing uses within the coastal boundary through planning, zoning, and other local regulatory authority, giving highest priority and preference to water-dependent uses and facilities in shoreline areas;

- Promoting appropriate facilities for all types of recreational boating including marinas, rack storage, moorings for local and transient vessels, trails and launch sites for small watercraft;
- Balancing the rights of private riparian / littoral property owners with public trust rights, assuring reasonable water access to riparian property owners while maximizing the use of public trust waters by the public;
- Preserving, protecting, and enhancing public access to the shoreline area including access by small watercraft including kayaks, canoes, and dinghies;
- Preserving, protecting, and enhancing historic and scenic vistas and viewsheds;
- Preserving, protecting, and enhancing shellfish resources and habitat wherever possible;
- Improving coastal water quality;
- Establishing reasonable access standards in sensitive resources areas including exposed headlands, beaches, and marshes. Reasonable access may include allowing launching of small watercraft in lieu of the construction of structural facilities;
- Preserving, protecting, and enhancing mooring opportunities accessible from small watercraft in order to avoid the construction of additional structural encroachments;
- Preserving, protecting, and encouraging the restoration of large intact expanses of tidal marshes by minimizing or eliminating fragmentation by docks and walkways, which traverse these resources; and
- Minimizing or eliminating the encroachment of structures into public trust waters in order to avoid adverse impacts to critical resources and navigation.

2 PHYSICAL CONDITIONS AND HARBOR SETTING

2.1 General Description

Guilford Harbor lies within the coastal boundary as defined by the Connecticut General Statutes section 22a-90 through 22a-112. The Guilford Harbor Sector, as addressed in this Harbor Management Plan, lies between Hogshead Point on the East and Tuttle Point to the West; thence, southeasterly to Bell Buoy #4 at the entrance of the Federal channel into the harbor—see Fig. I. However, there are numerous sites of private boating activity, mooring fields and docks in the sheltered embayments along the rest of the shoreline.

An extensive glacial sand deposit, called Grass Island, forms the north-south trending eastern shore leading to the mouth of Sluice Creek and the East River. Extensive tidal marshes border the East River and the northern shore to the mouth of the West River, interrupted by the rocky headland of Guilford Point. The western side of the West River mouth is protected by a rock outcrop called Chaffinch Island which rises up from the continuing tidal marsh border of the western shore. This tidal marsh continues to the south-southwest to the headland complex of Tuttle and Mulberry Points.

Extensive off shore rocks and shoals exist throughout the harbor. The near shore is shallow, one foot or less at low tide, except for the East River Channel, dredged to 6 feet, and the new 8 foot channel leading south from the West River.

2.2 Harbor Condition and Continuing Problems

At present, facilities in the harbor for both recreational and commercial boating are at or very near capacity. The facilities for recreational and commercial vessels at the Town Marina are fully occupied, and all the moorings in the East River are in continuous use. Each of the three privately owned marinas on the West River have some seasonal slips or alongside berthing capacity for recreational vessels. The double-capacity, Town-owned launching ramp is heavily used during the recreational boating season, as is the double-capacity, State-owned ramp in Guilford, on the East River.

The State of Connecticut draft 2010 Integrated Water Quality Report to Congress is posted online at http://www.ct.gov/DEP/lib/DEP/water/water_quality_management/305b/ctiwqr10final.pdf. There are several assessed water bodies in Guilford that are referenced in this HMP revision. They include the West, East and Neck Rivers, Guilford Harbor, and Indian Cove, Island Cove and Joshua Cove. The designated use of Direct

Shellfish (Shellfish Harvesting for Direct Consumption Where Authorized) is listed as “Not Supported” for several of these waterbodies. The listed cause is fecal coliform, and there are several potential sources listed including in-water and upland sources. Once this revised harbor management plan has been approved and adopted, the Harbor Management Commission has the authority to review land use proposals on abutting upland, and activities regulated by others on or in the water, for consistency with the adopted plan. Therefore an objective of this Plan is to support further studies of the listed impaired waters within the jurisdiction of the Guilford Harbor Management Commission.

The numbers of private recreational moorings along the shoreline outside the Harbor Sector has increased significantly over the last 30 years and are currently estimated at approximately 350 – 400 moorings. At present, many of these moorings are undocumented and periodically conflicts arise where new moorings, piers, and floats are proposed.

Much of the coastal tidal marsh is exposed to the waves of Long Island Sound. Rapid erosion is occurring to the marshes and to the margins of Grass Island, Jacobs Beach, Chittenden Beach, and Chaffinch Island. A good deal of this eroded material is transported northward and into the existing river channels, anchorage area, and river mouths. This creates a unique problem in terms of harbor management. If left alone, both rivers will fill with sediment to the point of restricting navigation: extensive amounts of shoreline will disappear reducing or eliminating public access; and, many areas of the shoreline and the Harbor Sector will become a shallow, rocky indentations in Connecticut shoreline, unapproachable by even small-sized boats during all but high tide periods.

This Revision to the original Guilford Harbor Management Plan outlines both near term and far term programs. The Revised Plan provides for the maintenance of the harbor sector facilities as well as plans to improve and protect the use of other shoreline areas. A “do nothing” course of action, even making the assumption that the Army Corps of Engineers will continue maintaining the existing navigation project for the East River and Sluice Creek, will undoubtedly lead to: 1) the continued filling of West River, if not dredged by the private concerns that presently occupy both sides of the river; and, 2) the loss of extensive shoreline areas including, valuable tidal marsh and beaches which serve as buffers to developed areas seriously threatens both residences and commercial properties including the Town Marina.

The present day realities also indicate that lacking a sufficient economic benefit for the maintenance of the navigation project; i.e., limited public access, available Federal monies and the ongoing climate of Federal cutbacks and cost sharing, may cause the Army Corps of Engineers to realign their priorities. For example, funding was not

available for the dredging of the Federal Navigation Channel in 2004, requiring the project to be financed completely by the Marina Commission.

2.3 Shoreline Flood Potential

The mean tidal range for Guilford harbor is 5.4 feet, with a spring range of 6.2 feet. The Flood Insurance Studies conducted by the Federal Emergency Management Agency (FEMA), for the Town of Guilford in 1984 and 1986 cited the possibility for extensive flooding caused by a 100 year storm. In several areas more recent FEMA projections show even greater flooding potential.

For the Harbor Sector, a 10.6 foot still water elevation, independent of wave action, is predicted. In addition, for the region of Guilford Point and the surrounding areas of Grass and Chaffinch Islands, a 5.4 foot wave crest elevation (7.7 foot wave height) yields a maximum flood elevation of 16 feet above the MHW.

Outside the Harbor Sector (see Figure I and VI) the FEMA designated V Zone Special Flood Hazard Areas, with the most severe flooding accompanied by high velocity waters; include most of the entire shoreline area of the Town. This also includes all of Grass Island and the Town Marina. Most of these areas are expected to be inundated with wind driven waves. Almost all present waterfront facilities are in danger of being flooded at the least, or totally destroyed by the wave action of a 100-year storm. In the light of the FEMA studies, it does not appear to be economically feasible to construct harbor facilities to be hurricane proof in this area. Any additional development and construction within the Harbor Sector must be viewed as being temporary facilities.

2.4 Water Quality

The Guilford Harbor Sector is part of a larger estuarine complex that includes the waters of the West, East, and Neck Rivers, and Sluice Creek. The harbor provides excellent access to the waters of Long Island Sound. Tidal flushing maintains water quality at a moderate level even though the harbor receives heavy boating traffic and use during the greater part of the year. The waters of Guilford Harbor are classified SB/SA by the State of Connecticut. The waters are suitable for bathing, boating, other recreational purposes, industrial cooling, and shellfish harvesting for human consumption after relaying of shellfish for depuration. The harbor remains a suitable wildlife habitat, and has good aesthetic value. Guilford has an extensive co-management program with the sizeable, local, commercial shellfishing industry for the harvesting and re-laying of shellfish from both the East and West Rivers.

The Town of Guilford has adopted a Sewer Avoidance Program, and consequently its Water Pollution Control Authority pursues an aggressive policy of monitoring lakes, streams, ponds, and ground water for bacteria, nitrogen, chlorides, and ph. The East, West, and Neck Rivers that empty into the Harbor Sector are classified SB/SA under the Water Quality Standards of the DEEP's Water Management Bureau. The waters of the Guilford Harbor Sector are tested regularly at 7 locations under the ADOPT—A—HARBOR Volunteer Water Monitoring program. The specific sites and the most recent test results are completely detailed in the "1997 Long Island Sound Water Quality Report" which is published by that program. Additionally, a sub-committee of the Guilford Shellfish Commission samples more than 30 stations along the entire Guilford shoreline on a monthly basis and on the 3rd to 5th day after every rain event to determine whether the recreational shellfishing areas may remain open. Water quality in these areas has proved to be SA. The areas that are open for recreational harvesting are shown on the Guilford Recreational Shellfishing Map as well as the conditions for closure following significant rainfall (Fig. IV). Additional areas at Indian Cove and Vineyard Point are conditionally approved and continually monitored to determine their suitability for being fully approved.

2.5 Army Corps of Engineers Projects

The Army Corps of Engineers (ACOE) has been responsible for navigation and for providing a safe anchorage in the harbor for about 55 years. The present Corps responsibility relates to a 1941 report that recommended maintenance of a channel and an anchorage area in the mouth of the East River. These projects were adopted in May of 1950. They provided for dredging of the 2,700-foot long Channel within the East River from the outer marker to 6 feet, 100 feet wide, a 6-foot dredged channel into the commercial docks at the Town Marina, and a 2,000 by 200-foot anchorage area, dredged to 6 feet deep, north of the Marina within the East River.

These Federally designated projects were completed in 1959 with 13,000 cubic yards of dredged sand placed on an excavated shoreline now known as Jacobs Beach. In addition, a 300-foot long breakwater was constructed north of Jacobs Beach to act as a sand impoundment barrier. Federally funded maintenance dredging of the anchorage area to a depth of 6 feet below the MLW was carried out by the Corps of Engineers in 1964, 1974, 1981, and 1993/94. However, Federal funding has been not available for maintenance dredging of the federally-designated Channel since 1994. The most recent dredging of the Federal Channel and Marina berths was done in 2004. This project was entirely paid for by the Marina Commission in order to maintain the channel width and depth.

Although requested in the past, there have been no USACOE dredging projects authorized in areas such as Sachems Head Harbor, which are surrounded by private or Association property, and hence, have no public access.

2.6 Anchorage Areas

The anchorage area that in the past has been dredged by the USACOE is designated a Federal Anchorage Area, which means it may be used by all citizens of the United States, on an equal basis, and without any real or implied discrimination as to Town or State of residency. The project areas are shown on the Harbor Management Plan—see Figs. I and II. Construction, either temporary or permanent, within these anchorage areas is normally discouraged, but could be considered acceptable if requested from a municipality, as has already been done in the Town Marina area of Sluice Creek.

There are no Coast Guard designated Special Anchorage Areas anywhere along the entire Guilford shoreline.

2.7 Commercial Docks

There are bulkheads adjacent to the marina on the federally-designated access channel, which are maintained for the use of commercial fishing vessels by all citizens of the United States, on an equal basis, and without any real or implied discrimination as to Town or State of residency.

3 HARBOR SECTOR AND OTHER SHORELINE USES AND USERS

3.1 General

The Guilford Harbor Sector is a heavily utilized boating resource for both commercial and recreational purposes. There are estimated to be over 300 boats that presently use the marinas and the moorings as their permanent berthing locations. In addition, the Town and State owned launching ramps provide water access for trailered boats, estimated to be between 15 and 30 boats daily during the boating season.

Approximately 132 recreational boats and 6 larger commercial fishing boats utilize the Town Marina facilities as their home port. This number includes 15 boats moored in the anchorage in the East River. It is estimated that, each week, between 10 and 20 additional boats may visit the harbor for the day or overnight. Stays.

An additional 190 boats are berthed in the West River. Brown's Boatyard services approximately 35 boats, between 20 and 28 feet in length, at dockside. The privately owned Bayberry Creek Marina accommodates four commercial fishing vessels and 40 recreational slips accommodating boats of 25-40 ft. The adjacent Brown's Boatyard leases 15-20 of the slips. Further upstream the Guilford Boat yard also has berth space for 10-15 recreational vessels. The Guilford Yacht Club has 170 slips, of which approximately 85 are sold and many are rented. It can accommodate boats up to 50 feet in length.

There are approximately 350 - 400 additional moorings in the smaller inlets and harbors along the exposed shoreline that belong to adjacent riparian property owners, local association members and yacht club members. Approximately 2/3 of these are traditional anchor systems with floating balls and 1/3 are "pulley - clothes line" types between a pole in the mud and a fixed point on the shoreline.

A chart indicating the existing uses of Guilford Harbor Sector is included as Fig. I. Areas of Extensive private moorings are illustrated in Fig. V

3.2 Town Marina Facilities

The Town of Guilford owns and operates a marina facility in the mouth of Sluice Creek, which is under jurisdiction of the Marina Commission. The Marina has space for approximately 147 boats 118 usable slips for personal recreational vessels up to 38 feet in length. There are 6 larger commercial fishing boats measuring up to 50 feet that tie up to

the bulkhead in the sluice area. As of 2010, there are approximately 188 individuals on the waiting list desiring to use the Town Marina docking facility. The Town Marina's fees are substantially lower than other commercial marinas along the West River, where slips are readily available.

Preference on the waiting list for recreational vessel berths in the Town maintained marina is given to residents and taxpayers. However, non-residents may request space on the list and berth may be assigned on a space available basis at a higher rate. The commercial dock space along the federally-designated access channel and the moorings in the East River Channel are available to all citizens of the United States, on an equal basis, and without any real or implied discrimination as to Town or State of residency on an equal basis, and without any real or implied discrimination as to Town or State of residency.

The Marina is partially protected by a narrow entrance and a breakwater projection from the east shore. However, storm waves from the south can reach the Marina. The western side is composed of a sheet pile wall and dock for about one third of the Marina's extent. The rest of the west side is tidal marsh. Water depths after the 1981 dredging were between 6 and 7.5 feet at MLW. Shoaling has occurred several times since, and the Marina was dredged in the fall/winter of 1993/94 and again in 2004.

There are limited services provided by the Marina. Bathrooms are available for slip holders. As a public service, one (1) Handicapped Porta-Potti is made available during the boating season. Parking is available for boaters as well as the general public. There is also a double-width boat launching ramp facility. There is no fuel service provided. Access to the Marina is via a two lane bridge over Sluice Creek. The Town-owned and maintained launching ramp is at the easternmost end of the partially paved parking lot was upgraded in 2005.

The parking lot can accommodate 103 vehicles and has 12 dedicated spots for boat trailers. During peak usage, some of the vehicle parking spots can be used for additional boat trailer parking. The parking area was reorganized in 2006 in order to use the available parking space more efficiently for both cars and boat trailers. This same area is used by as a scenic overlook and fishing location, particularly along the south-bordering rip-rap retaining wall.

Mooring and launching facilities are available to residents and non-residents on an annual or single use fee basis. Fees are set by the Marina Commission and regulations for use are available through the Selectman's office or the Town Dockmaster. The fishing overlook and the public parking facility are available free of charge. A picnic area with handicap access has been developed for the general public. Open moorings in

the anchorage area, and open slips in the Town Marina are available for transient use through the Dockmaster who monitors VHF marine radio.

3.3 Mooring and Anchorage Areas (See Figure II & V)

The Town anchorage area discussed above has been federally maintained (dredged) in the past and the moorings are leased on an equal basis by recreational and commercial boats for both transient and permanent mooring. In accordance with CGS Section 22a-361, the Town of Guilford Marina Commission has issued and set 15 moorings in the anchorage area. (See Fig. I) There are no private moorings within the East River anchorage area. These moorings are inspected regularly and maintained by the Town of Guilford Marina Commission. Up to 10 transient boats may anchor in the anchorage area of the East River on some days during the boating season. Boat traffic from the State launching ramp at the end of Circle Beach and Neck Roads in Madison, at the confluence of the Neck and East Rivers, as well as from further up the East and Neck Rivers, and the presence of the moored boats in the East River anchorage area, severely restrict the full swing space available to transient vessels. There are currently a small number of private moorings for small vessels in the Harbor Sector outside the Federal anchorage area.

There are approximately 350 – 400 other moorings within the Town of Guilford’s shoreline jurisdiction. Many owners have applied for and been granted annual mooring permits by the Town of Guilford Harbormaster and the HMC. Most of these moorings are individual seasonal moorings. (See areas A -F - Figure V). In addition, several yacht clubs and local homeowners associations maintain multiple mooring facilities for guests and transients. All of these owners need to comply with the State of Connecticut General Statutes (see CGS sec. 22a-361) regarding the registration of moorings.

3.4 Boating Services Available in Guilford Harbor Sector

The Guilford Yacht Club in the West River provides marina services to visitors. It has rental slips for seasonal and overnight occupancy, with water and electricity, and has a pump-out station. It has a supply of oil boom in the event of a fuel emergency. Slip owners’ and members’ boats can be hauled and stored for the winter. A day marker range is maintained on the property in order to guide boats past the rocks and shoals to the mouth of the West River.

At its own expense, the Guilford Yacht Club has obtained a General Permit to dredge a 6 foot channel, which begins at the basin of its 175 berth facility for members

along the West River, and continues for 4,000 feet to the southwest of the mouth of the West River. Of the 4,000 feet that is dredged, 1,000 feet of inner channel from the yacht basin to the mouth of the West River does not silt as much as the yacht basin and the 3,000 foot outer channel, which extends from the River's mouth to the southwest; consequently, the yacht club alternates the dredging process each year – the inner channel one year, the outer channel the next. Approximately 20–30,000 cubic yards of silt is dredged from the West River Channel and berth areas every few years, and the silt is dumped in the Central Long Island Sound Disposal Site six miles south of New Haven.

Brown's Boat Yard, located on the west side of the West River just to the south of the Yacht Club, is a full service facility and has docks for approximately 44 boats, seasonal and transient, and travel lift capacity to 15 tons. Full hull and mechanical repairs and both gas and diesel fuels are available, as well as winter servicing and storage. Approximately 120 boats are hauled and stored annually at Brown's Boatyard. Sedimentation has required that Brown's dredge 2-3,000 CY every few years in order to maintain adequate depth in the berthing areas. A dredging permit was recently approved for Brown's.

The Bayberry Creek Marina has water available and a boat launching ramp. It is privately owned and leases space for berthing commercial shellfishing vessels with additional space available for accommodating perhaps 20-25 recreational vessels.

The Guilford Boat Yard is located north of the Amtrak railroad bridge on the west shore of the West River. Access to this commercial facility is limited to periods of high tide because at low tide water depth is zero feet in some parts of the West River. Sailboats must first have their masts removed at a station just to the south of the railroad bridge before gaining access to the yard. The boat yard provides full services for repairs, hauling, and winter storage. There is space alongside the linear docks to accommodate perhaps 8 to 12 recreational vessels in the 20-foot range. They haul approximately 200 boats in the fall of the year in spite of the severe impediments to reaching the facility.

As mentioned previously, there is a Town-owned, dual-width, small boat launching ramp and parking lot at the Town Marina which was upgraded in 2005. Additionally, there is a State-owned, dual-width launching ramp and parking located on Grass Island in Guilford that provides access to the southeast corner of the Federal anchorage area, near the mouth of the Neck River. This launching ramp is reached by a 7 mile circuitous route from Interstate 95 through the Town of Madison to Neck Road until it intersects with Circle Beach Road; thence, 800 feet over an unpaved access road to the State Launch area.

3.5 Fisheries

Guilford Harbor is the location of an extensive shellfishery consisting of both lobsters and bivalves including: oysters, round or hard clams, and soft shell clams. Many of the bivalve beds in the Harbor Sector are closed to the direct marketing of shellfish due to the existing water quality of the harbor. As noted in Section 2-2 the Harbor Management Commission has the authority to assist the Shellfish Commission and other Town agencies to support further studies of the listed impaired waters. However, there are extensive beds in other areas of the Town shoreline where acceptable water quality allows both commercial harvesting for market and recreational shellfishing to be permitted. (See Figure IV)

As mentioned above, an aggressive program of management is already being carried out. A full description of the shellfisheries of the harbor is given in the report on the “Scientific and Engineering Studies,” dated 1985, and in the Guilford Shellfishing Commission’s “Management Plan,” dated 1991, which is available at the Town Hall. The fin fisheries of Guilford play a small role in the economic life of the Town or the Harbor. Lobsters and fin fish are pursued in Long Island Sound by both commercial and recreational interests. Commercial landings occur at both the Town Marina and Brown’s Boatyard. Approximately 10 boats, 20 feet and larger, are involved in commercial fishing, shellfishing, and lobstering operations. Of that number, 10 are full-time operators.

3.6 Additional Recreational Uses

There are two beach areas in Guilford Harbor available for use by all residents and visitors. Jacobs Beach, constructed as part of a Federal project, borders on the west bank of the entrance to the East River. Parking, by sticker only, is available for an estimated 300 cars. There are rack spaces for 100 kayaks, canoes, dingys, and small sailboats (e.g. sunfish, etc.). Rest rooms and changing facilities are available.

A second beach, Chittenden Beach, between Guilford Point and the West River, is unsuitable for swimming because much of the the natural sand beach has eroded leaving a mixture of tidal marsh, beach sand, and mudflat that forms its shoreline, and because of the shallow depths just offshore. There are no facilities available. Presently, the beach can be accessed from the Town’s recreational area to its north by walking over approximately 200 feet of bordering tidal marsh.

Extensive beaches line the west and north side of Grass Island. Access can be gained by automobile through the Town of Madison and by walking an additional 500

yards from the end of the Circle Beach and Neck Roads extension to the State launch site, or by small boat from Guilford. It remains to a degree a wildlife sanctuary and ecological preserve due to the limited access available. Only the north Shore of Grass Island that borders on the East River has near shore water depth at low tide suitable for swimming.

Picnicking and birding in and near the extensive tidal marshes and scenic areas along the shore offer additional recreational opportunities, but access to the interior of the tidal marshes is limited due to the presence of the railroad and substantial private landholdings. Since these areas are extensive within the Harbor Sector, public use and access to the water here is considerably restricted. Chaffinch Island Park is suitable for daily use year round for picnicking, birding, group outdoor activities, and even an occasional wedding. There is some limited parking available there. An area of brush has recently been cleared that may be used for additional parking or possibly boat racks.

The remainder of the shoreline is essentially private providing facilities and access for boating and swimming only to property owners of the numerous associations or yacht clubs. Most of these associations have informal rules for governing the use of the waterfront. Two of the associations, Old Quarry and Sachems Head, have municipal taxing and zoning authority.

Sachems Head is unique as it has developed a local Harbor Management Plan to manage the moorings owned by the Sachems Head Yacht Club or private owners who are members of the Sachems Head Association. Further, The Association and the Club have jointly established a local Harbor Management Commission and appointed a volunteer Harbormaster. This program can serve as a model for other shoreline communities in order to maximize the use of local knowledge to manage the boating resources along the shoreline.

4 JURISDICTIONAL AUTHORITY

4.1 General

The authority for planning and regulating activities in Guilford's Harbors is shared by a number of agencies at various governmental levels. It is estimated that 11 local agencies, 6 state/regional agencies, and 4 federal agencies are involved; for a total of 21 different agencies. Each agency varies in its interest, level of authority, scope of jurisdiction, and available resources to carry out its role. The following paragraphs provide basic information regarding these various agencies. This information was compiled from a variety of sources including the Coastal Area Management Program. The jurisdictional authority and regulatory policies of the individual agencies are available from each agency.

4.2 Agencies

4.2.1 Local

a. Harbor Management Commission:

Under the State's Harbor Management Act, coastal municipalities may establish a Harbor Management Commission and prepare a Harbor Management Plan. The Plan may consider a variety of issues related to harbor use that are locally administered. These include but are not limited to: the administration and registration of moorings and **the authority to review and make recommendations on** proposed shoreline structures such as docks, piers, ramps and floats. However, the Plan must be approved by the State's Department of Energy and Environmental Protection and Transportation and be reviewed for comment by the Federal Army Corps of Engineers. The Plan must be reviewed annually by the Harbor Management Commission and both the DEEP and DOT. The Commission is responsible for the collection of fees and the preparation and administration of its own operating budget, per State of Connecticut Statute 22a-113s.

b. Board of Selectmen:

This body is responsible for the administration of daily business, and property acquisition.

c. Marina Commission:

This agency oversees the operation of the Town Dock and Marina facilities, including the DEEP permitted commercial moorings in the East River.

d. Planning and Zoning Commission:

This agency performs the planning and zoning functions for the Town, serves as the lead agency for Coastal Area Management, regulates land development and makes recommendations on proposed municipal improvements.

e. Water Pollution Control Authority:

This agency administers the Sewer Avoidance Program. It is involved with the planning of community systems and monitoring water quality.

f. Director of Health:

Reviews and permits sewage disposal and water supply facilities, and the taking and marketing of shellfish.

g. Board of Police Commissioners (Police Department)

This agency is responsible for the enforcement of laws and ordinances and the protection of property.

h. Shellfish Commission:

This agency plans for and manages shellfish growing and harvesting including a water quality monitoring program and approval of moorings on or near designated shellfish areas.

i. Parks and Recreation Commission:

This agency supplies and oversees lifeguards at Jacobs Beach, tends the ball field located north of Chittenden Beach, and maintains Chaffinch Island Park and the Town owned Beach on Trolley Road.

j. Building Department:

Responsible for permitting pile supported waterfront structure including docks and piers.

k. Other Local Agencies:

Both the Island Wetlands Commission and the Zoning Board of Appeals may play a role in harbor management. **In addition two shoreline property owner associations have zoning and taxing authority (see section 10.1).**

4.2.2 State and Regional

a. Department of Energy and Environmental Protection:

1. The Office of Long Island Sound Programs (OLISP) is responsible for oversight and implementation of Connecticut's Coastal Management Program and harbor management planning. Additionally, OLISP is responsible for administration of the State's coastal permitting programs. These include direct regulating authority over activities in tidal wetlands and for filling, dredging, and placing structures **waterward of the high tide line. Although the Harbor Management Commission has the authority to review and make binding recommendations on such permits the CTDEEP is the issuing authority. (see sections 4.2.4 and 10.1)**
2. Other regulatory responsibilities include supervising programs such as Inland Wetlands, Stream Encroachment Lines, Dam Supervision, Water Quality, Minimum Stream Flow Regulations, Air Pollution, Flood Plain Management, and Boating/Navigation Law Enforcement.

b. Department of Transportation:

1. Bureau of Aviation and Ports supervises the water related activities that fall under the Commissioner including ports and harbors, navigation, and liaisons with Harbormasters.
2. The State appointed Harbormaster for the Town of Guilford keeps records of new and existing moorings, users, and vessels within the

mooring areas. The Harbormaster coordinates with Federal and State agencies to secure the removal of sunken or abandoned vessels. Under the Harbor Management Act, the Harbormaster becomes the administrator of the Plan and its regulations. The Harbormaster is a non-voting member of the Harbor Management Commission.

- c. Department of Agriculture – (Aquaculture Division):
 - 1. This is the state shellfish control agency for Connecticut. It is responsible for mapping and leasing State shellfish areas and for promulgating regulations for the taking and marketing of shellfish. It is charged with the proper classification and monitoring of shellfish growing waters in Connecticut in conformance with the National Shellfish Sanitation Program Model Ordinance that has been adopted in its entirety by Connecticut General Statutes.
- d. Department of Health:
 - 1. Under the auspices of the Public Health Code, this agency reviews and permits sewage disposal and water supply facilities.
- e. Department of Safety:
 - 1. This agency administers certain aspects of the State Building Code, including flood hazard area building standards.
- f. Regional Planning Agency of South Central Connecticut:
 - 1. This agency provides research and information for land planning and technical assistance on a variety of land uses matters.

4.2.3 Federal

- a. Army Corps of Engineers:
 - 1. The ACOE plans, designs, contracts, maintains harbor improvements and navigation channels, erosion control, flood protection, and beach restoration: It also reviews and regulates work in wetlands and dredging, filling, and structures in navigable waters.

- b. Department of Homeland Security (U.S. Coast Guard):
 - 1. The DHS maintains navigation aids, provides navigation assistance, aids with Search and Rescue, reviews permit applications for bridges and structures with respect to navigation, and designates special anchorage areas.
- c. Federal Emergency Management Agency (FEMA):
 - 1. FEMA prepares flood hazard area mapping and related structures, provides flood insurance subsidy and administration, and disaster assistance.
- d. Department of Agriculture (Natural Resources Conservation Services):
 - 1. NRCS provides technical and financial assistance for soils mapping, erosion and flood control projects, land planning, and agriculture information.

4.2.4 Shoreline Private Property Owners Associations

There are numerous private property owners associations along the Guilford Shoreline. These include the following:

- Whitfield South Association;
- Tuttle's Point association;
- Mulberry Point Association;
- Indian Cove Association;
- Vineyard Point Association;
- Sachems Head Association;
- Island Bay / Leetes Island Association;
- Little Harbor Association;
- Wingate Association; and
- Old Quarry Association.

Two of these, the Sachems Head Association and the Old Quarry Association, have municipal taxing and zoning authority. Almost all maintain some control over waterfront activities and several have identified a volunteer harbormaster that coordinates the local moorings and other shoreline activities. Sachems Head has appointed a local

Harbor Management Commission and developed a local Harbor Management Plan focused mainly on the management of the mooring field in Sachems Head Harbor.

5 ISSUES AND PROBLEMS

5.1 Sources

5.1.1 Meetings, Committees and Public Input

The basic issues and problems surrounding the proper development and administration of a Harbor Management Plan for the entire Guilford shoreline were researched. Information was obtained from a number of sources including ongoing contacts with:

- Town Planner
- Chief of Police
- Shellfish Commission
- Town Marina Commission
- Town Marina Dockmaster
- Town Conservation Commission
- Town Parks and Recreation Department
- Town Center South Committee
- Town Harbormaster
- Guilford Boat Yard Owner
- Brown's Boat Yard Owner
- Guilford Yacht Club
- Guilford Public Works
- Local Homeowner Associations including : Old Quarry, Little Harbor, Wingate, Island Bay-Leetes Island, Trolley Road, Sachems Head, Vineyard Point, Indian Cove, Mulberry Point and Tuttle Point

Initially, when the original Harbor Management Plan was prepared in 1998, three public workshops were conducted to obtain comments and ideas directly from the people interested in or actually using the water. These hearings were also attended by visiting yachtsmen, who are non-residents of the local area, who voiced opinions. Following the hearings, additional comments were received in the form of letters and telephone calls from both attendees and others who were unable to appear in person.

In 2005-2006, the Commission consulted with local shoreline private property owners associations, members of various town commissions, committees and departments to elicit any new opinions on issues. This public input activity culminated in a public meeting to present a draft Plan in 2006.

Between 2007 and 2008 the Plan was revised substantially in order to reflect public comments focused on the mooring registration program, facilitate inclusion of a review process for moorings in designated shellfish areas requested by the Guilford Shellfish Commission and draft dock regulations circulated by the Connecticut Department of Energy and Environmental Protection, Office of Long Island Sound Programs (CTDEEP LISP).

Subsequently, the draft Plan was sent to the (CTDEEP LISP) for review and comments. After numerous revisions it was determined that the DEEP was in substantial agreement with the contents of the Plan. In 2010 the DEEP recommended that the Harbor Management Commission present the revised Plan for Public Comment.

The Plan was posted on the Town Web Site and copies were placed in Town Clerks Office, the Office of the Board of Selectmen and the Library for public review. A public notice and press release were sent to local newspapers advising that the Plan would be the subject of public comment at the Board of Selectmen's Meeting on October 4, 2010. Additional comments were solicited from the local shoreline associations and discussed at the regular meeting of the Harbor Management Commission on October 27, 2010. This revised version reflects consideration of the Comments received during the review process.

5.1.2 Scientific and Engineering Studies

The report, "Scientific and Engineering Studies- 1985," by DiCeasare – Bentley Engineers also forms a source of issues and problems for the harbor. The report was especially prepared for Guilford Harbor incidental to the preparation of the Town's original Harbor Management Plan. Wave studies brought out existing problems as did the analyses of boat wakes and of the mooring areas. A list of issues and problems identified in that study is given below. It must be pointed out that the findings of this study cannot be summarized in any brief and useful form. Readers are urged to consult all of those parts of the report pertinent to their interest for the appropriate depth of information.

- a. The wave climate for the inner harbor, while not as severe as along the exposed shoreline area, is still one of moderate to rough water conditions, especially in the approaches to both the Town Marina and the anchorage area. The open wind fetches to the south are mainly responsible for this condition. Waves are moderate within the anchorage area except under extreme conditions. The low surrounding land topography allows the full force of the Long Island Sound wind systems to act on docked, moored, and anchored boats.
- b. Wave erosion of the shoreline tidal marshes and beach areas (Fig. VI) is creating an alarming situation relative to the longevity of the present harbor configuration. The direction and volume of sediment transport represents a source of problems in all parts of the harbor relative to filling the river mouths and the near catastrophic changes in, and recession of, the shore. Before relevant future plans can be developed for the harbor, suggested solutions must be evaluated and carried out so that full harbor utilization can occur. The most urgent priority is stopping, or at least, arresting the rate of the present harbor's regression. Well-developed management plans may not apply several years from now unless significant affirmative action is undertaken promptly.

Of particular concern is the erosion at the mouth of the West River on the eastern side at Chittenden Beach. This is Town owned land and once provided informal access to a beach and marsh environment. For over a century a hand laid groin controlled erosion from severe nor-easterly storms. However, the groin was made of rather small stones and combined with sea level rise over the last 50 years almost 500 feet of beach and marsh has been lost. The eroded material ends up in the West River Channel and Guilford Yacht Club Basin requiring frequent dredging. Further the erosion now exposes the historic Browns Boat Yard and the associated residence to direct wave action.

- c. Boat wake due to harbor traffic, particularly during the recreational boating season, has been presented as a potential problem, especially along the mouth of the East River. Both arriving and departing boats can create dangerous wake fields for the many small sailboards, sailboats, and dinghies which are launched from Jacobs Beach and use the open areas of the East River entrance. Boat wakes have also been suggested as a cause of bank erosion. However, a greater problem may be the wind-created short-period, steep-crested wave fields which attack the tidal marshes at the mouths of both the East and West Rivers.
- d. The arrangement and placement of boat moorings within the East River is limited due to the Federal storm anchorage area and a state launch ramp. The Marina Commission has determined that these limitations do not allow further

expansion of the existing mooring area without creating a potential navigational hazard.

- e. Within the harbor proper, but outside the East River and the Town Marina, no significant increase in the numbers of secure moorings can be accomplished without harbor-of-refuge like barriers, because of wind and wave exposure and severe storm potential. Furthermore, depth limitations prohibit mooring of any but very small, shallow-draft boats. These conditions prohibit a grid system for moorings within this area of the harbor.
- f. Shellfish management is being carried out in both the East and West Rivers. Some compromises must be considered relative to the increased use of the East and West Rivers which are managed as shellfish areas, boating resource areas, and to provide access for commercial interests further upstream. Improvements which can benefit all of these competing uses must be aggressively sought.

The issues identified as a result of these public participation activities fall into the five basic categories presented in the following sections.

5.2 Administration

Currently, the Marina Commission administers the regulations governing the municipal Marina and its moorings within the Harbor Sector. Ten ~~nine~~ associations of private property owners manage riparian and yacht club moorings and other waterfront activities elsewhere.

There is limited general public access to most locations outside the Harbor Sector which are generally classified as Zone V by FEMA, exposed to severe storm conditions and require local knowledge to negotiate the nearshore shoals. Consequently, in the initial Plan the Harbor Management Commission decided to leave the administration of the local moorings belonging to the private owners, local homeowners associations, and the private yacht clubs in these locations up to Guilford's State Harbormaster. However, as development along the shoreline has increased, it has become clear that the scope of activities in these areas including the construction of docks requires a broader involvement by the Harbor Management Commission.

Some citizens felt that a complete Harbor Management Plan should address the administration of those areas outside the Harbor Sector as well. Subsequently, it has been demonstrated that more involvement by the Harbor Management Commission may be necessary to stimulate the proper administration of these individual moorings and other

waterfront activities. As a result, the emphasis in this updated Plan includes other areas that need to be updated and addressed as well as the Guilford Harbor Sector,

5.3 Access

Several meetings produced comments regarding public access to the water for swimming, moorings, boat launching, fishing, sightseeing, and related purposes. Most sections of the Guilford shoreline are privately held and are predominantly residential in existing land use—see Fig. I. Conservation agencies or the Town and the State hold title to waterfront parcels, which afford access for both residents and non-residents: Grass Island, a 29.6 acre area, is suitable for picnicking, swimming, shell fishing and fishing. Chittenden Park is 14.0 acres and is suitable for picnicking, fishing, and birding. Jacobs Beach, with 25 acres, has playground facilities, a 430 foot beach for swimming, racks for storing and an area for launching sailboats and small sailboats. There are ~~four~~ five additional Town owned areas outside of the Harbor Sector providing access to shell fishing areas: two at Tuttle Point and Mulberry Point offer pedestrian access; and, two at Trolley Road and Shell Beach, at the end of Island Bay offer limited vehicle parking. The fifth on the Town-maintained Vineyard Point Causeway could provide limited parking for 2-3 vehicles.

The Town Marina's launching ramps provide access for trailered boats. The Town Marina now provides a free picnic area for both residents and non-residents. However, a very small group of residents have vocalized numerous times that the south end of the parking lot, i.e. that area where cars park overlooking the entrance to the East River and perpendicular to the Town Marina paved walkway, is an unsafe walking area. A walkway between curb stops and the base of the rip rap has been proposed along the south side of this parking lot. As the result of extensive, in depth, multiple studies done by the Marina Commission, it has been determined that this would result in a significant reduction in the parking area capacity. This would violate the terms of the funding agreement with the CT DEEP that financed the new boat ramp several years ago. Additionally, CIRMA, the Town's insurance carrier objected to this recommendation on the basis of safety. As a result of the above information and the studies done, the area sited is to remain a vehicle parking area only, and only the paved walkway that overlooks the boats at the docks in the Town Marina will remain the only approved pedestrian walkway.

Commercial marinas in the West River provide additional public access to the owners of many recreational and commercial vessels. A waterfront restaurant provides food service, scenic vistas, sightseeing, and boardwalk access. The State-owned

launching ramp at the end of Neck Road in Guilford offers access to the East River upstream of the eastern end of the Federal anchorage area.

While all of this access is perceived by the general public as minimal, conflicts among fishing, shellfishing, swimming, sightseeing, and boating uses are becoming evident. The Town of Guilford continues to follow a policy of examining private property, as it becomes available, for the extension of public access within the limits of affordability and accessibility. The public access area at Trolley Road has been expanded with an additional purchase which increased the available parking area. It has been reported that the public may be accessing some individual private moorings from this location. Further, the lack of clear signage or designated parking spaces often results in conflicts with local property owners on busy days.

It has been suggested that public access to the some areas of the shoreline could possibly be improved by the installation of boardwalks. However, the Conservation Commission is concerned that, such construction could unnecessarily disturb the delicate marsh structure, plants and habitat for animals. Pedestrian trampling would also cause further marshland destruction. Given the additional problem of continued erosion at Chittenden Beach, increasing public access at this place does not seem compatible with responsible care of this environment. If the Town chose to build a boardwalk along the East River, the result might similarly impact the river edge habitat and ruin the view from the Town Marina across one of the last remaining unspoiled tidal marshes in Connecticut. Any such proposals must be carefully balanced with responsible public access. It must also be noted that any public access boardwalks, if located entirely at or below the high tide line, require state authorization in accordance with CGS Sections 22a-361, and possibly 22a-32. Boardwalks for public access are typically required to be located entirely on the upland and outside of tidal wetlands unless there are site constraints that prevent structures from being located above the high tide line.

5.4 Environmental

Initial public comments noted substantial natural erosion of shore property with boat wakes possibly contributing to the erosion process. Further comments noted competition for use of the greater harbor environment and the need for protecting and enhancing these uses while monitoring environmental conditions.

The preservation of natural resources along the shoreline should be carefully balanced with the provision of responsible public access. Specifically, the construction of boardwalks to avoid damage to wetlands must be balanced against the potential for increased damage as a result of greater use. Further, a program to control the

growth of *Phragmites australis* (common reed) should be considered before this invasive species spreads across the entire shoreline of Guilford and inland up the river edges.

5.5 Moorings

There is a continued need for expansion of mooring facilities and the need for continual maintenance of navigation channels. However, there are limited locations within the harbor and along the shoreline which afford good natural anchorage areas for the general public, either because of shallow water or the lack of protection from prevailing seasonal storms. The East and West Rivers were perceived as possibilities for additional facilities since they offered the only available storm protection, but it was also noted that both required frequent maintenance of access channels. Many comments were made expressing frustration in finding suitable and economical sites for disposal of dredging material, and noting conflicts with State agencies regarding potential sites and the seasons of the year in which dredging is disallowed.

Navigational channels need to be maintained. Suitable disposal sites for dredging material requires diligence with State agencies regarding dump sites and proper dredging seasons.

Because of shallow water or lack of protection from severe storms, there are limited safe mooring or anchorage sites along the Town of Guilford shoreline. Meetings were held with representatives of the **ten** private shoreline associations with respect to the moorings and other water front activities. It was pointed out that many individual, non-commercial moorings need applications for permits to comply with State Statutes. (See CGS Sec. 22a-113r). Applications are to be submitted to the Town of Guilford Harbor Management Commission in order that Guilford's State Harbormaster can review them before a permit is granted.

Private mooring owners were grandfathered and given the opportunity to register their moorings with the passage of the Harbor Management Act in 1998. However, many of these moorings were never registered and now need to be registered annually with the Guilford Harbor Management Commission. Mooring applications are available from the Harbor Management Commission or Guilford's State appointed Harbormaster. Generally, the private homeowners' association representatives did not oppose compliance with a town wide mooring administration program but there was some opposition to charging a fee to administer the program through the Town Harbormaster.

At the public meeting to discuss the draft Harbor Management Plan, the Guilford Shellfish Commission (GSC) expressed concern regarding the growing number of

moorings in nearshore waters classified as shellfish growing areas. The management of vessels with on-board sanitation facilities that might be illegally or inadvertently discharged to the local waters over or near designated shellfish areas is of particular concern. The GSC requested that Guilford's State Harbormaster (GHM) forward applications for moorings to the Guilford Shellfish Commission (GSC) if the mooring is in or near an oyster/shellfish bed for review before assigning and approving a mooring permit number. It needs to be kept in mind that in issuing a General Permit for a mooring under DEEP-LIS-GP-002 (which is approved by the Harbormaster, and issued by the HMC), Section 3 (b) (j) requires permission from the shellfish bed owner, or lessee, when placing a mooring in a clam or oyster bed.

5.6 Docks

Docks with a removable ramp and float are the most common form of riparian access to Long Island Sound, its tributaries, tidal coves and embayments. Guilford's waterfront is highly variable, ranging from islands, tidal rivers, and bedrock headlands to expansive tidal marshes and beaches. Docks in these varied areas offer opportunities for promoting safe recreational boating and private riparian access as well as contributing to potential environmental impacts and conflicts with public access or navigation.

These concerns have caused the Connecticut Department of Energy and Environmental Protection to draft revised standards for permitting new docks in critical areas of concern. In addition, several shoreline towns have already adopted or are in the process of adopting more rigorous standards and incorporating them into the Town's Harbor Management Plan consistent with the provisions of applicable State statutes.

Working with the CTDEEP in the development of this revised Plan it has become clear that achieving many of the goals of the Harbor Management Commission and addressing many of the concerns and conflicts among resources could best be addressed by establishing design standards for new residential docks.

5.6.1 Docks in Areas of Concern

There have been cottages along the Guilford Shoreline for hundreds of years. However, there are few residential docking structures on most of the exposed headland areas. Such structures were reserved for the protected coves and rivers as common knowledge among the long-term residents of the destructive forces of storm waves has historically limited the construction of docks in headland areas.

The change in the demographic nature of the Town has resulted in substantial pressures for change, especially along the shoreline. Development plans for new waterfront residences are often accompanied by the proposals for boat access via a recreational dock. Construction of docks comprising piers, floats, ramps, and boat lifts in environmentally sensitive coastal areas and in areas exposed to severe wave energy is cause for increased concern (see Fig. VI).

5.6.2 Docks in High Hazard Areas

The headlands which jut out into Long Island Sound are particularly exposed to storm surges and strong wind-driven waves. These headland shorelines have all been designated by FEMA as Zone V Special Flood Hazard Areas or “V” zones. V zones are characterized by high velocity wind and storm surge driven waves of greater than three (3) feet in height during a predicted 100-year storm (having a 1% chance of occurring each year). Predicted wave elevations for Guilford’s V-Zones range from approximately 13 to 16 feet above sea level. These exposed headlands are illustrated in Figure VI as Areas of Concern.

It is very common to find large timbers, beams, Styrofoam floats and wooden planks, which wash ashore as a result of the destruction of piers, floats and ramps by severe storms. A walk along the beaches and marshes of Guilford in the early spring clearly illustrates the large amount of debris deposited over the winter. Such debris may result in a hazard to navigation and eventually a cleanup problem on private property. Therefore, dock standards should be established in order to minimize debris from broken or damaged man-made shoreline structures.

5.6.3 Docks in Sensitive Coastal Areas

There is increased pressure to provide boating access across wetlands, beaches, and dunes from adjacent residential property. This represents a threat to these delicate but important ecosystems. In several coves, a proliferation of piers stretching as much as several hundred feet to reach mean low water could turn the beauty of these areas into a “spider web” of structures shoulder to shoulder around the shoreline. These sensitive coastal areas are also illustrated in Figure VI as Areas of Concern.

5.7 Summary Analysis of Issues

The issues and problems raised from all sources can best be summarized as:

- Preservation and Conservation
- Improved Access
- Development and Regulation

5.7.1 Preservation and Conservation

This remains a two-fold issue from the standpoint that increased facilities and development may destroy the existing character of the shoreline, negatively impact shellfish growing areas or other natural resources and change the pace and conduct of waterfront activities. For example; any increased development may have an impact on the existing, fragile tidal marsh complex. Increased usage must be carefully planned to preserve its natural beauty while providing for increased public access. Further, significant erosion is a serious threat to many of the remaining areas of public access such as along Chittenden Beach and Chaffinch Island.

5.7.2 Improved Access

Equitable distribution between the significant commercial and recreational interests of the Town of Guilford is an important concern in the development of the Harbor Management Plan. This means not only increased public access to the water for non-boating activities, but additional space for dockage and moorings for both commercial and recreational boats as well. Once the additional access is gained, there is a need for regulation of how that access is to be used. The Harbor Sector and the available shoreline are limited by the extensive tidal marshes and rocky headlands. Some areas have already been identified as areas of future expansion (Guilford Planning and Zoning Commission, 1982). However, due to shoreline limitations, as well as increased traffic burdens for the Town, no suitable sites have been located for the provision of additional public parking, which is key to harbor and shoreline access from the land.

5.7.3 Development and Regulation

The primary goal here is to make long range plans for future development, by setting aside and protecting areas marked for future use. A logical plan of harbor improvements, even though it may be too costly for immediate implementation, and may not be universally embraced, must be developed now in order to accomplish full harbor utilization in the future. Further, the expansion of both private and commercial interests

in other shoreline areas has to be carefully weighed and well planned. For example, the construction of large year around structures on small lots formerly occupied by small seasonal dwellings changes the character of a community and limits critical water views to the general public. Therefore, reasonable regulation is a mandatory action because of the finite availability of river and shoreline land resources. It is clear that a more active involvement of the ten existing local shoreline associations, including the development of local harbor management plans and the appointment of community harbormasters with knowledge of the local conditions and property owners may be the most practical means of balancing development and access with preservation and conservation issues.

6 GOALS AND RECOMMENDATIONS

From the Connecticut General Statutes, Sec. 22a-113n:

“Content of the plan. (a) The plan shall identify existing and potential harbor problems, establish goals, and make recommendations for the use, development, and preservation of the harbor. Such recommendations shall identify officials responsible for the enforcement of the plan and propose ordinances to implement the plan. The plan shall include, but not be limited to, provisions for the orderly, safe, and efficient allocation of the harbor for boating by establishing: (1) the location and distribution of seasonal moorings and anchorages; (2) unobstructed access to and around federal navigation channels, anchorage areas, and harbor facilities; and, (3) space for moorings and anchorages for transient vessels.”

6.1 Shoreline Erosion

Every reasonable, environmentally acceptable, and cost effective effort, consistent with the applicable policies and standards of the Connecticut Coastal Management Act and the CT DEEP-OLISP, should be made to reduce shoreline erosion within the boundaries of the entire Guilford shoreline.

6.2 Harbor and Shoreline Usage Growth

The Harbor Management Commission should coordinate with other Town Departments, Commissions and Committees to allow continued limited growth and development to occur within the bounds of the applicable Ordinances and Regulations of Planning and Zoning and Harbor Management Commission, as adopted by the Town of Guilford. These regulations may restrict further public shoreline development and should encourage more water dependent use and public access.

Additionally, the Town has authorized a Town Center South Project to evaluate future use including the Harbor Sector. Preliminary plans are based on the following goals:

- promote flexible development patterns;
- preserve open space;
- encourage diverse development;
- encourage village development;

- protect important resources;
- preserve scenic character;
- enhance the built environment; and
- monitor growth

Development pressures (mostly residential) have increased in all shore areas bordering the harbor. A new self-storage facility has been erected in an industrially-zoned site off Whitfield Street near a Town-owned maintenance facility. This at least raises the question of whether an industrial zone is still appropriate for an area that borders the Harbor and surrounding marshlands. The Harbor Management Commission should consult with the Planning and Zoning authorities regarding future proposals.

Access to Long Island Sound at the Town Marina for boats has seen substantial improvement over the last few years, notably the dredging of the slip basin and repair of the paved area near the East River dinghy dock and boat launch ramp. The ramp itself has also been repaved and the lighting has been improved. The stone breakwater (“rip-rap”) continues to be used heavily by fishermen, birders, picnickers and sightseers. The parking area sees heavy use on sunny summer weekends. In addition, since the adoption of the Plan in 1998, a commercial berthing area has been established as recommended in the Plan. Also, in 2008, four (4) security cameras were installed at the Town Marina, and overlooking the Town boat launch ramp.

6.3 Speed Limits

Boat speeds should be appropriate in order to provide a safe environment for all recreational pursuits. Regulation of speed limits within the harbor is essential to minimizing the erosion of tidal marshes while ensuring safe swimming, water skiing, fishing, and boating. Speed limits, which apply throughout the year, are established and marked. The Town should pass an ordinance for the formal establishment of a “Slow – No Wake Zone” (6 MPH), which will extend from just north of C”11” and continues up the East River and Neck River. Application must be made to the DEEP Boating Division to approve the ordinance. Presently the speed limits are monitored by the Town Dockmaster and no chronic violations of the “no wake” zone has been noted. There is no agency that routinely patrols the area to enforce the no wake zone. However, should this become a problem, the speed limits should be enforced to minimize damage to the sensitive shoreline areas and provide adequate safety in the high water-use areas of the harbor.

6.4 Shellfisheries

The Town's Shellfish resources should be protected by avoiding conflicts between the installation of docks, piers and moorings, which may cause negative impact on shellfish areas or interfere with shell fishing in approved, conditional recreational areas or licensed commercial areas.

Shellfisheries within the East and West Rivers are being regulated and managed with regard to commercial harvesting, relaying, marketing, and the transferring of oysters for recreational harvesting. Recreational and Commercial shellfishing in other areas is also regulated by permits, licenses and seasonal closures to reflect variations in water quality as a result of runoff or other factors in conditional areas.

The State Department of Agriculture, Bureau of Aquaculture has expressed concern regarding potential contamination from the growing number of boats in nearshore waters. The management of vessels with on-board marine sanitation devices (MSDs) that might illegally or inadvertently discharge waste to the local waters over or near designated shellfish areas is of particular concern. This Plan makes recommendations for the review and approval of moorings, which are on or near shellfish areas, by the Shellfish commission. (Also see the Guilford Shellfish Management Plan for specific details.)

6.5 Moorings

The Town Harbor Management Commission should continue to implement a mooring administration program which fulfills the State requirements for registration and protects the rights of mooring owners while avoiding conflicts with shellfishing and other legitimate uses of the coastal resources.

There is a federally designated anchorage area north of the boat ramp. The federally authorized moorings in the East River anchorage are managed by the Marina Commission, under a DEEP-OLISP permit. However, the regulation, registration, and numbering of private moorings along the rest of the shoreline are now under the administrative authority of the Harbor Management Commission.

All individual private moorings along the Guilford shoreline were "grandfathered" by the original 1998 Harbor Management Plan. However, owners are required by State Statute (Sec 22a-113) to have permits from the Town's State appointed Harbormaster. The Town of Guilford Mooring Permit applications for individual, non-commercial

moorings are available directly from Guilford's State Harbormaster and the Harbor Management Commission. Permit application forms may also be found on the internet at <http://www.ci.guilford.ct.us/>. The Town of Guilford Permit Application requires that the applicant show the location of the mooring (GPS coordinates or map), and describes the type and weight of the anchor as well as the chain size and length (i.e. ground tackle). The application also provides information about when the ground tackle was installed and last inspected. In addition, the review and approval by the Town Shellfish Commission requires information regarding marine sanitation devices (MSDs). Detailed Mooring Permit Instructions are maintained by Guilford's State appointed Harbormaster as well as the HMC.

For those applicants with vessels with out of state registration numbers displayed, if the vessel is to be moored within the Town of Guilford waters for a total of 60 days or more in the course of a calendar year, by Connecticut state law, that vessel(s) must comply with State guidelines. Thus, it must display a Connecticut Use Decal, and must also meet all local, state and federal guidelines as a registered operating vessel.

Because of the shallow depths in all areas of the Harbor Sector other than the East River anchorage, and because of the severe exposure at all the other regions of Guilford shoreline, there are few areas suitable for the establishment of permanent mooring grids or transient anchorages in areas outside of the East River in the Harbor Sector.

However, all areas where seasonal moorings are currently in place should be identified on a master map for locating and marking individual, non-commercial moorings. Permits must be issued by the Town of Guilford Harbormaster for all such moorings (See CGS 15-1 and CGS Sec. 22a-113r). Wherever possible, these activities should be implemented through the participation of the local private property owners associations.

6.6 Increased Public Access

Wherever possible, planning should be encouraged to maintain and enhance public access to the shoreline by: identifying areas where coastal public access is particularly needed and the type of access facilities in greatest demand; maintaining or improving access to and along publicly owned shorefront including public trust lands below the mean high water mark; discouraging development which reduces or eliminates existing public access to the shoreline; and fostering facility designs which take advantage of waterfront locations in order to provide areas for the public to enjoy. Further, measures are needed to protect and restore public beach and marsh lands experiencing severe coastal erosion and to preserve public access to coastal areas below mean high water by

requiring that proposed development does not obstruct passage along the public portion of the coastline below mean high water.

6.7 New Dock Facilities

As noted in Section 5.6, the recent proliferation of docking facilities to provide boat access in several previously avoided areas is a major concern. The objective is to avoid the impacts, which may be associated with the development of **new** docking facilities. These include proposed structures in high hazard headland areas and sensitive coastal resource areas/habitats such as marshes and dunes. It is recommended that, with certain exceptions and conditions, **new** construction of traditional residential docks, ramps and floats be avoided in the areas of concern illustrated in Figure VI. In such areas alternative designs or nonstructural access may provide reasonable access as described below.

6.7.1 Definition of Reasonable Access

It is recognized that the concept of a waterfront landowners right to “wharf out” is often considered an absolute property right. However, this concept is derived from the early periods of colonization when the waterways were a major, and in some cases, the only, means of transportation. Water access was critical to commerce. Today most piers and docks proposed for the Town of Guilford are solely for recreational use. Further, the significant increase in population density makes the absolute right to literally “wharf out” a major conflict with other uses of the waters of the state and may actually endanger the public’s natural resources. Therefore, the concept of “reasonable riparian / littoral access to navigable waters” is changing.

The Supreme Court has ruled that shoreline property owners have certain absolute rights including the right to access and an unobstructed view. However there are other “qualified” rights which are defined by the States. Connecticut has described the rights of shoreline property owners in various documents prepared by the CTDEEP (see **Access to Your Boat: Your Littoral Rights**). Littoral access does not imply a right to build whatever size dock or wharf a property owner proposes.

In some areas reasonable riparian access can be achieved by options other than traditional piers, ramps and floats or other structural measures. For example, “reasonable

riparian / littoral access” may be obtained by launching a small boat from the shoreline without the need to construct a private dock or other structure in order to reach a boat moored in a safe, offshore, mooring area. Examples of these options are presented in the table below.

Table 6.7.1.-1 - Hierarchy of “Reasonable Access” Options to New Dock Designs Based on Level of Exposure and Sensitivity of Coastal Resources / Habitats	
Level of Exposure / Sensitivity	Options
Most Protected / Least Sensitive	Traditional Dock with Ramp and Float
	Traditional Dock with Requirement for Seasonal Removal of Ramp and Float
	Dock with flow through decking and Seasonal Removal of ramp and float
	Dock with seasonal removal of decking hand rails and ramp and float
	Dock with seasonal removal of decking and hand rails (no float allowed)
	Metal Frame Platform Stairs with flow through decking
	Metal Frame Platform Stairs with seasonal removal of flow through decking
	Removable seasonal ramp and float only (wetlands)
Least Protected / Most Sensitive	Non-Structural Access

6.7.2 Public Education

A public education program should be developed explaining why such structures are inappropriate or unsuitable on extremely exposed headlands or across sensitive marshes, dunes and beaches. Further, there are other options for providing limited water access consistent with the need to protect the riparian/ littoral rights of shoreline property owners.

6.7.3 Standards for All New Individual Residential Docks

It is recommended that the Harbor Management Commission in conjunction with the Town Building and Engineering Departments develop standards for all new individual residential dock proposals in the Town of Guilford. The term “New” docks shall include both new permit applications and substantial replacement of existing permitted docks involving over 50% of the supporting piles, which do not meet the requirements for a Certificate of Permission as defined by the CTDEEP OLISP. These standards reflect CT statutes and DEEP regulations, guidelines or policy. It is recommended that all potential applicants for a new residential dock meet with the Harbor Management Commission to discuss specific site conditions prior to preparing formal applications for a CTDEEP permit. Existing permitted ramps, floats, decking and rails can be rebuilt according to CTDEEP and OLISP regulations within their existing footprint without further consultation with, or approval from the State or Guilford Harbor Management Commission. However, substantial replacements under a Certificate of Permission do require a review by the HMC.

The following standards will be applied to all permits for new residential dock proposals in the Town of Guilford. The property owner should seek to locate new residential dock facilities as near as possible to the midpoint of the property shoreline.

New residential docking facilities shall not be located closer than twenty five (25) feet to an adjacent property boundary unless the CTDEEP determines that a lesser impact on tidal wetlands or other coastal resources will occur by locating such a **new** structure closer to the property line, physical conditions prohibit other locations, or if the adjacent landowners seek to apply for a new shared dock.

New residential docking facilities or vessels secured to such facilities may not extend more than $\frac{1}{4}$ of the width of any waterway as measured from Mean Low Water (MLW). (See Figure VII – Channel Encroachment Limits).

The waterward extent of any new residential dock structure or vessel secured to such new structure shall not extend any closer than forty five (45) feet from any designated Federal Channel unless the federal requirement for setbacks from a federal channel are greater. In such cases, the federal channel setback would be applied.

The waterward extent of any new residential dock structure or vessel secured to such new structure shall not extend any closer to than that which allows a safe fairway between the dock and any existing mooring registered with the Harbor Master. This is generally determined by the fully extended length of the required mooring chain plus length of vessel plus a clear fairway of at least 12 feet. In order to minimize adverse visual impacts, the following appearance standards shall apply to new or substantially modified residential docks:

New dock components such as pilings, handrails, and ladders shall not substantially raise the visual profile of the dock. Railings shall not be above the level of the safety railing heights or a maximum of four (4) feet and shall be, to the maximum extent possible, of see-through construction. Pilings used to secure floats or boats shall extend no higher than six (6) feet above mean high water.

No more than two boats (excluding dingys, kayaks, canoes, etc.) may be berthed for more than ten consecutive days at any new individual residential dock. This is necessary to prevent blocking of fairways or damage to the structure. New docks shall be set back from the nearest adjacent dock to the maximum extent possible, with a desired minimum setback of 50 feet between docks unless a single dock is shared by adjacent property owners or unless a reduced setback is determined necessary to minimize resource impacts.

No more than fifty (50) feet of tidal wetlands shall be crossed via a new pier or boardwalk. The distance shall be measured from furthest extent of tidal wetlands to the nearest extent of tidal wetlands from the shoreline. In such cases where greater than fifty (50) feet of tidal wetlands are proposed to be crossed, reasonable riparian access to navigable waters may be gained only by constructing a new elevated platform connected to a new ramp and float located at the waterward edge of the tidal wetlands. The area of the new platform, ramp, and float together shall not exceed Two hundred twenty (220) square feet.

Location, construction, and use of new dock infrastructure shall minimize adverse impacts on shellfish habitat, submerged aquatic vegetation, intertidal flats, and other coastal resources.

However, certain provisions above may be waived for new “community” docks intended to minimize impacts by serving multiple riparian property owners or provide broader community access to residents of a specific shoreline association.

6.7.3(a) New Docks in High Hazard Areas

Development plans for new waterfront residences are often accompanied by the proposals for boat access via a new recreational dock. Construction of new docks comprising piers, ramps, and floats in areas exposed to severe wave energy is cause for concern. Not only are there economic and insurance issues associated with the damage to the owner's property but the debris may result in a hazards to navigation, damage to another private property, and eventually a cleanup problem on another property.

All components of new docks that are required to be removed for the non-boating season and in advance of a storm as defined in 6.7.3(a)2 shall be stored at a marina, an approved in-water site, or on the upland outside of tidal wetlands. For the purposes of this section, the boating season is that, which is currently stated in any new permit from the DEEP, and generally extends from April 15 to November 15.(see exceptions in 6.7.3.a.2)

Accordingly, new individual residential docking facilities proposed in FEMA-designated V-zones* shall conform to the design standards outlined in 6.7.3(a).1.

These areas are illustrated as areas of concern in Figure VI and include portions of:

- Guilford Point
- Tuttle Point,
- Mulberry Point,
- The shoreline between Indian Cove and Vineyard Point
- Vineyard Point
- Chimney Corner
- Joshua Point
- Clark Point
- Harrison Point
- Uncas Point

**V Zones are Coastal High Hazard Areas subject to a 1% or greater chance of flood hazard. The Flood Insurance Rate Maps reflect projections of wave velocity, height and runoff depending on variations in local exposure, wind direction and velocity. On Flood Insurance Rate Maps, the Coastal High Hazard Area is designated Zone V, VE or V1-V30. These zones designate areas subject to inundation by the base flood where wave heights or wave runoff depths are greater than or equal to 3.0 feet. (see FEMA Flood Insurance Rate Maps (FIRM) for the Town of Guilford)*

6.7.3 (a).1 V-Zone Dock Design Standards for New Facilities

Except as noted below new residential dock access shall be by pier only or other reduced options (see Table 6.7.1.1) in FEMA-designated V-Zones. New residential piers shall be designed such that all decking proposed below the V-Zone elevation as shown on the applicable adopted Flood Insurance Rating Map (FIRM) panel be:

- Removed and stored on the upland outside of tidal wetlands during the non-boating season (generally November 15- April 15 in new DEEP permits); or
- Designed to allow the predicted wave forces to flow through without causing significant damage.

6.7.3 (a).2 Exceptions to 6.7.3(a).1

New traditional pier, ramp, and float configurations may be constructed in FEMA designated V-zones if unique site conditions/characteristics provide shelter or protection that significantly reduces exposure to direct wave energy. To demonstrate that a particular **new** dock location is suitable for a pier, ramp, and float, an applicant may submit documentation including, but not limited to:

- a) Evidence that in the specific area of concern (i.e. Little Harbor, Sachems Head Harbor, etc.) similar existing structures have been in place for at least a 10 year period and have not suffered significant storm damage; or
- b) A site-specific wave analysis showing a significant departure from the hazard implied by the FEMA flood designation,

However, all new dock facilities allowed under this section shall be permitted only with the following additional conditions:

- The longest side of the float is oriented parallel to the largest predicted wave path if such a path can be determined;
- Removable dock infrastructure may remain in place beyond the normal boating season , if an enforceable Shoreline Property Owner’s Association Plan or individual contract with a marine contractor is in place assuring the emergency removal or otherwise securing of ramps, floats and, if required, removable decking ahead of storms projected to have an extended period of sustained winds in excess of a 40 MPH. * Such plans must be approved by the HMC with the concurrence of DEEP (if in the DEEP permit).

The Commission may waive any provision of these dock regulations if it finds that unique situations warrant such waivers. The Commission shall make written findings documenting any waiver issued under this section. The written findings shall be included

in the comments/recommendations section of the Harbor Management Commission DEEP Permit Consultation Form for the DEEP-OLISP's consideration.

** The US Weather Service defines a "High Wind Warning" as sustained winds of 40 mph or greater for a duration of one hour or longer with gusts to 58 mph or greater. Similarly, a "Gale Warning" is described by winds from 39-54 mph. Such winds are considered high, strong, damaging or dangerous.*

6.7.3(b) New Docks in Sensitive Coastal Resources/Habitats

Tidal wetlands are one of the most productive ecosystems in the world based on biomass output. Guilford is fortunate to have many expansive areas of tidal wetlands along its tidal rivers and tributaries, in protected coves, and in backwater areas. Most of these areas are not conducive to recreational boating because culverts, tide gates or other physical obstructions block or partially obstruct boat access to open water. Boardwalks over tidal wetlands impact tidal wetlands through shading, direct placement of pilings, and may impact use of the wetlands by wildlife.

Intertidal Flats are areas of gently sloping fine sediment inundated at high tide, but exposed at low tide. They are characterized by a thin layer of oxygenated sediment over anoxic material. This unique oxygenated/anoxic environment is critical to the health of the Guilford's coastal waters and fauna. Floats and boats that repeatedly fall to rest on the intertidal flats disrupt the thin oxygen rich layer. Propeller action just above the intertidal flats further impact the sediment layers, which disrupts the biogeochemical processes unique to intertidal flats. **New** docks located in intertidal flats shall be designed such that:

- float and boat bottoms do not come in contact with the substrate during any point of the tide cycle; and
- the square footage of the float is no larger than necessary to provide safe use of a docked vessel.

Submerged aquatic vegetation (SAV) in Connecticut coastal waters generally consist of eel grass beds below mean low water. While there are currently no known/mapped SAV areas in Guilford, vegetation may emerge as Guilford's coastal water quality continues to improve. Recent discovery of a small eel grass bed in Branford raises hopes that Guilford waters will soon welcome the return of new SAV beds. SAV's are sensitive to pollution, shading, propeller action and mooring chain movement. The HMP policy regarding SAVs is to preserve any areas of growth.

Accordingly, no new floats shall be permitted over any identified SAV area. Additionally, if a new dock is proposed within an identified SAV area, approval of any such new docking structure shall be issued provided that potential damage to the SAV from docked vessels and dock infrastructure (shading, propeller action, etc.) has been minimized.

The Commission's goal is to minimize the adverse impacts on expansive and primarily unspoiled sensitive coastal resource areas. Accordingly all new residential docking facilities shall conform to the design standards outlined in 6.7.3 and are prohibited in the following portions of the areas illustrated as areas of concern in Figure VI:*

- The beaches East and West of the Mouth of the East River.
- The beaches immediately East and West of the mouth of the West River.
- The tidal marshes at the head of Indian Cove above Daniel Avenue.
- The beach south of Shell Beach Road at Island Bay.
- The beach at Trolley Road

*Figure VI is based on the following sources: Coastal Resources, 1979, Map prepared by Coastal Area Management Program, Connecticut Department of Energy and Environmental Protection and Recent Aerial Photographs. Applicants are advised to consult with the Guilford Harbor Management Commission regarding the latest CTDEEP aerial photography before submitting **new** permit applications to the CTDEEP.

6.8 The Role of Local Shoreline Property Owners Associations

It is recognized that the CT Department of Energy and Environmental Protection, the Town Harbor Management Commission and the State appointed Town Harbormaster have limited resources to implement this Plan. In order to capitalize fully on the local knowledge and value of continuous observation of moorings and shoreline structures a more formal relationship between the Town and the local shoreline associations is desirable. The formation of additional Community Harbor Management Commissions and the appointment of local volunteer harbormasters by the Town Harbor Management Commission would facilitate the day to day management of mooring fields and greatly enhance the implementation of the Town Plan. These volunteer harbormasters would be under the direction of the State appointed Town Harbormaster who has the ultimate authority for administration of private recreational moorings in Town waters.

Therefore the following framework is recommended to guide the local shoreline associations in establishing a more direct role in implementing the goals of this Plan.

I. Develop a Local Harbor Management Plan which, at a minimum, describes:

A. The pertinent local conditions including:

1. Storm hazards

- i. main direction and magnitude of exposure to hurricanes and seasonal storms Nor'Easters and Sou'Westers);
- ii. pertinent protective features which mitigate storms (breakwaters, natural reefs or offshore shoals); and
- iii. plans to deal with storm emergencies (boat owner notification process, ramp and float removal, reinforcement of lines or boat relocation, etc.)

2. Bottom characterization

- i. describe the different sediment types (sand, silt, clay, etc.) found throughout the mooring area
- ii. describe the depths found throughout the mooring area

3. Develop an owner contact list (winter and summer telephone #s and addresses and a location map of local dwellings, docks, etc.)

4. Establish a process to register all moorings, collect fees and maintain a waiting list for mooring spaces.

B. The local Mooring Plan

1. With the assistance of the State appointed Harbormaster develop a mooring field plan considering sediment types, depths and size / type of vessel

2. Describe the annual process to either **send** all mooring registrations and fees to the Harbor Management Commission and for approval by the State appointed Harbormaster or assure that individuals do it themselves by monitoring the town data base.

3. Describe a set of minimum mooring standards for anchors, chain and pennants reflecting sediment type, depth and size type of vessel.

4. Describe the plan for annual inspection, and regular repair / replacement of moorings.

II. Management of Moorings (including clothesline pulls)

1. Assist the Town Harbormaster in obtaining the GPS coordinates for each assigned mooring and preparing a map of the local mooring field.

2. Assure that all moorings have adequate ground tackle and pennants reflecting depth and size of vessel.

3. Assure that all moorings have mooring balls marked with name, size of anchor, and assigned mooring number.
4. Maintain a waiting list for all moorings under the day to day management of the local association.
5. Assure that all moorings are registered annually and copies of the application forms and appropriate fees are forwarded to the Harbor Management Commission, the Shellfish Commission and the Harbormaster for approval .

III. Other duties

1. Provide leadership and coordination with the Town Harbormaster in case of an emergency.
2. Host periodic presentations to the Association members by the Harbor Management Commission / Harbormaster regarding changes in the Plan, State requirements, or other pertinent issues.

7 LONG TERM RECOMMENDATIONS

No action will be taken regarding the recommendations described in this section before it is determined that all structural measures, including those for erosion control, are consistent with applicable polices, standards, regulations and permits of the appropriate local, state and Federal agencies and are the only means to protect public access or existing erosion control structures.

From the Connecticut General Statutes, Sec. 22a-113o

“Factors considered in the preparation of the plan. In preparing the plan, the commission shall consider the following factors: (1) Recreational and commercial boating; (2) recreational and commercial shellfisheries; (3) fish and shellfish resources or designated shellfish beds; (4) conservation of natural resources; (5) areas subject to high velocity waters, including but not limited to hurricanes, wave washes or tsunamis, that are designated V-zones on a flood insurance rate map published by the National Flood Insurance Program; (6) exposed areas subject to flooding and erosion as defined in section 25-70; (7) commercial and industrial uses that are water dependent as defined in subdivision 6 of section 22a-93; (8) water quality and public health; (9) recreational uses other than boating and fisheries; (10) water dependent educational uses; (11) public access; and, (12) tidal wetlands, beaches and dunes, bluffs and escarpments, and intertidal flats in section 22a-93.”

7.1 Protection from Erosion

7.1.1 Jacobs Beach to Marina Entrance

a. Existing Conditions:

Sand is displaced over the low groin on the east side and moves off the beach into the channel. The tidal marsh to the northeast and the entrance to the Marina need protection from both boat wakes and wave action. An evaluation of aerial photos indicates that large portion of Grass Island has been eroded eliminating acres of public access

b. General Goal:

To aid in sand accretion on the beach and to maintain the edge of the tidal marsh and the entrance to the Marina.

c. Recommendations:

Investigate mechanisms to achieve both of these goals, including possible extension of the breakwater further out towards the edge of the channel, elevating its shoreward end. Dredging will continue and sandy material, if suitable should be placed behind a stabilizing structure on the eroding face of Grass Island Beach and at Jacobs Beach. Any structural control measures to maintain public access to the Town Marina should demonstrate that there are no other erosion control measures available.

7.1.2 Chittenden Beach

a. Existing Conditions:

Chittenden Beach is part of the Town's Chittenden Park. There is presently a path through the Phragmites to the beach and along the beach, which endangers the tidal marsh by trampling, and endangers the pedestrians because of the infestation of deer ticks. Serious erosion is occurring along the southern edge of the tidal marsh facing Long Island Sound. Approximately 500 feet of beach and marsh have been lost over the last 50 years. This is a result of the loss of the previously installed stone groin at the mouth of the West River. Public access is greatly reduced.

b. General Goal:

To prevent further serious erosion of the edge of the tidal marsh and restore public access to the sand beach.

c. Recommendations:

Conduct engineering studies of sediment impoundment methods at the western end of the beach near the mouth of the West River. Structural measures are necessary to mitigate erosion, protect existing residences and Browns Boatyard, and reduce the source of sedimentation of the West River Navigation Channel. Possible solutions may include but not be limited to:

- Construct offshore wave attenuation structures using large boulders

Install offshore wave attenuation structures to reduce wave erosion along the beach. Reduction of wave energy may allow the accumulation of sediment in the more quiescent zone behind the restored groin. The structure could be constructed of large

boulders similar to those left by the last glacial epoch which are found throughout the area. Proper placement of several large natural stone structures would break up the wave pattern and provide enhanced fish and invertebrate habitat.

- Construct a pile supported “nature trail.”

Develop and construct a piling supported “nature trail”. A piling supported “nature trail” across the marsh will reduce the impact of foot traffic and increase public access to the marsh for bird watching, kayak launching, and fishing.

- Restore and replenish the preexisting stone breakwater as a sediment retention structure

Structural restoration of the previously installed stone groin using stones similar to the naturally occurring glacial erratics will reduce the continued, unabated erosion in this area and minimize dredging in the Guilford channel. It will also serve to preserve public access to Chittenden Beach from Jacob’s Beach and the Marina.

- Use dredged material from the West River dredging as a beneficial use to replenish eroded material from the face of the marsh

The material in the boat basins appears to be similar in physical characteristics to the eroded marsh material. Placement of the material behind low structures and planting marsh grass has been demonstrated at other marsh restoration sites

7.1.3 Chaffinch Island

- a. Existing Conditions:

Serious erosion of the southern shoreline is occurring at an increasing rate every year.

- b. General goal:

Prevent further erosion of the shoreline and recover areas that have been lost. Concurrently, prevent further sediment from filling the West River channel.

- c. Recommendations:

Continued investigation of erosion control methods is warranted. Erosion control measures should consider a protective groin from the southern tip of the Chaffinch Island Point. Additionally, coarse sand and gravel fill will continue to be provided to fill in eroded areas along the eastern shore of the island to minimize dredging and to maintain public access to the Island as well as the Marina. Since any work, structures, or fill placed at or below the high tide line would require state authorization, the HMC will continue to coordinate with the Office of Long Island Sound Programs regarding the implementation of any erosion control methods that may be considered.

Additional erosion control measures could include:

- a protective groin from the southern tip of the Chaffinch Island Point
- a pile supported “fishing boardwalk”, similar to that below the DEEP Offices on the Connecticut River at Old Saybrook, combined with a sediment retention structure

7.1.4 Wetlands West of Chaffinch Island

a. Existing Conditions:

This is the most seriously eroding area in the State of Connecticut – See Scientific and Engineering Studies 1985, and Patton and Kent, 1992, *A Moveable Shore*: pp. 91—92. The erosion of the marsh is exacerbated by the foot traffic of the public across the marsh to access this popular recreational shellfishing area.

b. General Goal:

Stop or arrest the rapid rate of erosion.

c. Recommendations:

- Commission an updated scientific evaluation of available strategies to arrest the deterioration without doing any further environmental damage to the wetlands area.

- Update the Scientific and Engineering Studies' 1985 Report and Patton and Kent's 1992 report, A Moveable Shore: pp. 91-92. Continued investigation of erosion control methods is warranted.
- Install a pile supported "nature trail," modified to control erosion and minimize dredging, which would not only improve public access to recreational shellfishing across the wetlands area, but mitigate the serious erosion of the wetlands caused by pedestrian traffic through the marsh.

7.2 Increasing Public Access

7.2.1 Chittenden Beach (See Fig. I)

a. Existing Conditions:

The parking lot at Chittenden Beach Park is unpaved and in merely adequate condition. The Parks department cleared a 50 foot wide path through the marsh, however invasive Phragmites still exist over a large area. There are no warning signs for ticks or dog cleanup bag stands, but there are a few picnic benches, and a new bocce ball court. Erosion of the path to the completely undeveloped beach does not appear to be extensive but the use of the beach appears to be limited This is probably one of the largest undeveloped patches of beachfront left in Guilford, and it could provide significant new public access to the Harbor, but it is in poor condition. Trash is common on the beach & marsh, and large patches of ground near the baseball diamond and soccer field (both in good shape) are unused but do provide an extensive lawn-covered open space.

b. General Goal:

Provide more convenient access for additional pedestrian traffic while simultaneously protecting the tidal marsh from further damage and the pedestrians from the ticks.

c. Recommendations:

Investigate methods for better utilizing the Town-owned property at Chittenden Beach to create public access for passive activities while minimizing the present impact on the tidal marsh. An acceptable solution will have the threefold benefits of increasing public access in the area: reduced wetlands impact, reduced pressure on

parts of the Town Marina's parking area which is being used for usual boating activities, and increased sightseeing and bird watching, etc.

The area might be particularly well-suited for a second kayak facility to relieve pressure on the full racks at Jacob's Beach. Overall this park and beach are underused, and of great potential.

Post warning signs, provide dog cleanup bags, and provide trash receptacles for the beach area and bocce court. Continued maintenance of the bocce courts, pathway to the beach, and pathway in a less invasive way to the Phragmites is warranted, as well as research to mitigate erosion along the pathway; and, provide better and more extensive public access to the area.

Develop and construct a piling supported "nature trail". A piling supported "nature trail" across the marsh will reduce the impact of foot traffic and increase public access to the marsh for bird watching, kayak launching, and fishing.

7.2.2 Jacobs Beach

a. Existing Conditions:

The launching area for small boats is inadequate. The launch ramp and storage racks are best suited for kayaks, and the racks appear to be full. The ramp could be improved for launching small sailboats (<14'). A stone breakwater separates the kayak area from the swimming area, and simple floating lines could easily insure that the boats steer clear of swimmers. However, lengthening and increasing the height of the breakwater would reduce the Beach erosion rate. Jacob's Beach is not used for swimming as much as it once was or might be, probably because of poor quality sand and sharp razor clam shells in the submerged sand at low tide. , The beach sand should be cleaned often, and in general the park should be better maintained. It could be a much more attractive facility with better maintenance and grounds keeping.

b. General Goal:

Improve the launching area for small boats, and improve separation to assure the safety of the swimmers. Reduce ongoing erosion by upgrading the breakwater..

c. Recommendations:

Most of these issues will be mitigated under the approved upgrade Plan for the Park. A portion of the beach should be suitably marked with boundaries and floats at the water approach, launch, and landing area, and a permanent sign should be installed, which identifies the area designated for launching of small boats. Install safety lines and improve the sandy bottom to upgrade swimming conditions. In addition the Town should increase the length and raise the height of the existing breakwater to mitigate the ongoing erosion.

7.2.3 Marina Fishing and Scenic Areas

a. Existing Conditions:

At present access this situation is acceptable, but the public has expressed concern regarding conflicts between various uses and users.

b. General Goal:

Provide means to accommodate more people in the area for fishing and passive enjoyment.

c. Recommendations:

The Marina Commission recently completed the restoration of the parking area and stone breakwater / revetment which was seriously damaged in Irene. The area includes a level curb, stone, and gravel area on top of the rock rip-rap facing seaward for fishermen, with an extension of the area to the east and west with benches and tables for picnicking and passive or handicap visitors. The Marina Commission has also provided three picnic tables for public use. More tables would probably obstruct the water view for the large number of people who view it from parked cars. The Town has considered adding a walkway, protected by tire stops, between the cars and the base of the rip rap. However, the agreement with the state to build the launching ramp required a set number of parking places and the swing radius for trailers would be insufficient unless the number of spaces is reduced. Therefore this proposal is not implementable.

7.2.4 Chaffinch Island

a. Existing Conditions:

This location is in year-round use but somewhat limited by the facilities on the site. Chaffinch Island is generally much cleaner and better maintained than either Jacob's Beach or Chittenden Beach. It receives regular use during warm-weather weekends, but traffic is rarely heavy. It strikes a very effective balance between being left in its "natural" state (but frequently cleaned) and providing facilities for visitors. It might well be a model for Jacob's and Chittenden Beach. The paths along the adjoining beach could be better maintained and marked, but the area is relatively clear of trash. It is a popular shell-fishing area; otherwise the cove and beach are almost completely unused.

a. General Goal:

Preserve this location and expand facilities to encourage further utilization for picnics, group activities, bird watching, and sightseeing.

b. Recommendations:

Investigate expanding available parking areas and improving paths and walkways to the water's edge and scenic viewing sites. Research the possibility of constructing a pile supported "nature trail" along the shore of the marsh to minimize pedestrian damage accessing the shellfishing area to the west to the marsh.

7.2.5 Grass Island

a. Existing Conditions:

Grass Island still sees little use. The Town-owned red fishing shack is in need of repair. A considerable area of the Island has been eroded over the last several decades. The small, clean beach area that remains near the shack is particularly well-suited to children due to the gradual incline and soft sand. There is only limited access to the area by foot - most visitors to the shack area come by boat. The interior of the island is swampy and littered with trash, 55 gallon drums, discarded appliances, etc. from years past. Ticks are particularly common here. Improvement of the shack area should not increase use of the island by very much due to the limited access.

b. General Goal:

Preserve this location in its present state.

c. Recommendations:

Leave this area unaltered from its present state. Provide improved public access to the island and the surrounding area. **Consider placement of a groin to reduce erosion and the requirement for channel dredging upstream.** Investigate the repair of the Town’s high profile “Landmark” Provide trash receptacles.

7.3 Moorings

7.3.1 Guilford Harbor Sector

a. Existing Condition:

There is continuing demand for additional mooring space in the Federal anchorage area in the East River and the sheltered parts of the Harbor Sector.

b. General Goal:

Provide for more moorings in the sheltered sector and the federal anchorage areas if at all possible, and assure continuing availability of space for transient vessels.

c. Recommendation:

Coordinate with both the Town Marina and the commercial marinas in the West River to assure that adequate space is available daily for transient vessels.

7.3.2 Guilford Shoreline—Hoadley Point to Tuttle Point

a. Existing Condition:

There are approximately 350 – 400 private moorings in the area belonging to either adjacent riparian property owners, or members of private yacht clubs along the Guilford shoreline. Many of these private moorings are in exposed and potentially hazardous locations. Further, most of this shoreline is bordered by private property, limiting public access. With a few exceptions no mooring plans or grids have been established in these areas, and no moorings for transient vessels have been established in this area.

There are at least ten private property owners associations along the shoreline. Almost all maintain some control over waterfront activities and several have identified a volunteer harbormaster. Two of these, the Sachems Head Association and the Old Quarry

Association actually have municipal taxing and zoning authority. Only the Sachems Head Association has a local Harbor Management Plan, a Harbor Management Commission and an established mooring grid managed by a volunteer Harbormaster in conjunction with the Sachems Head Yacht Club.

Although submerged lands and waters below the mean high water line belong to all citizens of the State of Connecticut under the Public Trust Doctrine, the area water ward of the mean high water line is subject to Connecticut's Permit Authority. The objective of the Permit Authority is to avoid or minimize navigational conflicts, encroachments into the State's Public Trust Area, and adverse impacts on coastal resources and uses including shellfish growing areas.

A properly permitted mooring within the Public Trust Area enables the Harbormaster to identify the ownership of vessels that break away from a mooring in a catastrophe or marine incident, as well as oversee the integrity of all mooring systems within the purview of his/her jurisdiction. Individual non-commercial mooring space and permit applications are available through the Town of Guilford Harbormaster. (See CGS Sec. 22a-

b. General Goal:

The Commission should continue to support the Town of Guilford's State appointed Harbormaster and, to the extent possible, work with the volunteer harbormasters representing local shoreline associations in locating, mapping and permitting the existing moorings along the shoreline, in order to bring all mooring owners into compliance with State of Connecticut Statutes (See CGS Sec. 22a-113r). By determining the density of existing mooring fields, the capacity to accommodate additional moorings can be established. This is consistent with the goal to develop new mooring opportunities for residents of the Town to the maximum extent possible. In order to accomplish this goal, support should also be provided in reviewing applications for new mooring permits and providing GPS and mapping capabilities to document mooring locations. Further, the local property owners associations should be encouraged to appoint a local volunteer harbormaster and develop a Community Harbor Management Plan, which is consistent with this Town Plan and reflects knowledge of the currents, bottom sediments and other local conditions. Such plans should serve as the basis for determining the adequacy of ground tackle and the day to day management of the local mooring fields by the locally appointed volunteer deputy harbormaster.

c. Recommendation:

The Harbor Management Commission should establish a mooring administration program which oversees the proper registration installation and maintenance of privately held mooring in the Town's waters. No mooring or anchorage should be placed in the harbors or waterways within the Town of Guilford's purview of jurisdiction without a permit granted by the Town of Guilford's State appointed Harbormaster.

The program should include maintenance of files by both the Harbor Management Commission and the Town's State Appointed Harbormaster for new registrations, annual renewals and the development of mooring location plans. The program should be funded by annual fees and implemented by the Town Harbormaster and the Harbor Management Commission in association with the local private property owners associations along the shoreline.

The local harbor management plans and mooring grids prepared by the shoreline property owners associations should be reviewed by the Town's Harbor Management Commission and, if consistent with this Plan, approved and appended to this Plan. . Both the Harbor Management Commission and the Town's State Appointed Harbormaster should work with the local associations in the day to day application of the Town wide mooring administration program.

Because of the value of the shellfish beds in the Town's Waters, the Guilford Shellfish Commission should assist in the establishment of the plan to address the potential impact of moorings on shellfish beds. No mooring permits shall be granted in an oyster bed or in or near a designated shellfish growing area if found to be inconsistent with the provisions of the Model Shellfish Ordinance upon review by the GSC, and if permission of the owner or lessee has not been received.

7.4 Docks and Other Waterfront Facilities

7.4.1 Guilford Harbor Sector

a. Existing Condition:

There is continuing demand for additional docking space the Harbor Sector area.

b. General Goal:

Provide for more berthing space if at all possible, and assure continuing availability of space for transient vessels.

c. Recommendation:

If the opportunity presents itself, and space were to become available in any areas adjacent to the Marina, or on the West River, one consideration might be the introduction of a rack storage facility for boats, manned by professionals who deal with this type of boat storage and launching. If this were to become a reality, at the same time, a separate launching area would also have to be considered, which is unique to this type of boat storage.

7.4.2 The Shoreline outside the Harbor Sector

a. Existing conditions:

The Harbor Management Commission has the authority to review and make recommendations regarding all projects proposed for the Town's Coastal Area.

b. General Goal

Avoid conflicts between uses and public access below the high tide line adjacent to private property.

c. Recommendations:

1. The local shoreline property owners associations should be encouraged to develop local harbor - shoreline management plans applicable to development in their area. All shoreline activities under review by the CT DEEP and other Town Commissions should be reviewed and endorsed by the Harbor Management Commission to ensure avoidance of conflicts between resource uses.

Particular attention should be given to the avoidance of conflicts between the installation of **new** piers, ramps and floats, and 1) commercial or recreational shellfishing areas; 2) small boat navigation (canoes and kayaks); and 3) beach walking below the mean high tide line at low tide or 4) intrude into existing mooring fields.

2. The **new** dock siting and construction standards enumerated in section 6.7 should be adopted and established by rules and regulations and where appropriate, Town Ordinance in accordance with applicable laws.

7.5 Navigation

7.5.1 East River Federal Channel

- a. Existing Condition:

The present channel runs very close to the rip-rap wall of the parking area, causing conflicts between boaters and fishermen.

- b. General Goal:

Provide more space for the fishermen to cast their lines.

- c. Recommendation:

Investigate additional means to relieve conflicts between boat traffic and shoreline fishermen where the East River channel comes close to the face of the rip-rap wall of the parking area.—See 7.2.4

7.5.2 East River Channel to Bell Buoy #4

- a. Existing Condition:

This buoyed channel provides the only safe access to Long Island Sound through a rocky, shoal harbor from the Town owned marina and boat-launch ramps as well as from the State boat-launch ramps on the East River.

- b. General Goals:

To provide continuous, usable public access to Long Island Sound for as many water-associated users as possible.

c. Recommendation:

Encourage the ACOE to continue regular maintenance of the Guilford Sluice and East River channel. Investigate suitable land and water sites for soil disposal.

7.5.3 Setbacks and Regulations for Use of the Channel

a. Existing Conditions:

There are presently no setbacks (distances within which alterations are prohibited) from the edges of the federal channel, and no current local enforcement, to keep **new** docks, moorings, or fixed commercial fishing gear as defined in Sec. 26-142a-3a(d) of the DEEP regulations, or any other potential obstructions, out of the channel.

b. General Goals:

Insure clear navigation, and provide resolution of potential public and private/commercial conflicts over obstructions in the channel.

c. Recommendations:

Adopt the setbacks from the edges of the Federal Channel enumerated in Section 6.7 and enforce all limitations on any potential obstructions in the channel.

7.5.4 Speed Limits

a. Existing Conditions:

At times, boats travel too fast in the channel and along the tidal marsh, creating hazardous conditions for other boaters and increasing erosion of the shores caused by boat wakes.

b. General Goals:

Pass a Town Ordinance to limit boat speeds to establish a maximum 6 MPH “NO WAKE ZONES” in certain areas to prevent dangerous situations for people and to minimize erosion of the shore caused by boat wakes. Apply to the DEEP to approve the established Town ordinance

c. Recommendations:

Continued monitoring of the proposed NO WAKE ZONE is recommended from just north of C “11” to the confluence of the East and Neck Rivers by the Marina. Even though there is no agency charged to enforce this regulation, the Dockmaster should continue to monitor traffic and warn violators of the speed limit.

Extend Guilford’s statutory speed limit of 6 miles per hour from Can #9 in the East River Channel and from just north of Inner White Top in the West River channel throughout the entire navigable length of both rivers.

Obtain DEEP approval to install seasonal “NO WAKE ZONE” (6 MPH) speed limit markers in suitable locations from May 1st to November 1st.

7.5.5 West River Dredging and Beneficial Use

a. Existing Conditions:

Approximately 30,000 cubic yards of material must be dredged from the West River Channel and boat basins of the adjacent marinas every few years. At the same time over 50 feet of material has eroded from the Chittenden Beach area at the mouth of the river over the last 10 years. It is probable that this material is transported upriver on the incoming tide and deposited in the boat basins

b. General Goals:

Reduce the impact of erosion on the Chittenden Beach Marsh and reduce the impacts of periodic dredging.

b. Recommendation:

Conduct studies to verify that the erosion is the principal source of siltation in the boat basins and propose structural measures including restoring the previously installed low stone breakwater and the beneficial use of dredged material to stabilize Chittenden Beach.

7.6 Support Facilities

7.6.1 Town Marina

a. Existing Conditions:

There are limited sanitary facilities at the Town Marina Building for use by slip renters and their guests only. There is also one (1) Porta-Potti for use by the General Public, one being Handicap accessible, which are maintained during the boating season at the northern edge of the parking lot. There are approximately 60 boats in the Marina and approximately 65 boats in the other waters of Guilford with Marine Sanitation Devices or Port-A-Potties.

b. General Goals:

To protect the water quality in the harbor by providing practical increases in the present sanitary facilities.

c. Recommendations:

At this time, the current pump-out facility at the Guilford Yacht Club fulfills the need of protecting the water quality in Guilford waters, based on the below sited information.

On September 16, 2005, notice was published that the State of Connecticut had petitioned the Regional Administrator, Environmental Protection Agency to determine that adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels are reasonably available for the Connecticut waters from Eastern Point, Groton, due south to the border between Connecticut and New York, then west following the state border to a point on that line south of Hoadley Point, Guilford, then due north to Hoadley Point. A petition was filed pursuant to Section 312 (f) (3) of Public Law 92-500, as amended by Public Laws 95-217 and 100-4, for the purpose of declaring these waters a "No Discharge Area" (NDA). Based on the examination of the petition and its supporting documentation and information from site visits by EPA New England staff, it has been determined that adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels are reasonably available for the area covered under this determination. (1)

Conclusion: The water quality in the Town Marina is properly and adequately protected by the existing facilities within Guilford's geographic boundaries.

7.6.2 Guilford Yacht Club

- o Existing conditions

Although private, the Guilford Yacht Club maintains a publicly available pump out facility and temporary berth on the West River at the end of D Dock, the Club’s northern most piers.

- b. General Goals:

To protect the water quality in the harbor by providing practical increases in the present sanitary facilities

- c. Recommendations:

It is recommended that the Guilford Yacht Club continue to provide pump out service for a modest fee to all transient vessels. However, it is recommend that the Guilford Yacht Club provide this service free for vessels berthed in a Guilford Marina or moored in Town waters by Town residents. This should be considered a ‘give back’ to the community in exchange for the Town releasing them of their previous obligation to provide public access and a dock to the West River.

8 SUMMARY OF RECOMMENDED HARBOR MANAGEMENT ACTIONS

The recommendations stated above fall into two categories: Near Term Goals and Far Term Goals. Some should be considered for immediate implementation, others may have to be implemented over a period of years.

It is recognized that no guarantee exists at this time from any State or Federal Agency for permission to implement any of these Plan recommendations. Permits for implementation will have to be obtained by the Commission or another party prior to proceeding with any of the items.

8.1 Near Term Goals

8.1.1 Erosion Protection

- Jacobs Beach and adjacent marsh
- Chittenden Beach Marsh
- Chaffinch Island and adjacent marshland
- Town Marina Entrance and Grass Island

8.1.2 Access

- Expand recreational access for the general public
- Provide Chittenden Beach walkway
- Encourage navigation channel maintenance
- Investigate alternatives for fishing locations
- Expand dinghy and kayak dockage
- Additional handicapped access
- Access to shellfish beds

8.1.3 Regulations

- Shellfish beds and harvesting
- Setbacks
- Speed Limits, i.e. “No Wake Zones”
- Permits for moorings in all Town of Guilford waters
- Improved review process by the Harbor Management Commission of all permits and other applications for coastal shoreline related activities
- Adoption of standards for **new** docking facilities

8.2 Far Term Goals

8.2.1 Protection

All other shoreline stabilization and fill recommendations.

8.2.2 Access

- Increased parking areas
- Shuttle bus service
- Increased mooring opportunities in lieu of new docks in unsuitable areas

8.2.3 Regulations

- Encourage development of local harbor – shoreline management plans and mooring grids by local private property owner associations
- Encourage the appointment of local volunteer harbor masters to implement the requirements of the Town and local Plans and the day to day management of the mooring fields.

9 GUILFORD MOORINGS

9.1 Harbor Sector

- a. At present, there are 15 federally authorized permitted moorings in the East River which are set and maintained by the Guilford Marina Commission. The rules and regulations of the Marina Commission for application for a mooring in the East River are available at the Town Hall. These moorings have been assigned to residents and non-residents on a seasonal basis since the early 1960's. The Marina Commission also administers the assignment of floating docks and fixed piers within the marina basin along the Sluice Channel. Town Marina slips and moorings are available for transient use, on a first-come-first-served basis, when not occupied by the assigned vessel. Reservations for these may be made through the Guilford Dockmaster. Nominal fees are charged transient vessels using the Town Marina's facilities. Slips are available at the commercial marinas in the West River for larger transient vessels at prevailing commercial rates. To date, there has always been an adequate supply of mooring opportunities for transient boaters.
- b. It should be noted that all moorings, whether public or private are to comply with the color and shape requirement outlined in R.C.S.A., Sec. 15 – 121 – A3: Special Purpose Markers.

9.2 Other Moorings

- a. The rules and regulations for an application for a mooring within the waters of the Town of Guilford, its chosen location, its owner's maintenance procedure, its land access point, and dinghy location if used, are included within this Plan. Applicants are advised to consider local hydrographic and topographic conditions and to examine up-to-date navigational charts carefully.
- b. In accordance with State statutes, it is the Harbormaster's responsibility to establish mooring assignments, issue mooring permits, and maintain waiting lists for new applicants. However, the Harbormaster's activities must be consistent with the provisions the Town's Harbor Management Plan. Further, the Harbormaster should work with the volunteer harbormasters appointed by local shoreline property owners associations in order to take advantage of the

local knowledge in determining the appropriate ground tackle, location and density of moorings.

- c. The Plan requires that the Harbormaster act in conjunction with the Harbor Management Commission and with the permission granted by the Shellfish Commission, for any moorings in oyster beds or in or near a designated shellfish area, and in cooperation with the local shoreline property owners associations.
- d. All individual, non-commercial moorings need applications for permits to comply with State Statutes. (See CGS Sec. 22a-113r). Applications are to be submitted to the Town of Guilford Harbor Management Commission in order that Guilford's State Harbormaster can review them before a permit is granted.

10 MANAGEMENT APPROACH

10.1 Coordination of Authority

From the Connecticut General Statutes, Sec. 22a-113p:

“Action on applications to municipal agencies referred to the commission. The commission may review and make recommendations, consistent with the plan, on any proposal affecting the real property on, in or contiguous to the harbor ...”

Close communication between the Town of Guilford and the Harbor Management Commission must be maintained in order for this Harbor Management Plan to be administered effectively. It will be the responsibility of the Chairman of the Harbor Management Commission, or his designees, to act as liaison between all governing and legislative bodies, commissions, and agencies. These review activities will be funded by fees charged for the administration of annual mooring registrations and fees for the review of proposals and permits for any proposed actions affecting real estate on or contiguous to the shoreline_ including, but not limited to, docks, piers, floats and ramps, dredging and filling.

As set forth in the Harbor Management Act, the referral requirement applies to proposals generated by, or received by, but not limited to: The Marina Commission, the Planning and Zoning Commission, the Zoning Board of Appeals, the Historic District Commission, the Shellfish Commission, the Parks and Recreation Commission, and the Water Pollution Control Authority. Furthermore, the Harbor Management Commission shall be notified of any such proposals at least thirty-five days prior to the commencement of the public hearing, or at least thirty-five days before taking of any final action on the proposal. Fees will be charged by the Harbor Management Commission to review all applications and permits related to activities which may impact the coastal shoreline and related resources. The Harbor Management Commission may waive the referral of the complete application when it seems appropriate.

Local agencies authorized to act on such proposals which may effect shoreline real estate shall consider the recommendations of the Commission. A two-thirds vote of all members of the local agency having authority to act on the proposal shall be required to approve a proposal that has not received a favorable recommendation from the Commission, provided that this section shall not be deemed to alter the authority of the agency having primary jurisdiction over the proposal to deny, modify, or condition the

proposal. Failure of the Commission to submit a recommendation shall be deemed approval of the proposal.

The Commission encourages all persons or organizations, commercial, public, or private to engage in preliminary discussions with the Commission prior to the development and submission to any Town governing or legislative body, commission, or agency any proposal affecting real property on, in, or contiguous to the Guilford shoreline, as defined in section 1.1 of the Guilford Harbor Management Plan. They are further encouraged to engage in preliminary discussions with the Commission prior to any submission through the permit process to the State of Connecticut Department of Energy and Environmental Protection, or the U.S. Corps of Army Engineers. Local shoreline private property owners associations are encouraged to develop harbor – shoreline management plans which are consistent with the requirements of this Town Plan and applicable to conditions in their local area.

10.2 Enforcement

The enforcement of the plans and policies set forth in this Harbor Management Plan is the responsibility of the Harbor Management Commission.

The enforcement of the Rules and Regulations governing the Town of Guilford shall be as follows:

- Harbor Management Commission, reporting authority
- State Harbormaster, reporting authority
- Town of Guilford Police, arresting authority

Violations brought to the attention of the Harbor master, Harbor Management Commission, the Shellfish Commission, or any other party, either by direct observation, or by information received, obligate them to notify the Guilford Police Department to take immediate action in accordance with the Rules and Regulations, Ordinances, and Harbor Management Plan adopted by the Town.

The enforcement of mooring registration rules in oyster beds or in or near designated shellfish areas is of special concern and the responsibility of the Harbormaster. Any violation which could jeopardize keeping recreational **or commercial** shellfishing areas open or result in downgrading of the existing shellfish growing area classification as determined by the department of Agriculture/Bureau of Aquaculture must be prohibited. In accordance with the requirements of the NSSP

Model Ordinance, the GSC has the right to request that the Harbormaster remove such mooring violations. The basis for review and granting of permission for placement of moorings in oyster beds or in or near designated shellfish areas, to be stipulated by the GSC, include but are not be limited to the requirements enumerated in the following section.

10.3 Rules and Requirements for Mooring Registrations

10.3.1 Application Requirements

The following rules and requirements apply to all applications for individual private moorings in the waters of the Town of Guilford

- a. All individual private moorings along the Guilford shoreline are required to have permits approved by the Town's State-appointed Harbormaster.
 - Permit applications may be made online through the Town website or are available directly from Guilford's State Harbormaster and the Harbor Management Commission.
 - The application requires information on ownership, vessel description and registration information.
 - A completed application also requires the location of the mooring by map or GPS, description of the type and weight of the anchor as well as the chain size and length, the location of the access point from the shore and information about when the ground tackle was installed and last expected.
 - Detailed Mooring Permit Instructions are maintained by Guilford's State-appointed Harbormaster as well as the Harbor Management Commission.
 - Applicants must pay a registration fee determined by the Harbor Management Commission.
 - For those applicants with vessels with out of the state registration numbers displayed, if the vessel is to be moored within the Town of Guilford waters for a total of 60 days or more in the course of a calendar year, by Connecticut state law, that vessel(s) must comply with State guidelines, thus it must display a Connecticut Use Decal, and must also meet all local, state and federal guidelines as a registered operating vessel.
 - A commercial mooring field may be approved by the Harbor Management Commission for a yacht club or marina which maintains moorings for a fee provided that:

- a. the management plan is consistent with other applicable requirements of the Town's approved Harbor Management Plan,
- b. full access to the general public, which has reasonable access to the field, is provided to members or by lease, and
- c. the site is not in an oyster bed or in or near a designated shellfish area..

10.3.2 Approval

Mooring applications may be approved based on the following conditions:

- a. All boats without an onboard holding tank or other sanitary system.
- b. Boats with an onboard holding tank sanitary system with a chained or harbormaster sealed "Y" valve.
- c. Proof of access to shoreline sanitary a facility is demonstrated (property owner of member of a yacht club or marina).
- d. Other Criteria
 - i No discharge or dumping
 - ii No transient inhabited overnight use in an oyster bed or in or near a designated shellfish area except in the case of an emergency
 - iii No living aboard in an oyster bed or in or near a designated shellfish area
 - iv No more than a cluster of 10 boats in any area within a harbor which contains an oyster bed or is in or near a designated shellfish area
 - v Moorings must be individual, no rafting or ganging of moorings
 - vi Consideration of State Department of Agriculture Bureau of Aquaculture's density "comfort level"

10.3.3 Disapproval

Mooring applications may be disapproved for the following reasons:

- a. Boats with an onboard holding tank sanitary system without "Y" valve or without a sealed or chained "Y" valve by closing the seacock and padlocking, using a non-releasable wire tie, or removing the seacock handle.
- b. No demonstrated evidence of access to local onshore toilet facilities (e.g. no proof of local ownership or access permission to someone else's property, or to a yacht club or marina).

c. Other Criteria

- i. Discharge or dumping
- ii. Transient inhabited overnight use except in the case of an emergency (see d.ii above)
- iii. Living aboard (see d.iii above)
- iv. More than a cluster of 10 boats in any area within a harbor (see d.iv above)
- v. Multiple vessel mooring, rafting or ganging of moorings

10.3.4 Additional Considerations

Additional considerations for Shellfish Commission review and for Harbor Master approvals include:

- a. All the above criteria plus those in b. and c. below:
- b. Based on Harbormaster's evaluation of space available
 - i. Swing radius of "ideal" anchor chain system for each class of vessel (e.g. < 20ft., 21-25 ft., and > 25ft.)
 - ii. Depth of water to avoid sediment disturbance or damage to other boats
 - iii. Provision of safety lanes for navigation fairways and shell fishing access.
- c. Consideration of State Bureau of Aquaculture's density "comfort level"

FIGURES