

CHAPTER 7

COASTAL RESOURCES Volume I and II

Endorsed by Annual Town Meeting Art. 27 – April 10, 1997

Updated Report prepared by
Planning and Conservation Division Staffs
of the
Community Development Department
of the Town of Yarmouth

YARMOUTH COMPREHENSIVE PLAN
CHAPTER 7 - COASTAL RESOURCES PLAN
UPDATE APRIL 2002

EXECUTIVE SUMMARY

A. PURPOSE

The Town of Yarmouth has recognized the need to conserve and protect its coastal resources in order to preserve its ecological health, and its scenic beauty. Its beaches, its shellfish beds and habitat, its shorefront and its harbors must be improved for current and future residents and seasonal visitors.

The Coastal Resources Plan may also serve as a reference for the development of a Town Harbor Management Plan which could assist the Massachusetts Department of Environmental Protection in making regulatory decisions, "which are responsive to municipal objectives and priorities.....".

B. Coordination with the Comprehensive Plan and the Regional Policy Plan

The Coastal Resources Plan serves as Chapter 7 of Yarmouth's Local Comprehensive Plan, which was completed in late November of 2001. It is in the process of being submitted to the Cape Cod Commission, looking towards their approval. Yarmouth is the only one of the 15 towns on Cape Cod to have done its Plan incrementally, but such an approach is already proving to be very practical for this particular town.

In addition The Yarmouth Comprehensive Plan is designed to serve as the Town's response to the Barnstable County Regional Policy Plan, last enacted in 1996. The Comprehensive Plan is designed to provide a guide to the Town's planning and growth decisions. Its contents follow the standard Commission guidelines as regards contents. The Plan's recommendation are in general agreement, but not total, with that standard outline as Yarmouth is unique in several details concerning its local situation.

C. Why Is An Update Necessary At this Time?

The Town's 2002 update of its Coastal Resources Plan, originally endorsed in April of 1997, represents the latest comprehensive analysis and inventory of its coastal resources and facilities. As part of the long-range Comprehensive Plan Program we are required to update our individual plan chapters at least every 5 years, this is 4 ½. Years. If enacted, this revised document will be included with the submission of the entire Comprehensive Plan to the Cape Cod Commission, requesting its review, comment, and endorsement in the near future. The updated document is designed to respond to some of the questions about the current plan chapter which we have received over the past few years from residents and Commission staff.

D. Features of the Coastal Resources Plan

- ▶ Examines trends related to water and non-water dependent uses
- ▶ Examines losses or gains of public access to the shoreline
- ▶ Identifies conflicts among various users of shore front facilities and harbors
- ▶ Identifies problems, including poor water quality, that may have an adverse effect on the use of harbors and shoreline areas
- ▶ Identifies areas where private docks and piers have resulted in loss of shellfish habitat
- ▶ Identifies development in high hazard areas, including eroding shorelines, and regulations to minimize further hazards.

E. GOALS AND POLICIES FOR COASTAL RESOURCES

1. FIRST GOAL

To protect the public interests in the coast and rights for fishing, fowling, and navigation; to preserve and manage coastal areas so as to safeguard and perpetrate their biological, economic, historic, maritime and, aesthetic values; to preserve, enhance, and where appropriate, expand public access to the shoreline.

1.1-Development Review Policies

1.1.1. - Development and redevelopment should reflect the traditional maritime character and/or architecture typical of the area, and should be designed to maintain and enhance views of the shoreline from public ways, access points, and existing development.

1.1.2 - The construction of roadways, where environmentally acceptable, should be encouraged to enhance shoreline access for the public, including people with disabilities.

1.1.3. - If an existing water dependent facility is within 250 ft. of the mean high water line or shoreward of the first public way, whichever is less, such use should not be changed to a non-water dependent facility unless an overriding public benefit is provided to accommodate for the loss of the water dependent use.

1.1.4. -Development or redevelopment of water dependent facilities should provide coastal access benefits to the general public. Such access should minimize interference with the water dependent use.

1.1.5 - Coastal engineering structures should be designed so as to allow the public to pass along the shore (whether above or below the structure) in the exercise of its public trust rights to fishing, fowling, and navigation.

2. SECOND GOAL

To limit development in areas subject to coastal storm flowage, particularly high hazard areas, in order to minimize the loss of life and structures, and the environmental damage resulting from storms, flooding, erosion, and relative sea level rise.

2.1 Development Review Policy

2.1.1 - Vehicle, boat, and pedestrian traffic in critical wildlife and plant habitat areas, as identified should be minimized. Wetlands dunes, shallow estuaries areas, and shorebird breeding habitat areas, should be protected.

2.1.2 - Wherever feasible, dredge material should be used for beach nourishment in areas subject to erosion. Such material should be clean and compatible with existing strata.

3. THIRD GOAL

To maintain and improve coastal water quality to allow shellfishing and/or swimming in all coastal waters as appropriate, and to protect coastal eco-systems which support shellfish and finfish habitat.

3.1 Development Review Policy

3.1.1 Where appropriate, waterfront fueling facilities should be upgraded to ensure that best management practices are used to avoid adverse impacts on water quality.

IMPLEMENTATION

RECOMMENDED ACTIONS.

Suggested Commission Actions with the Town.

1. The Commission should continue to assist, as needed and appropriate, in determining the needs for dredging and beach nourishment within the Town and investigate the means to best satisfy such needs.
2. The Commission should coordinate with the Town to provide disposal options for marine head waste.
3. The Commission should provide technical assistance to the Town in addressing public access issues in the Yarmouth Comprehensive Plan.

Note: The above listed actions should be an important part of the Coastal Resources Implementation Plan. They are included in the RPP of the County - but are not indicated on the following map.

Recommended Town of Yarmouth Actions.

1. Yarmouth should designate "working waterfront" overlay zones along their shoreline to ensure the preservation and expansion of traditional maritime uses.
2. Yarmouth should research and document public access areas to and along their shore-lines, and where possible reestablish designated traditional-rights of way to the shore.
3. The Town should identify sensitive coastal areas where public access and development should be restricted in order to maintain the integrity of coastal features.
4. Yarmouth should develop harbor management plans in accordance with state guidelines and implement water sheet zoning to protect coastal resources and prevent use conflicts.
5. The Town should identify and designate areas as federal "No Discharge" zones for boats in conjunction with state and federal guidelines.
6. Yarmouth should evaluate long term dredging and dredge disposal needs and alternatives.
7. The Town should evaluate areas appropriate for aquaculture in its planning efforts. This evaluation should consider other uses including mooring areas, recreational boating, and others.
8. The Town should continue mitigating of non-point pollution impacts to all coastal waterways.
9. The Town should continue various shellfish propagation programs; create new aquacultural programs for shellfish.
10. Continue design and development of marina at former drive-in site.
11. Pursue acquisition and upgrade of Packet Landing facility
12. Upgrade restrooms and snack bar at Bass River Beach.
13. Continue study of Run Pond algae problem.

Article 24 2002 Annual Town Meeting



Continue mitigation of non-point pollution impacts to all coastal waterways

Different types of coastal facilities that serve the public are needed now and in the future.

Town should designate "no discharge" zones for boats

Examine zoning conflicts with State and Cape Cod Commission policies in regard to watershed zoning.

Handicapped access to coastal facilities is in need of improvement.

Continue various shellfish propagation programs. Create new aquacultural programs for shellfish.

Upgrades to Board of Health Regulations:
- recommendations of 1988 IEP Report should be reviewed
- model by-law for single lot ANRs and subdivisions regarding nutrient loading calculations.

Invasive vegetation is entering the marsh system; coordinate mitigation plans.

Additional improvements to water quality are necessary; water quality studies for nutrients are now underway.

Identify areas where private docks and piers have limited access to recreational shellfish areas.

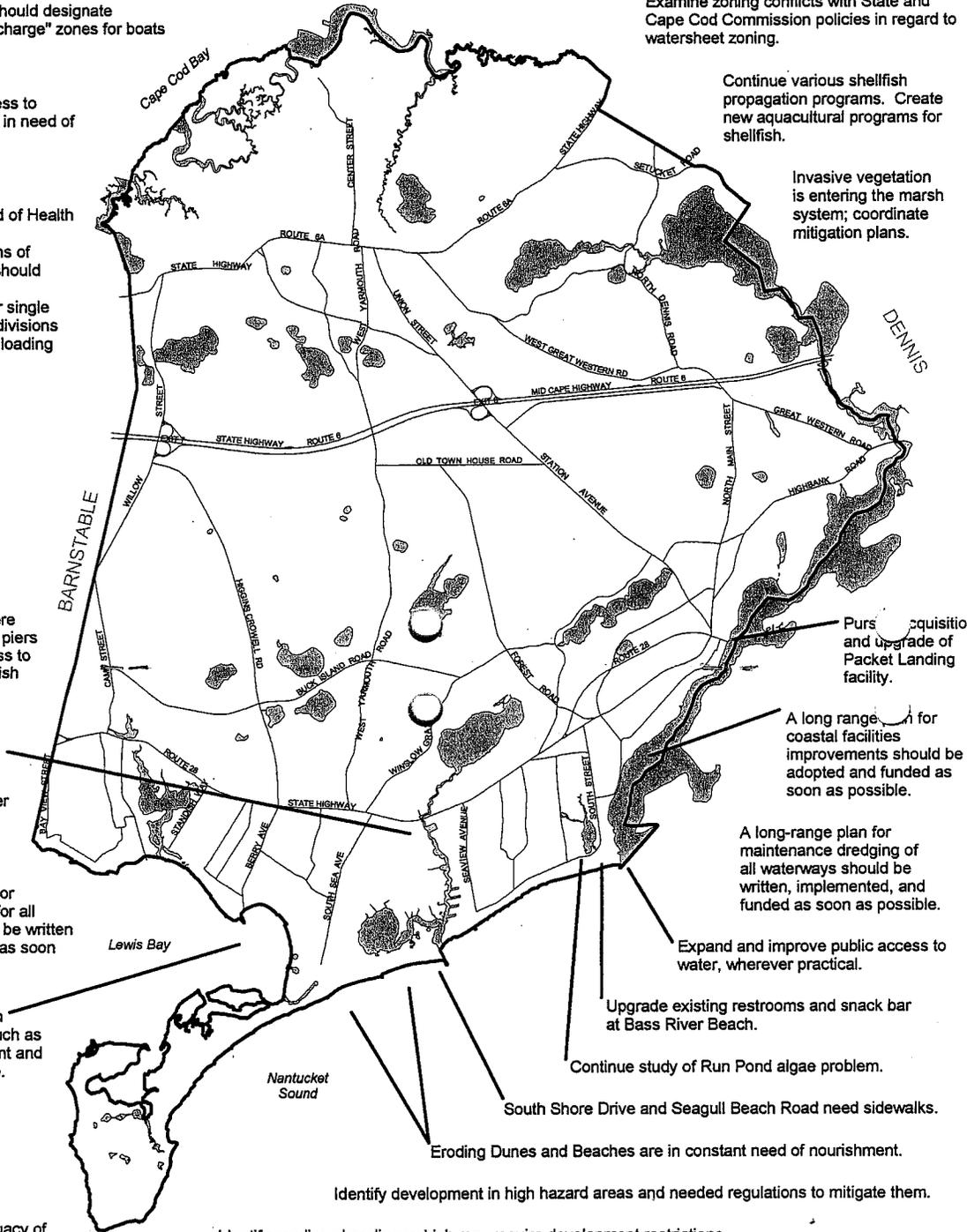
Continue design and development of marina at former drive-in.

A town-wide harbor management plan for all waterways should be written and implemented as soon as possible.

Englewood Beach Improvements, such as beach nourishment and a new bath house.

Assess the adequacy of commercial and recreational shoreline facilities to meet needs of water-dependent uses.

Town should designate "working waterfront overlay zones" to ensure preservation of traditional maritime uses.



Pursue acquisition and upgrade of Packet Landing facility.

A long range plan for coastal facilities improvements should be adopted and funded as soon as possible.

A long-range plan for maintenance dredging of all waterways should be written, implemented, and funded as soon as possible.

Expand and improve public access to water, wherever practical.

Upgrade existing restrooms and snack bar at Bass River Beach.

Continue study of Run Pond algae problem.

South Shore Drive and Seagull Beach Road need sidewalks.

Eroding Dunes and Beaches are in constant need of nourishment.

Identify development in high hazard areas and needed regulations to mitigate them.

Identify eroding shorelines which may require development restrictions.

TOWN OF YARMOUTH COMPREHENSIVE PLAN

COASTAL RESOURCES - CHAPTER 7 APRIL 2002 RECOMMENDATIONS



OBSERVATIONS AND RECOMMENDATION

Note: These 18 proposals are indicated on the accompanying map and are taken in part from the Consultant's Report, and the "Long Summary" for the Coastal Resources Plan.

1. A long-range plan for coastal facilities improvements should be adopted and funded, as soon as possible.

There is no long-range plan in effect for beaches and coastal facilities; consequently, funding goes year-to-year and some worthy projects go unfunded for longer than they should.

- A. Identify the location of coastal resources that may be environmentally sensitive to development and/or over-use, and should be protected.
- B. Identify conflicts among various uses of shorefront facilities and harbor.
- C. Identify problems, including poor water quality that may have an adverse affect on the use of harbors and shoreline areas.
- D. Examine trends related to the conversion of shorefront property from water- dependent to non water-dependent uses, and losses or gains of public access to the shoreline.

2. A Harbor Management Plan should be written and implemented as soon as possible.

A Harbor Management Plan is required of all communities wishing harbor and dredging funding. The HMP is a comprehensive document which attempts to identify and resolve conflicting uses and issues.

3. A long-range plan for maintenance dredging of all waterways should be written, implemented and funded as soon as possible.

A maintenance dredging program, including funding, should be established as dredging needs are very predictable; the permitting and sediment sampling should be in place as soon as possible to get an early placement on the dredge list. The dredging projects should be packaged to include as many benefits as possible so as to qualify for the maximum number of funding opportunities.

4. Assess the need for dredging or other maintenance activities in each port and harbor.

Every area with boating traffic needs dredging, including: main channel in Hyannis Harbor; closure of Old Mill Creek; mooring basin at Englewood beach; shoals in the Parkers River and at its mouth; major entrance and channel work in the Bass River; and at Bass Hole. Funding availability has severely hampered efforts to make the required improvements which could be combined with much-needed beach nourishment projects at nearby public beaches.

5. Upgrades to Regulations

- A. Recommendations in the 1988 IEP Water Resources Coastal Watershed Inventory should be re-reviewed.
- B. Provide model bylaw provisions for adoption by local Board of Health, including nutrient loading calculation regulations for single lot ANR development as well as subdivisions.

6. Handicapped access to coastal facilities is inadequate and should be improved as soon as possible.

At Seagull beach the bathhouse has been replaced with a completely accessible handicapped facility. The facilities along the waterfront and in the parks have been undergoing a long-range plan of improvement to meet accessibility standards. Long range planning is evident in the 5 year capital expenditure plan.

7. Additional improvements to water quality are necessary.

The Stormwater Runoff Committee has identified drainage hot spots throughout the town and they are pursuing the matter on an ongoing basis, but are limited by funding availability. Perhaps a request for cooperation to the Massachusetts Highway Department from a higher level of government might be appropriate in the near future for Route 28.

8. Different types of coastal facilities are needed now and in the future.

Recreational opportunities such as boat tours and water sports are limited by the underlying residential zoning and lack of coastal access. Educational facilities for visitors to inform them about coastal processes and sensitive ecosystems, such as salt marshes, are a missed opportunity to upgrade the offerings the town can provide to its visitors.

9. Identify development in high hazard areas and needed regulations to minimize further hazards in these areas.

Yarmouth already has a substantial number of legislative protections in place to minimize hazards associated with new construction; however, there are a substantial number of existing dwellings in areas of stillwater flooding. Greater coordination between the Conservation Commission and Board of Health on septic regulations would help minimize impacts in these areas. Grants to provide funding for septic upgrades would be a boon to homeowners with limited financial circumstances.

10. Eroding Dunes and Beach Areas

Eroding dunes and beaches are a problem in almost all of the public beach areas and public access points. The dunes are being destroyed at a great rate and with that destruction, their ability to withstand storm water and provide a buffer to landward properties is seriously diminished. Most coastal beaches are in need of nourishment.

11. Identify eroding shorelines which may require development restrictions to minimize hazards.

Yarmouth's most vulnerable eroding shorelines are already armored, groined, jettied and otherwise engineered. The resulting shoreline erosion and beach loss requires expensive nourishment on a continuing basis. The legislative protections already in place are probably sufficient, however, funding for dredging and nourishment projects is difficult to obtain.

Coastal banks in a few less vulnerable areas are eroding due to foot traffic and an occasional storm. They can be stabilized with soft solutions such as planting and improved pedestrian access under current regulations.

12. Expand and improve public access to water.

Although Yarmouth has a substantial number of coastal public access points, actual public access to the shoreline is limited by inadequate signage and lack of parking availability. Consistently applied regulations as to all signage would be helpful to identify the ways to water and make them available to all of the citizens of the town. Using CD-BG monies beach access has been improved at Bass River Beach, Seagull Beach and Bass Hole.

13. Examine zoning conflicts with state and CCC policies/Watersheet Zoning.

Current zoning does not allow water-dependent uses on the waterfront. This situation is in direct opposition to the position which the state and the Cape Cod Commission have taken. Existing businesses are severely limited in renovation and updating their facilities. Town property could be rezoned to a municipal or official use and open space zone which would allow facilities improvements.

An interest in researching watersheet zoning in the form of model bylaws would help.

14. Identify areas where large numbers of private docks and piers have limited access along the shoreline or resulted in a loss of shellfish habitat.

The Waterways Committee, Shellfish Constable and the Conservation Commission have worked together for some time to ensure that private docks and piers are not so concentrated that negative impacts to shellfishing occur. Local denial of permits for docks and piers in some locations have been upheld in the appeal process due to their impact on shellfish habitat. Access issues are also addressed during the Conservation Commission and Chapter 91 process which require stairways and other mitigation measures in the intertidal area.

15. Invasive, non-native vegetation is entering the marsh systems.

Phragmites, a six foot tall plumed reed, is entering the marsh systems where flushing isn't as complete as it could be and/or the area has been disturbed. Coastal viewsheds will be impacted negatively should this plant continue its advance.

16. Assess the adequacy of existing commercial and recreational shoreline facilities to meet current and projected needs of water-dependent commercial and recreational uses.

- A. The existing water-dependent commercial and recreational shorefront facilities are inadequate to serve the existing need. There are waiting lists for slips and moorings and no opportunities under current zoning to expand existing facilities or create new ones.
- B. No educational facilities exist to inform visitors about the coastal environment, although the zoning would allow such a use along Route 28 in the General Business zone (B-2)
- C. We can not meet the demand for beaches and parking for both residents and tourists. There are parking spaces for 1400 cars at ocean beaches and 300 cars at fresh water beaches. There are over 10,092 beach stickers issued each year. The swimming program is limited by the parking available. The sailing program has a long waiting list, but woefully inadequate facilities. The existing boat ramps are fairly well distributed geographically, but two new ramps are needed due to demand.
- D. Pedestrian access improvements, including signage, are needed at many areas. Boat tours, shade structures, handicapped access and public beach transportation would all be welcome additions.

17. Englewood Beach Improvements.

If Englewood Beach is to continue as a beach, mooring basin, marina, boat ramp and sailing center, facilities improvements must be made to accommodate the needs of its ever-increasing number of users.

18. South Shore Drive and Seagull Beach Road need sidewalks.

South Shore Drive is often filled with pedestrians traveling from rental houses or motels to the beach or other locations. Considering the level of activity and the density in this area adding a sidewalk, probably on the water side, would benefit business and safety.

Note: Also see attached map for proposals that have a designated area for development or improvement.

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CHAPTER 7

YARMOUTH COMPREHENSIVE PLAN

COASTAL RESOURCES - UPDATE

VOLUME I

LONG SUMMARY DOCUMENT

ENDORSED AT ATM ON 10 APR 02

Updated Report prepared by
Planning and Conservation Division Staffs
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YARMOUTH COMPREHENSIVE PLAN SCHEDULE OF PLAN ENDORSEMENTS

Chapter No.	Title	Type of Article	Town Meeting Type - Date	Article No.	Action
	Vision	Policy <i>Amendment</i> <i>Amendment</i>	ATM - 27Apr 94 ATM - 10Apr 01 ATM - 10 Apr 02	Art. 24 Art. 16 Art. 24	Endorsed Endorsed Endorsed
1	Introduction to Comp. Plan	Research	-	-	Not Presented
2	Outreach Program	Research	-	-	Not Presented
3	Population Study and Forecasts, 1995-2015	Research	-	-	Not Presented
4	Economic Development - Inventory		-	-	Not Presented
5	Intergovernmental Coordination and Resources of Regional Importance	Research	-	-	Not Presented
6	Recreation and Open Space	Policy <i>Replacement</i>	ATM 10 Apr 97 STM 27 Nov 01	Art. 26 Art. 2	Endorsed Endorsed
7	Coastal Resources	Policy Replacement	ATM 10 Apr 97 ATM 10 Apr 02	Art. 27 Art. 24	Endorsed Endorsed
8	Land Use/Growth Management	Policy	STM 1 Dec 98	Art. 1	Endorsed
9	Transportation Plan	Policy	ATM 11 Apr 00	Art. 15	Endorsed
10	Economic Development, Analysis and Plan	Policy	STM 11 Jan 00	Art. 7	Endorsed
11	Wetlands	Policy	ATM 14 Apr 98	Art. 14	Endorsed
12	Water Resources Plan	Policy <i>Replacement</i>	STM 29 Jul 97 STM 10 Feb 98	Art. 2 Art. 2	Endorsed Endorsed
13	Wildlife & Plant Habitat	Policy	ATM 14 Apr 01	Art. 2	Endorsed
14	Affordable Housing	Policy	STM 10 Feb 98	Art. 2	Endorsed
15	Community Character Chapter - Scenic Vistas - Historic Preservation Portion	Policy Policy	ATM 10 Apr 02 ATM 10 Apr 01 ATm 10 Apr 01	Art. 24 Art. 15 Art. 15	Endorsed Endorsed Endorsed
16	Infrastructure Chapter - Solid & Liquid Waste Portion	Policy	STM 27 Nov 01	Art. 3	Endorsed
17	Intergovernmental Coordination and Resources of Regional Importance	Policy <i>Supercedes</i> <i>Chapter 5</i>	ATM 10Apr 01	Art. 16	Endorsed
18	Implementation, Financial Information, and Capital Programming	Policy	STM 27 Nov 01	Art. 3	Endorsed
19	Community Facilities & Services - Energy Portion	Policy	STM 27 Nov 01	Art. 4	Endorsed

COASTAL RESOURCES "SETTING THE SCENE"

Cape Cod's coastal resources are varied and extend far beyond its 586 miles of tidal shoreline. The most economically valuable real estate on Cape Cod is its waterfront. Economic pressures have brought dramatic changes in the use of the shoreline. Intensive residential development has limited access to beaches and shellfishing areas. Water-dependent uses such as boatyards and marina, which generally provide facilities for the fishing industry, are being displaced by non-dependent uses such as restaurants and offices. As the traditional working waterfronts are replaced by such uses, the historic maritime character of these areas is lost, along with important economic opportunities.

With increased coastal development over the last several decades, it is clear that the coast and its valuable resources are not immune to damage from poor land use practices. Public access to and along the shore has been diminished by construction of private docks and piers and coastal revetments. Planning efforts have generally separated land based activities from coastal, waterside, activities. Experience has shown that an integration of these components is necessary to ensure protection and balanced use of both land and water resources.

The Fisheries

Shellfishing is an important aspect of the Cape's economy. The Cape has the largest traditional and cultivated shellfish industry in Massachusetts. In 1991, the Mass. Division of Marine fisheries (DMF) reported annual commercial landings of quahogs with a market annual worth to \$1 million and of soft shell clams \$1,5 million. Landings are down over those of the 1970's; however, the market demand is high.

The value of cultured shellfish has also been increasing over the past 10 years. Total aquaculture lease values reported to the DMF indicate increasing harvest values. In 1990, for example, all quahogs harvested from leases were valued, by the growers, at \$750,353. In 1993 the value had increased to \$996,954.

The species that accounts for the most value is quahogs, followed by oysters. The Mass. Aquaculture Association estimated that the total value of the cultured shellfish harvested in Cape Cod waters in 1992 was worth more than \$5 million dollars to the grower.

Encouraging public and private shellfish aquaculture is being discussed more seriously in Cape towns as a means of sustaining and increasing employment and revenue from the Cape's coastal waters.

Both natural and aquaculture shell fisheries face pressure from increased shoreline development and recreation activity. The proliferation of private docks and piers has encroached on the fishermen's access along the shoreline, and in some instances dredging activity has

destroyed shellfish habitat. Degraded water quality has prohibited harvesting, and increased boating activity, in some locations, has destroyed habitat and resulted in use conflicts.

Coastal Pollution

As population and nitrogen rich waste water discharges have increased, the amount of nitrogen in coastal waters from precipitation has been augmented with nitrogen from fertilizers, roads, and wastewater. Wastewater generally makes up between 50% and 70% of the nitrogen loading to coastal watersheds. These increases in nitrogen have exceeded the capacity of some coastal ecosystems to effectively process nitrogen. This nitrogen excess has caused extensive changes in coastal systems. These are growing signs that the quality of the Cape's coastal waters are deteriorating as a direct result of the cumulative impacts of upland development.

There had been a dramatic increase in the amount of shellfish acreage closed to harvest as a result of high coliform bacteria counts from the early 1980's to 1990. As a result of worsening water quality and more extensive testing, closures had risen from less than 100 acres in 1982 to over 5,500 acres in 1990. Since 1990 partly as a result of water quality improvements, and the efforts of the DMF to manage closed areas more efficiently, the acreage closed to shellfishing in the summer months has declined in 12 of the 15 Cape Cod towns. Overall, areas closed to shellfishing have declined from a high of 5,772 acres in 1990 to 2,560 acres five years later.

Water Quality Management

Stormwater can be a major source of coliform bacteria to coastal waters. Since the late 1980's Cape cod towns have invested more than \$1.5 million in improving treatment or eliminating the discharge of stormwater into coastal waters.

In Yarmouth and Dennis, stormwater improvements have been made along Bass and Parkers River and in Chatham along Oyster Pond River. These stormwater improvements have contributed to the re-opening of shellfish beds in those towns. Statistics from the DEF indicate that in 1990, Yarmouth had 898 acres of shellfish beds closed due to high coliform counts in the months of June and July. In 1995 closures were reduced to 129.5 acres during those same months.

Coastal water quality improvements may also be attributable to better management of boat wastes. The Commonwealth has funded the installation of a number of pumpout facilities along the Massachusetts coast, with federal grant monies.

On the Cape, 12 of the 15 towns received monies for shoreside and/or floating pumpout facilities. Since 1991, Waquoit Bay and Wellfleet Harbor have been designated as federal "no discharge areas".

Coastal Hazards

Development of the shoreline is not only an environmental threat, but in some areas it has become a threat to public safety as well. The demand for water front property has resulted in

development in high hazard areas, for example, on the top of eroding coastal banks, adjacent to wetlands, on barrier beaches, and within the flood plain.

Moreover, these areas are very susceptible to damage from storms and hurricanes.

The Cape was hit by a hurricane and two nor'easter in 1991 and 1992, which caused severe property damages.

Although each town has an evacuation plan, and local and state regulations limit some development in hazard areas, towns have not adopted formal reconstruction policies to prevent the same type of destruction from occurring in the future.

Lands subject to coastal storm flowage are areas which are subject to hazardous flooding, wave impact, and in some cases, significant rates of erosion, as a result of storm wave impact and scour. FEMA mapped velocity and A-0 zones in coastal areas are generally subject to repeated storm damage.

Dredging or removal of materials within V and AO Zones acts to increase the landward velocity and height of storm waves, thereby allowing storm waves to break further inland and to impact upland and wetland resource areas which might not otherwise be impacted. Filling and the placement of solid fill structures within V and AO zones may alter wave impacts, thereby forcing wave energy out and onto adjacent properties or natural resources. When struck with storm waves, solid structures within V and AO zones also may increase localized rates of erosion and scour.

Sea Level Rise

In addition to damage caused by storms and hurricanes, the coastline is also vulnerable to relative sea level rise. Possibility accelerating due to global climate change. The potential impact includes increased erosion and flooding of low-lying areas due to shoreline retreat. At the present rate of rise (.01 ft./yr. Or 0.45 ft by 2025) the Cape will lose approximately 24 acres of upland per year, 1,090 acres by 2025. The total acreage lost by the year 2025 would increase to 3,900 acres when projecting the EPA mid-range scenarios of 1.57 feet relative rise (Giese, et al, 1988). It is estimated Falmouth would lose the most upland area.

Existing land use and building regulations do not consider the impact of these changing conditions. For instance, current law requires structures to be elevated to the 100 year flood elevation, which does not take sea level rise into consideration.

Regulatory Framework

Because of the wide range of resources and activities within the coastal zone, there are overlapping regulatory jurisdictions for various types of projects. Local conservation commissions administer the Massachusetts Wetlands Protection Act, whose interests include protection of ground water, shellfish areas, and wildlife habitat, and storm damage and pollution. State agencies that have jurisdiction include the Dept. of Environmental Protection (DEP, Mass Coastal Zone Management Office (MCZM), and the Dept. of Fisheries, Wildlife, and

Environmental Law Enforcement.

Particularly important are the Chapt. 91 regulations which govern activities within the intertidal zone.

CONSULTANTS' CREDIT

We would be remiss if we did not mention that in 1997 we used Martha Horn as a consultant for the basic inventory and analysis work on Coastal Resources. She did a very complete and detailed job. Her consultant's report is available for review on request if desired. David Kellogg and Brad Hall have updated the background and action item materials to bring them up to date with 2002 conditions. It was a pleasure to work with Ms. Horn on the early stages of the chapter, as she was very enthusiastic about the program.

Article 24
2002 Annual Town Meeting



Continue mitigation of non-point pollution impacts to all coastal waterways

Different types of coastal facilities that serve the public are needed now and in the future.

Town should designate "no discharge" zones for boats

Examine zoning conflicts with State and Cape Cod Commission policies in regard to watershed zoning.

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TOWN OF YARMOUTH COMPREHENSIVE PLAN

COASTAL RESOURCES - CHAPTER 7

APRIL 2002

RECOMMENDATIONS



CHAPTER 7
COASTAL RESOURCES

VOLUME I

INTRODUCTION
PURPOSE
ORGANIZATION

ALSO

GOALS, POLICIES, MINIMUM PERFORMANCE STANDARDS

INTRODUCTION

When Yarmouth commenced its long-range comprehensive planning program in 1993, it was immediately recognized that the Plan had to be “flexible”, and “changeable” to meet ever changing conditions. It was known there would be regular amendments made or the Plan would become out-of-date before even the first chapters were completed. As a result we have done the Plan on an incremental basis, subject by subject, chapter by chapter, each being introduced to Town meeting separately for endorsement. An informal, notebook format has been used, and an extensive outreach program undertaken to gain public and governmental acceptance. This approach has served Yarmouth well!

PURPOSE

The Town of Yarmouth has recognized the need to conserve and protect its coastal resources in order to preserve its ecological health, and its scenic beauty. Its beaches, its shellfish beds, and habitat, its shorefront, and its harbors, need to be regularly improved for future residents and seasonal visitors.

The Coastal Resources Plan may also serve as a reference for the development of a Town Harbor Management Plan, which are responsive to municipal objectives and priorities”.....

The Coastal Resources Plan serves as Chapter 7 of the LCP, whose scope of services of 19 chapters was completed in late 2001, and was endorsed by Special Town Meeting. It is in the process of being submitted to the Cape Cod Commission seeking their approval as well. Yarmouth is the only one of the 15 Cape Cod Towns to have done its Plan incrementally, but such is proving to be a very practical approach here.

In addition, the Yarmouth Comprehensive Plan is designed to serve as the Town’s response to the Barnstable County Regional Policy Plan. The Comprehensive Plan is designed to provide a guide to the Town’s Planning and growth decisions. Its content follow the standard Cape Cod Commission guidelines as to its scope. The Plan’s recommendations are in general agreement, but not total, with the standard outline, for Yarmouth is unique in several details concerning its local situations.

WHY IS AN UPDATE NECESSARY AT THIS TIME?

The Town’s update of the Coastal Resource Plan, which was originally endorsed in April of 1997, represents the latest comprehensive analysis and inventory its coastal resources and facilities. We have found resource changes in the local situation that have needed to be incorporated in the town’s Coastal Resources Plan chapter. The updated document is designed to respond to some of the questions about the current chapter that have been received in the last 5 years.

ORGANIZATION

Each of the 19 chapters of the Coastal Resources Plan, has both an “executive summary” and a “long summary” so-called. The latter when placed together make the Plan a 950 page document. However each subject chapter is also a stand-alone document capable of being presented separately. That adds about 250 pages to the length of the document. The executive summaries when placed together are approximately 100 pages. But the incorporated fold-out maps have proven to be a useful tool and discussion piece.

This Coastal Resources update is the third chapter we have re-done to bring into line with current conditions, the others being, Recreation and Open Space, and Water Resources. Interestingly

Goals and Policies

GOAL 1: To protect the public interests in the coast and rights for fishing, fowling, and navigation, to preserve and manage coastal areas so as to safeguard and perpetuate their biological, economic, historic, maritime, and aesthetic values, and to preserve, enhance and where appropriate, expand public access to the shoreline.

Minimum Performance Standards

- Development and redevelopment along the coastline shall not interfere with existing public access and traditional public rights of way to, and environmentally appropriate use of, the shoreline.
- Public access shall be provided at publicly-funded beach nourishment sites where such access will not impair natural resources.

Other Development Review Policies

- Development and redevelopment should reflect the traditional maritime character and/or architecture typical of the area and should be designed to maintain and enhance views of the shoreline from public ways, access points and existing development.
- The construction of roadway, where environmentally acceptable, should be encouraged to enhance shoreline access for the public, including people with disabilities.
- If an existing water dependent facility is within 250 feet of the mean high water line or shoreward of the first public way, whichever is less, such use should not be changed to a non-water dependent facility unless an overriding public benefit is provided to accommodate for the loss of the water dependent use.
- Development or redevelopment of water dependent facilities should provide coastal access benefits to the general public. Such access should minimize interference with the water dependent use.
- Coastal engineering structures should be designed so as to allow the public to pass along the shore (either above or below the structure) in the exercise of its public trust rights to fishing, fowling and navigation.

GOAL II: To limit development in areas subject to coastal storm flowage, particularly high hazard areas, in order to minimize the loss of life and structures and the environmental damage resulting from storms, flooding, erosion and relative sea level rise.

Minimum Performance Standards

- Except as specified, no development or redevelopment shall be permitted within FEMA V-flood zones. Existing structures may be reconstructed or renovated provided there is no increase in floor area or intensity of use. As an exception, where there is no feasible alternative, water-dependent structures and uses may be permitted subject to the approval of all permitting authorities.
- In order to accommodate possible relative sea level rise and possible increased storm intensity, ensure human health and safety, and protect the integrity of coastal landforms and natural resources, all new buildings, including replacements, or substantial improvements to existing structures within FEMA A-zones shall be designed to accommodate the documented relative sea level rise rate in Massachusetts of at least one foot per 100 years and in V-zones shall be designed to accommodate a relative sea level rise rate of two feet per 100 years.

and in V-zones shall be designed to accommodate a relative sea level rise rate of two feet per 100 years.

- Except as specified no new development or redevelopment shall be permitted on barrier beaches and coastal dunes as defined by the Wetlands Protection Act and associated regulations and policies. Existing structures may be reconstructed or renovated, provided there is no increase in floor area or intensity of use, or conversion from seasonal to year round use.
- If the reconstruction/renovation is greater than 50% of the market value of a structure, and is located within a V-zone, the lowest horizontal structural member shall be elevated at least two feet above the 100 year flood elevation. If the structure is located in the A-zone, the lowest floor shall be elevated at least one foot above the 100 year flood elevation, except as provided. On a barrier beach or coastal dune and in either the V-zone, the structure shall be on open pilings, to allow for storm flowage and beach and dune migration.
- Water dependent public recreational facilities in these locations may be developed providing that it can be demonstrated that the proposed development will not compromise the integrity of coastal resources, and is appropriately elevated on pilings or flood-proofed.
- Where fire, storm, or similar disaster has caused damage to or loss of buildings in FEMA and V-zones, on barrier beaches, coastal banks or coastal dunes of greater than 50% of their market value, all reconstruction shall be in compliance with current applicable regulation. Any reconstruction shall not enlarge or expand the use of an existing structure.

Other Development Review Policies

- Vehicle, boat and pedestrian traffic in critical wildlife and plant habitat areas as identified should be minimized. Wetlands, dunes, shallow estuaries areas, and shorebird breeding habitat areas should be protected.
- Whenever feasible, dredge material should be used for beach nourishment in areas subject to erosion. Such material should be clean and compatible with existing strata.

GOAL III: To maintain and improve coastal water quality to allow shellfishing and/or swimming in all coastal waters as appropriate, and to protect coastal ecosystems which support shellfish and finfish habitat.

Minimum Performances Standards.

- Within FEMA V-zones new mounded septic systems shall be prohibited except to upgrade existing substandard septic systems where such systems pose a demonstrated threat to public health, water quality or natural resources. Unless otherwise demonstrated, if feasible, solid components of the septic system shall be elevated above the 100 year flood level.
- No new direct, untreated stormwater discharges shall be permitted into any coastal waters or wetlands, including discharges above or below the mean high water level.
- New marinas of 10 or more slips, moorings, or active landward storage berths, and expansion of existing marinas by 10 or more slips, moorings, or berths shall provide or contribute to the provision of adequate boat sewage pump-out facilities in each harbor and shall provide restrooms for their patrons. Such marinas shall also provide or contribute to provision of adequate collection facilities for solid waste and waste oil for their patrons.

Other Development Review Policies

- Where appropriate, waterfront fueling facilities should be upgraded to ensure that best management practices are used to avoid adverse impacts to water quality.

OVERVIEW/ANALYSIS

COASTAL RESOURCES OVERVIEW/ANALYSIS

Note: Extracted from Consultant's Report - First Draft 3/97

1. Identify the location of coastal resources that may be environmentally sensitive to development and/or overuse and should be protected.

Environmentally sensitive resources exist along the entire coastline. Most are already protected by FEMA, wetland and health regulations as well as coastal wetland restriction. The unrestricted salt marshes would benefit from restriction to ensure their continued well being. Several densely populated residential areas on the south shore are located within areas of still water flooding in 100 year storm events. Depending on existing groundwater elevations and the age of the systems, sewage treatment plants might be considered for these areas.

2. Examine trends related to the conversion of shorefront property from water dependent to non-water dependent uses, and losses or gains of public access to the shoreline.

Yarmouth's zoning prohibits water-dependent uses on virtually the entire coastline, thus making it extremely difficult for those existing, legally non-conforming, water-dependent uses (marinas) to change or expand their operations in any way.

Under such circumstances, it is impossible for new water-dependent uses to offer their services. New uses are increasingly non-water dependent in the General Business zone, primarily retail in line with the existing zoning.

Public access to the shoreline is excellent due to the town's foresight in acquiring the ends of public ways, but improved signage and mapping is needed. Visual access to the shoreline is somewhat limited in all areas by shoreline development; however, Yarmouth has a great many publicly owned coastal access points from which a visitor has visual access to the water.

Watersheet zoning and appropriate changes to the existing zoning bylaw could make a big difference in water-dependent usage and public access.

3. Identify conflicts among various users of shorefront facilities and harbors.

Conflicts include water-dependent uses, noise and water-bound traffic v. residential neighborhoods; poor pedestrian circulation adjacent to boat ramps, jetskis and speeding boats v. swimmers and boaters; fishing boats v. recreational boats at marinas.

4. Assess the adequacy of existing commercial and recreational shoreline facilities to meet current and projected needs of water-dependent commercial and recreational uses.

The existing water-dependent commercial and recreation shorefront facilities are inadequate to serve the existing need. There are waiting lists for slips and moorings and no opportunities under current zoning to expand existing facilities or create new ones.

No educational facilities exist to inform visitors about the coastal environment, although the zoning would allow such a use along Route 28 in the General Business zone

The number of beaches is sufficient, but their physical facilities need improvement on a continuing basis. The swimming program is limited by the parking available. The sailing program has a long waiting list, but woefully inadequate facilities. The existing boat ramps are fairly well distributed geographically, but two new ramps are needed due to demand.

Pedestrian access improvements, including signage, are needed at many areas. Boat tours, shade structures, handicapped access and public beach transportation would all be welcome additions.

5. Assess the need for dredging or other maintenance activities in each port and harbor.

Every area with boating traffic needs dredging, including; main channel in Hyannis Harbor, closure of Old Mill Creek; channel and basin in New Mill Creek; mooring basin at Englewood Beach; shoals in the Parkers River and at its mouth; major entrance and channel work in the Bass River; and at Bass hole. Funding availability has severely hampered efforts to make the required improvements which could be combined with much needed beach nourishment projects at nearby public beaches.

6. Identify development in high hazard areas and needed regulations to minimize further hazards in these areas.

The Waterways Committee, Shellfish Constable and the Conservation Commission have worked together for some time to ensure that private docks and piers are not so concentrated that negative impacts to shellfishing occur. Local denial of permits for docks and piers in some locations have been upheld in the appeal process due to their impact on shellfish habitat. Access issues are also addressed during the Conservation Commission and Chapter 91 process which require stairways and other mitigation measures in the intertidal area.

7. Identify areas where large numbers of private docks and piers have limited access along the shoreline or resulted in a loss of shellfish habitat.

The Waterways Committee, Shellfish Constable and the Conservation Commission have worked together for some time to ensure that private docks and piers are not so concentrated that negative impacts to shellfishing occur. Local denial of permits for docks and piers in some locations have also addressed during the Conservation Commission and Chapter 91 process which require stairways and other mitigation measures in the intertidal area.

8. Identify development in high hazard areas and needed regulations to minimize further hazards in these areas.

Yarmouth already has a substantial number of legislative protections in place to minimize hazards associated with new construction; however, there are a substantial number of existing dwellings in areas of stillwater flooding. Greater coordination between the Conservation Commission and Board of Health on septic regulations would help minimize impacts in these areas. Grants to provide funding for septic upgrades would be a boon to homeowners in reduced financial circumstances.

9. Identify eroding shorelines which may require development restrictions to minimize hazards.

Yarmouth's most vulnerable eroding shorelines are already armored, groined, jettied and other wise engineered. The resulting shoreline erosion and beach loss requires expensive nourishment on a continuing basis. The legislative protections already in place are probably sufficient; however, funding for dredging and nourishment projects is difficult to obtain.

Coastal banks in a few less vulnerable areas are eroding due to foot traffic and an occasional storm and can be stabilized with soft solutions such as planting and improved pedestrian access under current regulation.

INVENTORY

COASTAL RESOURCES INVENTORY

COASTAL PUBLIC ACCESS POINTS

LEWIS BAY AREA: (West to East)

Hyannis Marina
Common Landing/Bay view Beach
Highland Avenue
Grove Street
Vernon Street
Malfa Road
Glenwood Street
Baxter Avenue
Colonial acres Beach
Hedge Row
Columbus Avenue
Massachusetts Avenue
Vermont Avenue
Connecticut Avenue
New Hampshire Avenue
Englewood Beach
Berry Avenue

PARKERS RIVER AREA:

Lewis Pond: (West to East):

Salt Marsh Lane
Maushop's Path
Acres Avenue

Swan Pond: (West to East)

Conservation Area
Beach Road
Lake Avenue
Meadowbrook Road

Parker's River:

Conservation Commission Fishing Pier/Observation Deck
Skippy's Pier I Marina

NANTUCKET SOUND AREA

Seagull Beach
Thacher Town Park
Seaview Beach
Parkers River Beach
Beachwood Drive
Judan Way
South Middle Beach
Bass River Beach

Bass River / Follins Pond/Mill Pond Area: (South to North)

Bass River Beach

River Street Common Landing

Windmill Beach

Crosby Street

Homer avenue

North Cove Landing

Town Landing

Union Street

Packet Landing Marina

Georgetown Landing

Bass River Golf Course

Wilbur Part

Buttercup Lane (Ronald Schmidt Conservation Area)

Driftwood Lane

Crab Creek (John Sears Conservation

Follins Pond Road

Longview Road Public Access Point

Point of Rocks Road

Gooseneck Road

NORTH SHORE AREA: (East to West)

Gray's Beach

Callery-Darling Conservation Area

Thacher Shore Conservation Area

Water Street-Wharf Lane

ANALYSIS BY AREA

**COASTAL RESOURCES INVENTORY
AREA ANALYSIS**

AREA: NANTUCKET SOUND

**Including Parkers River, Swan
Pond, Lewis Pond, southerly
portion of Great Island**

GENERAL DESCRIPTION: Due to its beautiful south-facing beaches, the south shore is densely populated and highly oriented toward tourism and recreation. This extremely fragile and rapidly eroding coastline is heavily armored and beach nourishment is regularly required to keep the existing facilities usable. Constraints on new development are substantial. In the event of a 100 year storm, this area will be severely impacted.

COASTAL ACCESS (PUBLIC & PRIVATE):

Beaches:

Seagull Beach,
Seaview Beach,
Parkers river Beach,
South Middle Beach (residents only),
Bass River Beach,
Thacher Beach.

Coastal Access Points: Lewis Pond: Maushop's Path (views); Acres Avenue (views).

Swan Pond:

Conservation Area (views);
Lake Avenue (boating access, views);
Meadowbrook Avenue (views).

Hart Conservation Area

Parkers River:

ConCom Fishing Pier (views, fishing);
Seagull Beach;
Drive-in property.

South Shore:

Beachwood Drive (views, informal beach);
Judan Way (views, informal beach);

Bass River Beach (views, fishing, boat ramp)

Boat Ramps:

Swan Pond: Lake Avenue
South Shore: Bass River Beach

Boat Trailer Parking:

Bass River Beach

Marinas/Slips:

Parkers River:
Skippy's Marina (private) - 75 slips

Working Waterfront: none

Dredging: Parkers River entrance is filling in and needs dredging; shoaling is also occurring in the river at the entrance to Skippy's Marina due to bank erosion on the opposite side. Parkers River entrance is dredged about every year.

Adequacy of Existing Facilities: The number of existing facilities is adequate except for the very hot summer weekends when overcrowding occurs, with the possible exception of marina space which many would like increased to meet the continuing demand. Public beach facilities (restrooms, shade structures, public transportation) and handicap structures have been improved significantly.

ENVIRONMENTALLY SENSITIVE AREAS/DEVELOPMENT CONSTRAINTS

FEMA A&V Zones (100 Year):

South-facing beaches have a broad-band Velocity zone (EL. 16). One Velocity zone (El. 13) exists up the Parkers River just south of Skippy's Marina, including the southerly portion of the old drive-in property, and will impact existing homes on Mattakeese, Pawnee, Niagara and Neptune streets.

All other areas to the north (east of Parkers River, south of Route 28 and west of Bass River) are in A zones (El. 12, 11, 10 depending on location), with B zones (500 year flood) occurring in the remaining areas. A substantial number of dwellings and associated septic systems will be affected by a major storm event.

North of Route 28, Swan Pond has an A zone (El. 9), but few houses are affected.

The southern area of Great island is comprised of a large C zone surrounded by V zones (to El. 19) along the easterly, southerly and westerly shorelines, all of which are heavily armored. Great Island Road is in a V zone and would be cut off from the mainland during severe weather.

Endangered Species: Designations have been made on the entire beachfront from Great Island to Parkers River.

Barrier Beach Designation(CZM): - portion of Tidal Flat @ W. Dennis Beach; - Bass River Beach; - Red Jacket Beach; - Sea Gull Beach; - Great Island

Coastal Barrier Resource System: Funding restrictions shown on the accompanying 1990 CBRS map apply to portions of Great Island and to Lewis Pond and Parkers River and their associated salt marsh systems up to and including portions of the former drive-in site. Also see the 1992 FEMA maps which show Smugglers Beach as an area where federal flood insurance is not available for new construction or substantial improvements.

Coastal Wetland Restrictions: All barrier beaches and most of their associated salt marshes are restricted. Portions of the Parkers River salt marsh are also restricted.

Eroding Dunes, Banks, Shoreline: The south shore is almost exclusively armored below residential areas, hotels and beaches. Beach erosion occurs along all south-facing beaches which require periodic nourishment. The Parkers River bank is heavily armored on the east side.

Salt Marsh: Very healthy; some erosion is occurring in the Parkers River due to natural causes and weathering.

Shellfish Habitat/Water Quality Concerns: Lewis Pond and lower Parkers River are approved by DMF. Parkers River and Swan Pond are commercial areas and are seasonally approved except at Route 28 which is closed. Water quality concerns are prompted by waterfowl, marinas and heavy boat traffic, and storm water run-off.

Viewsheds: All public ways and park areas provide magnificent views. South Street and South Shore Drive have views of Run Pond. Great Island has spectacular views from all areas but public access is not possible.

USES:

Zoning: Residential except for the commercial area adjacent to Route 28 which is zoned General Business.

Water-dependent Uses: Parkers River: Marina, shellfishing, fishing, boating. South Shore: beaches, fishing, aquatic sports.

Non-Water-dependent Uses: Residential dwellings, hotels, restaurants, retail/commercial .

User Conflicts: Residential v. hotels; jet skis v. all other uses; year-round residents v. tourists and seasonal visitors (traffic, noise, etc.)

**COASTAL RESOURCES INVENTORY
AREA ANALYSIS**

AREA: LEWIS BAY

**Including northern portion of
Great Island**

General Description: The shoreline of Lewis Bay is entirely residential, heavily armored and eroding badly. This densely populated area has good coastal access, but poor facilities and very limited parking. Constraints on new development are substantial. In the event of a 100 year storm, the area will suffer substantial damage, not the least of which will be a public health hazard from flooded septic systems.

COASTAL ACCESS (PUBLIC & PRIVATE)

Beaches: Bay View Beach,
Colonial Acres Beach,
Englewood Beach

Coastal Access Points: Highland Avenue (views);
Grove Street (views, tiny beach);
Vernon Street (views);
Malfa Road (beach, mooring access, views);
Glenwood Street (views);
Baxter Avenue (beach, views);
Hedge Row (beach, views);
Columbus Avenue (beach, views);
Massachusetts Avenue (views);
Vermont Avenue (beach, views, mooring access);
Connecticut Avenue (boat trailer parking, views);
New Hampshire Avenue (boat trailer parking, views);
Berry Avenue (boat trailer parking, views)

Boat Ramps: Bay View Beach/Common Landing,
Englewood Beach

Boat Trailer Parking: Bay View Beach, Connecticut Avenue,
New Hampshire Avenue,
Berry Avenue,
Broadway

Marinas/Slips: Hyannis Marina (private) - 160 slips;
Mill Creek Marina (town) - 12 slips;
Englewood Marina (town) - 14 slips; 248 moorings, including 150 at Englewood

Working Waterfront: Hyannis Marina - boat and engine repair, boat and marine equipment shipping,
yacht sales

Dredging: Main Hyannis Harbor channel was dredged in 1996-7. Spoils went to Hyannis Park neighborhood beach nourishment in return for public access to private beaches.

Adequacy of Existing Facilities: All beaches need constant nourishment due to erosion. All facilities need upgrading to provide HP access, more parking and general improvements. Mill Creek needs dredging regularly.

At Englewood Beach: the boat ramp is too close to the floating slips for long boats; the pedestrian/boat ramp interface is poor. An up-graded boat ramp is needed in this area. The sailing program is always full and unable to expand as there is no space for existing equipment or classroom lessons. Dinghies for the moorings take up valuable beach space and should be organized in a way which takes up less room.

ENVIRONMENTALLY SENSITIVE AREAS/DEVELOPMENT CONSTRAINTS

FEMA A & V 100 Year Zones: Stillwater flooding occurs to El. 12 in the Englewood Beach area and to El. 10 elsewhere, covering numerous streets, dwellings and associated septic systems. Velocity zones to El. 16 occur at the shoreline in widths varying from 10' to almost 400' inland. Great Island has A zones all along its Lewis Bay frontage with V zone breakthrough from Nantucket Sound through Pine Island Creek. Few homes are located on Great Island and the sole access road would be cut off from the mainland in a 100 year storm.

Endangered Species: Smith Point, west coastline and Sweetheart Creek area of Great Island have all been designated as Endangered Species areas.

Barrier Beach Designation (CZM): - adj. Pine Island and Sweetheart Creek; - off Smith Point; - Smith Point; - across Uncle Robert's Cove from Smith Point; - Colonial Acres Beach; 0 - Flakeyard Lane; - Sea Robin; - Green Harbor

Coastal Barrier Resource System: Lewis Bay is entirely within the area designated for federal funding restrictions on funding assistance for all but maintenance of navigation channels and emergency disaster assistance. Federal flood insurance is not available for new construction or substantial improvements.

Coastal Wetland Restrictions: Most salt marshes associated with Lewis Bay are restricted.

Eroding Dunes, Banks, Shoreline: Except for Great Island, nearly the entire shoreline is armored. Erosion is occurring everywhere; accretion only occurs at groins, with corresponding deprivation on the other side.

Salt Marsh: All marshes appear to be very healthy with the exception of Mill Creek Island which is in extremely poor condition.

Shellfish Habitat/Water Quality Concerns: Lewis Bay as approved for shellfishing; water quality concerns include heavy boat traffic and houses in close proximity. Mill Creek is seasonally approved; water quality concerns include houses and lawn runoff. Upper Mill Creek is closed to shellfishing.

Viewsheds: Numerous public access points exist on Lewis Bay and provide scenic vistas.

USES:

Zoning: Residential

Water-dependent Uses: Marinas (3), boatyard (1), beaches, shellfishing, boating access

Non-Water-dependent Uses: Residential dwellings

User Conflicts: Residents v. seasonal/tourist uses; pedestrians v. boat launching at Englewood Beach boat ramp; residents v. boatyard (noise, appearance)

**COASTAL RESOURCES INVENTORY
AREA ANALYSIS**

**AREA: BASS RIVER
NANTUCKET SOUND
TO ROUTE 6**

GENERAL DESCRIPTION: The Bass River area is heavily developed with residences, a golf course and two marinas. Public access is primarily associated with boating access, but there are also several areas with informal beaches. The river is very crowded with private docks and moorings and channel traffic is very heavy, especially on weekends. Erosion and water quality are continuing concerns. The residential areas to the west of the lower Bass River will be subject to substantial flooding in the event of a major storm event.

COASTAL ACCESS (PUBLIC & PRIVATE):

Beaches: Windmill Beach Park and Wilbur Park have informal beaches, i.e. no lifeguards, very limited facilities. There are no formally designated beaches along the length of Bass River.

Coastal Access Points: River Street Common Landing (views, mooring access);

Windmill Beach Park (swimming, views);
Crosby Street (mooring access, views);
Homer Avenue (mooring access, views);
North Cove Landing (mooring access);
Town Landing (mooring access, views);
Union Street (views only);
Georgetown Landing (views);
Bass River Golf Course (shellfish access stairway, views);
Wilbur Park (views, boating access, fishing, swimming)

Boat Ramps:

Bass River Beach;
Ship Shops Marina (private);
Wilbur Park

Boat Trailer Parking:

Bass River Beach;
Wilbur Park

Marinas/Slips:

Ship Shops - 41 slips (private);
Packet Landing - 25 slips (Town);
124 moorings; numerous private docks

Working Waterfront: Boat and motor repair yard at Ship Shops; shellfishing; fishing boats

Dredging: Needed badly each year; currently performed by the County dredge annually

Adequacy of Existing Facilities: If one assumes that all those wishing to boat and swim on the Bass River should be able to do so, the facilities are inadequate. If one takes the view that the river is busy enough now, that the fragile nature of the river is becoming threatened, and that the infrastructure needed to support additional use cannot be provided given the space and neighborhood considerations, the facilities are adequate.

An additional boat ramp would help take the pressure off the two existing public ramps; additional trailer parking is needed now, especially at Wilbur Park. There are many existing public access points which are well used; however, lack of signage and adequate parking severely limit their use. Wilbur Park's coastal banks need re-vegetation immediately, and new pedestrian access should be designed and constructed there to take the pressure off the banks.

There is no room on the Bass River for new facilities, nor is the zoning in place to allow them. Several of the existing access points could be improved, but increasing the parking would be problematic due to lack of space and complaints from adjacent residential neighbors. The existing town marina at Packet Landing can only be expanded if additional land were to be acquired and the zoning were to be changed.

ENVIRONMENTALLY SENSITIVE AREAS/DEVELOPMENT CONSTRAINTS

FEMA A & V Zones: Velocity zones (El. 13, 15) exist at the Bass River - Nantucket Sound intersection and upriver to just south of Aunt Edith's Road. Stillwater flooding occurs to El. 11 with B zones (500 year flooding) in the interior; numerous dwellings and associated septic systems will be impacted during a major storm event. Fairly narrow A zones (El. 9,8,7,6) occur upriver to Route 6.

Endangered Species: N/A (Areas in adjacent Dennis have been so designated)

Barrier Beach Designation (CZM): N/A

Coastal Barrier Resource System: The 1990 CBRS map does not show any restricted areas; however, the 1992 FEMA maps indicate that the Smugglers Beach area is vulnerable and not eligible for federal flood insurance.

Coastal Wetland Restrictions: One area of salt marsh north of the Highbank Road bridge is restricted. No other areas of Bass River have restrictions.

Eroding Dunes, Banks, Shoreline: The Bass River shoreline is fairly heavily armored associated primarily with residential structures and marinas. With increases in boat traffic, more erosion is certain to occur, leading to additional armoring. The coastal banks at Wilbur Park are eroding very badly and need revegetation and pedestrian access improvements.

Salt Marsh: Healthy, but patchy due to boat traffic, armoring and docks

Shellfish Habitat/Water Quality Concerns: Commercial area: seasonally approved. Concerns include lawn runoff from houses in close proximity, boat traffic, waterfowl. Many docks are concentrated in some areas.

Viewsheds: Significant viewsheds are to be found on the lower Bass River where River Street runs close to the river and from many town-owned public access points.

USES:

Zoning: Residential except for the Route 28 corridor which is zoned General Business

Water-dependent Uses: Private marina, public marina, yacht club, 124 moorings, 3 public boat ramps, shellfishing, fishing

Non-Water-dependent Uses: Residential and golf uses take up almost the entire shoreline.

User Conflicts: Private residences v. boatyard noise; recreational boaters v. fishermen at Packet Landing due to noise and smells; swimmers v. speeding boats; jet skis v. all other uses; swimmers and sun worshipers using up all the space at public access points v. boaters trying to land their dinghies after returning from their moorings; boat ramp at Wilbur Park interferes with pedestrian beach access and severe erosion problems are occurring.

**COASTAL RESOURCES INVENTORY
AREA ANALYSIS**

AREA: BASS RIVER

North of Route 6

Incl. Dinah's, Follins and Mill Ponds)

GENERAL DESCRIPTION: This residential area is very quiet with an almost rural feel. Its views of the ponds and associated salt marshes are significant as are its shellfish resources. Public areas are limited to passive recreation and boating access.

COASTAL ACCESS (PUBLIC & PRIVATE)

Beaches: None

Coastal Access Points:

Bass River: Buttercup Lane (Schmidt C.A.) (bench, boating, pond views). Follins Pond:
Driftwood Lane (pier, views);
Follins Pond Road (views, boating access);
Longview Road: (sitting area, views).
Crab Creek: Conservation Area (views, crabbing, nature trails)
Mill Pond:
Point of Rocks Road (views, boating)

Boat Ramps:

Bass River: Buttercup Lane- (sand);
Follins Pond: Follins Pond Road;
Mill Pond;
Point of Rocks Road

Boat Trailer Parking:

Follins Pond: Adj. Buttercup Lane in C.A.;
Follins Pond Road

Marinas/Slips:

Dinah's Pond: 2 moorings;
Follins Pond: 5 moorings;
no slips or marinas, several private docks, but not concentrated

Working Waterfront:

Shellfishing only

Dredging:

N/A

Adequacy of Existing Facilities: Existing facilities appear to be adequate in that there are several access points with informal swimming areas and boating access. The area is excellent for kayaking. Water quality improvements would allow more shellfish areas to open.

ENVIRONMENTALLY SENSITIVE AREAS/DEVELOPMENT CONSTRAINTS:

FEMA A&V Zones: Dinah's Pond - A Zone (El. 6); Follins Pond A Zone (El. 5); Mill Pond - A Zone (El. 5). A 100 year storm event will impact a very limited number of dwellings.

Endangered Species: None (Areas in adjacent Dennis have been so designated.)

Barrier Beach Designation (CZM) : N/A

Coastal Barrier Resource System: N/A

Coastal Wetland Restrictions: Bass River: Salt marsh restrictions; Follins Pond: Salt marsh restrictions.

Eroding Dunes, Banks, Shoreline: Although some shoreline stabilization has occurred, erosion is not a large problem in this more sheltered area of town. Bank erosion can be controlled with soft solutions such as planting. Boat ramps have been armored against erosion.

Salt Marsh: Very healthy.

Shellfish Habitat/Water Quality Concerns:

Bass River, Dinah's Pond, Follins Pond: Seasonally approved, subject to rainfall closures;
Crab Creek, Mill Pond: No shellfishing occurs.

Water quality concerns: Bass River: Lawn runoff from houses in close proximity, boat traffic, waterfowl Follins Pond: Waterfowl

Viewsheds: Significant viewsheds exist primarily from town-owned streets and properties, some of which have benches and trails overlooking ponds and marshes.

USES:

Zoning: Residential

Water-dependent uses: Shellfishing, boating access

Non-Water-dependent uses: Residential uses exist all along the waterfront.

User Conflicts: Noise from commercial shellfishing operations prompts complaints from a few homeowners.

**COASTAL RESOURCES INVENTORY
AREA ANALYSIS**

AREA: NORTH SHORE

GENERAL DESCRIPTION:

The North Shore is an historic residential area with vast acres of salt marsh and spectacular views to the north. Except for Gray's Beach, public facilities consist primarily of passive recreation at Conservation Areas and an unimproved way to water. The North Shore is environmentally sensitive and further development must be considered carefully.

COASTAL ACCESS (PUBLIC & PRIVATE)

Beaches: Gray's Beach at Bass Hole is the only public beach facility serving the North Shore. It has very strong currents which make swimming extremely dangerous and users are discouraged from swimming across the channel to a beautiful barrier beach on the other side in the Town of Dennis.

Coastal Access Points: Bass Hole (beach, boardwalk, boat ramp, salt marsh views);
Callery-Darling Conservation Area (nature trails);
Thacher Shore Conservation Area (nature trail);
Wharf Lane (salt marsh views, boating access).

Boat Ramps: Bass Hole (1); Wharf lane: (1 sandy, informal)

Boat Trailer Parking: Boat trailer parking is available in both locations, but is limited by the space available.

Marinas/Slips: Bass Hole has 12 slips at the town float and 9 moorings.
Wharf Lane has 3 moorings.

All accommodate small recreational boats. Private docks are associated with residential use, but are not concentrated.

Working Waterfront: None, except minor amount of shellfishing

Dredging: Needed at Bass Hole

Adequacy of Existing Facilities:

Bass Hole: Gray's Beach needs new HP restroom facility. The pedestrians crossing from Gray's Beach to the Boardwalk interfere with the boat ramp and parking area; would benefit from designated walkway and appropriate signage. Bass Hole boat access is constrained by tides; needs dredging.

Callery-Darling Conservation Area: Would benefit from signage (vandalism is a continuing problem).

Wharf Lane: Historic pier remnants are interesting, but may represent a liability problem soon. The boat ramp is sandy and unimproved; fine for existing use; trailer parking is limited. If shellfishing areas were to be opened up in this section of the North Shore, this facility should probably be upgraded to accommodate the increased use, but only if additional safe parking can be provided.

Throughout: Water quality improvements might allow closed shellfishing areas to open.

ENVIRONMENTALLY SENSITIVE AREA/DEVELOPMENT CONSTRAINTS

FEMA A & V ZONES: Velocity zones (El. 11-17) occur at the outer edges of the marsh system within which stillwater flooding occurs to El. 13-11. The marshes buffer the upland areas from storm damage with only a very limited number of homes and septic systems having been built in the area of flooding.

Endangered Species: A large portion of the marsh system bounded approximately by Bass Hole, Center Street, Thacher Shore Road and Wharf Lane is listed as an endangered species area.

Barrier Beach Designation(CZM): Barrier Beach #10 is located at the westerly portion of Gray's Beach adjacent to Bass Hole.

Coastal Barrier Resource System: Although not depicted on the 1990 CBRS map enclosed in this report, the 1992 FEMA map indicates that flood insurance is not available for new construction or substantial improvements along the entire northerly shoreline.

Coastal Wetland Restrictions: Yes; coastal wetland restrictions exist on several areas within the salt marsh system and the barrier beach at Gray's Beach.

Eroding Dunes, Banks, Shoreline: Except for minor beach erosion at Gray's Beach, none is visible; occasional armoring is associated with residential uses and boat ramps. Natural salt marsh erosion is occurring at edges due to tidal currents and storm surges; coastal engineering structures which abruptly reshape the shoreline contribute to salt marsh scouring at Bass Hole.

Salt Marsh: Extensive salt marsh system appears to be very healthy except for one small area adjacent to the Bass Hole Boardwalk; cause unknown. Erosion occurring; see above.

Shellfish habitat/Water quality Concerns: Bass Hole and Chase Garden

Creek are seasonally approved for shellfish; the remainder of the North Shore is closed. Water quality problems on the North Shore are associated with waterfowl, boat traffic, houses in close proximity to the marshes and aging septic systems.

Viewsheds: Views of northerly salt marshes from Bray's Farm, Nottingham Drive, Thacher Shore Road.

USES:

Zoning: Residential

Water-dependent Uses: Swimming, boat ramps, recreational boating, fishing

Non-Water -dependent Uses: Residential Dwellings on entire waterfront

User Conflicts: Sightseers and water bound traffic in residential neighborhoods in summer; pedestrians trying to access the boardwalk at Bass River boat ramp and parking area.

OBSERVATION/RECOMMENDATIONS

COASTAL RESOURCES INVENTORY

OBSERVATIONS AND RECOMMENDATIONS:

PLEASE NOTE: The observations and recommendations offered here are the objective view of an outsider who has just barely scratched the surface. They represent the consultant's viewpoint and should not be interpreted as anything other than that. See also notations in the Beach and Public Access Points and the Harbor and Marina Facilities for observations and suggestions regarding additional smaller work projects. Many people had excellent ideas for coastal improvements and their remarks are included in the interview section.

1. South Shore Drive needs a sidewalk.

South Shore Drive is often filled with pedestrians - adults and children - traveling from rental house or motel to the beach or other location. Parents are trying to control excited children while carrying coolers and beach chairs. Considering the level of activity and the density in this area, I suggest that the landowners adjacent to the road be contacted about the town's adding a sidewalk, probably on the water side where there is commercial activity and the owners would be more likely to understand the benefit of a sidewalk to their business and willingly comply so there isn't a protracted land taking issue.

2. A long-range plan for coastal facilities improvements should be adopted and funded as soon as possible.

The constituency for beach and coastal facilities has a very limited voice at town meetings as the users are predominately tourists and second home owners who all vote elsewhere. As a result of the perceived lack of interest, the need for improvements seems less pressing than for those issues with a more vocal voting constituency.

There is no long-range plan in effect for beaches and coastal facilities; consequently, funding goes year-to-year and some worthy projects go unfunded for longer than they should. Some of the existing facilities are very run down and in need of upgrading. None is really terrible and they are kept clean, but the differences between the new facilities and the older ones is quite dramatic, especially in terms of handicapped accessibility.

Various department heads know what they need and pursue it, but requests keep being pushed off year after year. It is likely that if there were a long-range maintenance, management and improvement plan, town funding and obtaining grants could be less problematic. Bringing a ten-year plan to the Finance Committee or the voters and asking them to fund year one should let them know what to expect in the years to come and allow capital planning for the long term. Although the present capital funding system was thought by all to be very thorough and fair, there is a need for a more predictable schedule and the funding required to meet it.

3. Upgrades to Board of Health Regulations

a) Several Cape communities have "shifting sand bylaws" under their local Board of Health septic regulations in addition to the protections provided by the state and local wetlands regulations. These regs preclude the placement of a new septic system in a dune or other unstable soil situation. Yarmouth does not have such a bylaw, perhaps because there are few areas of dunes left to develop. It would be worth studying the situation to see if such a bylaw could protect the undeveloped lots on and near the water.

b) The regulations on the placement of septic systems within areas which are subject to tidal action during storms may not be sufficient to ensure that the systems remain covered during periods of heavy wave action.

c) Recommend more interface between the Board of Health and Conservation Commission regulations regarding septic system regulations. Having differing or opposing requirements could place both boards in a difficult situation.

d) The recommendations outlined in the 1998 IEP Water Resources Coastal Inventory should be re-reviewed and outstanding recommendations should be implemented.

e) Local officials do not have sufficient time in which to independently develop new regulations. Since the Cape Cod Commission wishes to encourage a regional approach to sewage disposal, they should be asked to provide model bylaw provisions for adoption by local Boards of Health, including nutrient loading calculation regulations for single-lot ANR developments as well as subdivisions.

4. Old Mill Creek should be dredged as soon as possible.

The Old Mill Creek inlet has closed with sand. Plans to dredge it have been put on hold while an Environmental Impact Report is prepared to justify the action. Two issues are important:

1. The WPG report states (and Brad Hall has confirmed) that the abutting owners' deeds go to mean low water; therefore, there is a chance that if the inlet is not dredged and continues to fill in, the abutters could claim Colonial Acres Beach as their own property. Several years ago an adverse possession claim against a town was found to be without merit because towns cannot lose land from an adverse possession claim. That ruling, however, did not relate to coastal property and it was rendered by a more liberal judicial system than is in power today; it may not hold now. Town Counsel could be asked to render an opinion on this issue to assist the Selectmen in their decision making as to the timing of the financing of the EIR and the actual dredging.
2. Water quality in the Creek is extremely poor due to the lack of flushing. The potential for a serious health hazard exists; shellfishing is being impacted negatively.

5. A Harbor Management Plan should be written and implemented as soon as possible.

The WPG report recommends that a conflict resolution plan and a waterways management plan be written to resolve waterfront conflicts. A Harbor Management Plan (HMP) is required of all communities wishing harbor and dredging funding. The HMP is a comprehensive document which attempts to identify and resolve conflicting uses and issues, among many other objectives. It has a certain status with the state and CZM, and it would be the preferred conflict resolution and management vehicle for the Town. CZM renders assistance to communities wishing to write and implement such a plan. If the Town of Yarmouth has no designated "harbor" as such, the HMP could be used as a model

6. A grant writer would be a welcome addition to overworked department heads and staff.

Many of those interviewed feel strongly that the Town needs the services of a full-time grant writer to pursue the dollars which are available from a wide range of sources. All feel that a good grant writer will pay for his/her salary and generate substantial funds over and above the salary. Grant notifications generally allow little preparation time and often appear when a department head is busy with other things. If the department head were able to put together a wish list with appropriate backup during less busy times, an experienced grant writer would be able to search out funding opportunities and respond to them promptly with an application which is well researched and more than likely to receive favorable consideration.

7. Handicapped access to coastal facilities is inadequate and should be improved as soon as possible.

Handicapped accessibility to coastal areas is being improved on a continuing basis as funding permits, but accessibility is very spotty. For example, Seagull Beach has a wooden ramp and small boardwalk directly on the sand from the HP parking spaces in the parking lot. The boardwalk allows wheelchair users to sit in the sun and really have the feeling they're "on the beach" while their families use the adjacent sand. However, the HP person who can access the beach cannot access the restroom because the facility is not up to HP standards.

In other areas, the new HP facilities are wonderful, especially at Parkers River Beach where there are new restrooms and a sundeck as well as a ramp and gazebo. However, the HP parking spaces and access ramps are not necessarily located in the appropriate areas, thus necessitating overly long trips or trips across the parking lot driveways.

In addition, at present there are no coastal facilities within the town which allow a HP individual to get into the water for a cool-off dip.

8. A long-range plan for maintenance dredging should be written, implemented and funded as soon as possible.

The WPG report suggests that a maintenance dredging program, including funding, should be established as dredging needs are very predictable; the Waterways Committee is in agreement with that recommendation. With the new county dredge coming on line shortly, the permitting and sediment sampling should be in place as soon as possible to get an early placement on the dredge list. Using DEM standards as guidelines (see DEM) interview), the dredging projects should be packaged to include as many benefits as possible so as to qualify for the maximum number of funding opportunities. With a Harbor Management Plan approved by the Secretary of Environmental Affairs, funding sources may be found at the state level.

9. Expand public access to the water.

Although Yarmouth has a substantial number of coastal public access points, actual public access to the shoreline is limited by inadequate signage and lack of parking availability. Many town landings and ways to water are not marked with signs at the intersections closest to the water. The ones which are marked are not consistently signed. Several neighborhoods have their streets signed for "no parking", thus limiting coastal access to local pedestrians. In some instances where the streets are very narrow or the access points cannot support numbers of people, such "no parking" signage and access may be appropriate. Consistently applied regulations as to all signage would be helpful to identify the ways to water and make them available to all of the citizens of the town.

10. Additional improvements to water quality are necessary.

The WPG report suggests that discussion go forward with the Mass Highway Department on cleaning up Route 28 stormwater runoff. The Stormwater Runoff Committee has identified drainage hot spots throughout the town and they are pursuing the matter on an ongoing basis, but are limited by funding availability. Perhaps a request for cooperation to the MHD from a higher level of government might be appropriate in the near future for Route 28. Funding as few as one project per year on an ongoing basis would help the situation.

The Cape Cod Commission should be encouraged to sponsor grant programs and otherwise offer assistance to towns in the effort to improve water quality.

11. Different types of coastal facilities are needed now and in the future.

Yarmouth's beach facilities have very few opportunities for visitors to get out of the sun. Seaview Beach has picnic tables in a pine grove and Parker's River Beach has a gazebo; there is no other shade available. Families with young children, the elderly and those individuals who are concerned about skin cancer need shelter from the sun. The shelters could also have picnic tables and serve as transportation waiting areas during inclement weather.

Recreational opportunities such as boat tours and water sports are limited by the underlying residential zoning and lack of coastal access. Educational facilities for visitors to inform them about the coastal processes and sensitive ecosystems such as salt marshes are a missed opportunity to upgrade the offerings the town can provide to its visitors. The town's rivers are not identified on the main road (Route 28) and would benefit from signage to help visitors locate themselves and for educational purposes.

12. Existing zoning conflicts with state and CCC policies/Watersheet zoning.

Current zoning does not allow water-dependent uses on the waterfront. This situation is in direct opposition to the position which the state and the Cape Cod Commission have taken, and it is highly likely that grant opportunities could be limited in the future as a result.

Existing businesses are severely limited in renovating and updating their facilities. They should be allowed to do certain things as of right; bonuses can be given for providing certain desirable improvements such as viewshed creation/preservation, educational facilities, etc.

Beach facilities upgrade can become problematic. Town property could be rezoned to a municipal or official and open space zone which would allow facilities improvements, thereby having the potential to increase the revenue stream to the town.

The Cape Cod Commission has expressed an interest in researching watersheet zoning. Their assistance with such zoning in the form of model bylaws would help interested towns and provide the regional planning approach that is needed. It is unlikely that the CCC will get around to doing this very quickly unless a number of towns express a strong interest.

13. Invasive, non-native vegetation is entering the marsh systems.

Phragmites, a six-foot tall plumed reed, is entering the marsh systems where flushing isn't as complete as it could be and/or the area has been disturbed. Programs for culvert enlargement to improve salt water flushing and phragmites removal would involve an educational component and a considerable amount of work for the Conservation Commission, but the vegetation takes over huge areas in a very short time, spoiling wildlife habitat and blocking salt marsh views. Coastal view sheds will be impacted negatively should this plant continue its advance.

14. Englewood Beach Improvements

As noted by the WPG and the Waterways Committee, if Englewood Beach is to continue as a beach, mooring basin, marina, boat ramp and sailing center, facilities improvements must be made to accommodate the needs of its

ever-increasing number of users. These improvements would involve repairs to the existing boat ramp, building an additional boat ramp, additional car and trailer parking, organized dinghy storage to clear up the beach area, handicapped accessible restrooms, shade/shelter structure, and beach nourishment,

Recommendations have been made by various departments to acquire the Red Rose Inn waterfront property to improve the Englewood facilities. While that property is highly desirable, the lot across the street is also available and would provide a less costly addition than the Red Rose. Parking, classrooms and equipment storage need not be conducted directly on the waterfront. The other lot is not on the tax title list, leading me to think that they might not necessarily be a package deal.

Even if they are a package deal, would it be possible to acquire both and sell off the waterfront parcel to finance the improvements on the other lot? Would it be a good idea to try to sell the waterfront parcel for a residence knowing that the Englewood Beach complex is going to become more heavily used as time goes on? Are there other allowable uses under current zoning that would be better suited to the property? Are there other uses which could provide a revenue stream to the town if it were to retain the property and rent it out to a concession of some kind, assuming the zoning were changed to an official and open space beach-type use which would allow it?

15. Harbormaster Visibility

I find it incongruous that the Harbormaster's office is located in the woods. He and his staff should be on the waterfront, visible, and providing information to visitors and boaters. If it isn't possible to staff the office on a full-time basis during the summer, regular hours could be posted. Charts and pamphlets regarding regulations, tours, boat rentals, slip availability, etc. could be displayed to answer general questions. This is a golden opportunity to provide a much-needed educational function to improve the water safety of the town and assist visitors.

16. Proposed Subdivision Regulations Change

The Subdivision Regulations (Page 24-c) indicate that the Planning Board may require that open brooks or tributary ditches be shaped to a cross section and gradient, and provided with a stream bottom hardening, all acceptable by the Town Engineer.

Such a provision is in direct opposition to the performance standards contained in the Wetland Regulations (310 CMR 10.00) and the local wetlands bylaw and could lead to confusion on the part of a developer being caught between the opposing regulations of two boards with separate authority. Recommend that the provisions be deleted.

17. Eroding Dunes in Beach Areas

Eroding dunes are a problem in almost all of the public beach areas and public access points. Children play on them, dinghies are stored on them, people walk through them – the dunes are being destroyed at a great rate and with that destruction, their ability to withstand storm waves and provide a buffer to the landward properties is seriously diminished.

As a firm believer in educating the public, I recommend that a consistent approach to dune protection be implemented, including snow fencing and educational signage. In each area where there are eroding dunes, plant beach grass, put up the necessary fencing and sign it. In this way, people will become educated about the reasons why such protection is important and their response will become automatic. Many public facilities have become quite good at eye-catching signs such as: "Sh-h-h ... dune building going on here!" and "Thank you for keeping to the marked paths...dunes are growing" and for those areas where people keep ignoring the fences and tromping through them anyway: "Watch out for poison ivy!" In most instances, pathway design is critical to managing foot traffic and keeping it out of dunes. It's important to put paths in logical places; it's even better to put in boardwalks.

Scout troops and conservation organizations are willing to plant beach grass and erect fencing; as a team effort, it wouldn't take very long as the individual dune areas are fairly small. Funding is a problem here, as with everything else. The CCC or other grant organization could be approached for financial assistance, or, at the very least, group rates on grass for towns interested in pursuing similar programs.

COASTAL RESOURCES - UPDATE

CHAPTER 7

VOLUME II

Endorsed by Annual Town Meeting - 10 April 02

COASTAL RESOURCES INVENTORY

INTRODUCTION

Beach Facilities and Coastal Public Access Points:

The following listings include beaches and public access points of all types. The inventory represents the first basic listing of conditions for each area by the Consultant. The analysis developed from this basic data is listed in Vol I.

The listings and facilities charts have been arranged primarily by watershed area, including Lewis Bay, Nantucket Sound, Parker's River, Bass River and North Shore.

Facilities listed as Beaches are sandy, cleaned and maintained by the town as public beach facilities and are suitable for swimming and sunning, although some beaches have eroded to the point where they are only available during periods of low tide.

Coastal Public Access Points are boat ramps, Conservation Areas and/or Town Ways to Water (Town-owned roads) providing either visual or physical access to the water. Not every area has a sandy beach or other facilities and some roads have been signed "no parking" thereby severely limiting their availability to other than pedestrians.

HP Access notes are given primarily from the viewpoint of wheelchair-bound citizens and may not relate to those who are able to walk.

LEWIS BAY AREA: (West to East)

HYANNIS MARINA (LEWIS BAY @ BARNSTABLE LINE)

See Marina listings. Parking, water views, rest rooms, restaurants, retail store.

COMMON LANDING/BAY VIEW BEACH (LEWIS BAY)

Boat ramp acts as groin; rocks adjacent

Left side: rocks at top of beach hill

Right side: sandy, dune building area is vegetated with phragmites

Dune behind playground is well vegetated. Dune in traffic island is being eroded by cars even though the island has a curb

Parking lot is pitched to middle - puddle; old lot; patched; curb at edge of beach is crumbling - undercut by storms?

HP Access: parking lot only; none to beach or restrooms.

HIGHLAND AVENUE PUBLIC ACCESS POINT (LEWIS BAY)

Left side: steep rock and concrete seawall w/lawns atop and steps down; groin

Right side: small stone groins

Beach very narrow; nonexistent at high tide

No HP access, but wheelchair pad could sit atop bank on lawn

Moorings: 12 between here and boat ramp bounded by channel (small rec boats - motor and sail); other side of groins - 9 moorings (small rec boats)

GROVE STREET PUBLIC ACCESS POINT (LEWIS BAY)

Right side: Highland Avenue groin to the right; accreting this side

Left side: Small rock groins; short concrete seawall as 1' above sand w/dune behind; not well vegetated until halfway up. Beach is tiny; rest is private

On adjacent private property, sand bar obstructs creek flowing from Cape Cod Hospital which now winds its way adjacent to the jetty. Ms. O'Connor of 8 Grove St. annoyed that all the sand used for nourishment updrift drifts down and has covered her seawall and deposited the sandbar. Suggested she hire a coastal geologist to study the processes before she complains to the Corps of Engineers about proposed beach nourishment

Street drains into catch basins - leaching? new?

Moorings: 9 opposite (see Highland Street notes)

No HP access

VERNON STREET PUBLIC ACCESS POINT (LEWIS BAY)

Both sides: stone groins; eroding beach

Left side: seawall

Right side: seawall w/rock face

Beach pebbly and rocky

Dunes eroding, but not too badly; boat stored on dune

Moorings visible (see Highland Ave notes)

No HP access.

MALFA ROAD PUBLIC ACCESS POINT (LEWIS BAY)

Street sign missing entirely

Site has nice beach; dinghy and sailfish stored on beach

Left side: Roses and dune grass on side; house w/lawn out to vertical concrete seawall in water frontage. A portion of the wall has fallen over and the land behind is scouring out in storms. No beach here; scraps of salt marsh in front of wall. Entire seawall is going to go if not repaired; scouring ongoing

Right side: Dune grass; timber pile wall on side; nice beach

GLENWOOD STREET PUBLIC ACCESS POINT (LEWIS BAY) :

Street parking only

Stony, starved beach; sand disappeared 7-8 years ago according to neighbor

Crushed stone at end of street could be replaced with leaching catch basin

Left side: Huge rock groin and rock seawall with fabric behind

Right side: Rock seawall(6'); bits of salt marsh visible

BAXTER AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

No coastal engineering structures

Beach stony at low tide; upper beach nice

Dunes well vegetated, but phragmites creeping in

Left side: Green Harbors Resort

Right side: ConCom land

Moorings - 10+ - small recreational craft

COLONIAL ACRES BEACH (LEWIS BAY) :

At entrance to Mill Creek; across from Green Harbor cottages

Mill Creek is armored w/sloping rock along both sides; town boat slips (12) in Creek adj. To beach; moorings and private docks visible in Mill Creek

Mill Creek Island consists of patchy salt marsh - doesn't look healthy; Canada geese and seagulls feeding

Old Mill Creek (behind Beach) is full of algae; fed by cracked pipe from main Mill Creek; has patches of salt marsh and dune grass; water quality very poor; opening of Old Mill Creek has filled in and the area is scheduled for dredging once EIR is complete

Parking lot is too small for the size of beach - 20 spaces

New bridge over Old Mill Creek allows access from parking lot to main beach

Beach is wide and beautiful – looks nourished; somewhat stony at extreme low tide

Left side: large dune field, well vegetated

HP Access: Parking lot is paved and HP parking spaces are designated; the bridge is accessible to wheelchairs, but there's no place to go once you reach the end. Porta potty at parking lot is not accessible to wheelchair users'

HEDGE ROW PUBLIC ACCESS POINT (LEWIS BAY) :

No coastal engineering structures

Left side: Private beach w/very well vegetated dune atop, then seawall. At seawall, no beach left at all

Right Side: Rock seawall 10' high for 3-4 houses; stairs down then Colonial Acres Beach; from last house into Colonial Acre Beach - sand bar

Beach is nice; dunes each side beginning to wear away; need fencing to channel traffic and keep stored boats off grass; seaweed washup pretty heavy

Mooring field out from left seawall - 20+ - small rec

Mooring field out from Colonial Acres - +/- 5 small rec

COLUMBUS AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Left side: seawall; rocks piled; bare sand fenced area atop. Next property has cement and rock seawall jogged out

Right side: Seawall; mortared - 8' high

Next property has seawall jogged out w/dune grass atop

Beach - nice, but lots of seaweed washup

Parking very difficult due to lack of pavement and curve in road

No mooring field

No shellfishing; area planted w/contaminated clams

MASSACHUSETTS AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Rock seawall
Beach: none, very rocky
Right side: houses - same seawall
Shellfish closed; planted w/contaminated clams

VERMONT AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Many boats piled; no barrier to boats entering water; used as neighborhood landing
Mooring field - large
Nice beach adj. Groin; large washup of seaweed

CONNECTICUT AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Paper street; no convenient access to the water due to rock seawall w/no stairs; functions as boat trailer storage area for Englewood Beach boat ramp; lot is vegetated with rushes

NEW HAMPSHIRE AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Signed for parking for vehicles w/boat trailer only
Beach nearly non-existent except at low tide
Concrete seawalls with rocks added both sides; concrete seawall at end of road; three granite boulders to keep cars from going over wall
Closed shellfish; planted w/contaminated clams

ENGLEWOOD BEACH (LEWIS BAY) :

Beach erosion; beach consists of mud flats at low tide
Adjacent boat ramp with walkway/groin; left side - rock wall, floating pier with 12 slips; right side - boat storage on sand which looks placed
Boat trailer parking in two areas down the street at New Hampshire & Connecticut Avenue Public Access Points
Fishing off end of groin
Numerous boats stored to access large mooring field - crowded storage areas at each side of beach and on beach on opposite side of groin
Sailing program is in its 21st summer; program always full - 500 students for regular program; 60 racing program. Town has 14 sailboats and one power boat. Program has no storage space, no classroom space; they need a facility which could be used by other entities in the off-season. Jim Hoar, sailing instructor
HP Access: HP parking spaces, but no access

BERRY AVENUE PUBLIC ACCESS POINT (LEWIS BAY) :

Parking for boat trailers; associated with Englewood Beach - se above

PARKER'S RIVER AREA

LEWIS POND (West to East):

SALT MARSH LANE PUBLIC ACCESS POINT (LEWIS POND) :

Shrubbed down to salt marsh; no actual access. Nice view.

MAUSHOP'S PATH PUBLIC ACCESS POINT (LEWIS POND):

Upland vegetation down to salt marsh; pedestrian access possible. Nice view. Street signed for no parking.

ACRES AVENUE PUBLIC ACCESS POINT (LEWIS POND) :

Dune grass and cedars at end of street with pathway down to salt marsh; nice view.

SWAN POND (West to East):

CONSERVATION AREA PUBLIC ACCESS POINT (SWAN POND) :

Dirt road off Winslow Gray Road leads through woods to Swan Pond; limited parking; nice views

BEACH ROAD PUBLIC ACCESS POINT (SWAN POND):

Actually an unpaved driveway; no public access possible

LAKE AVENUE PUBLIC ACCESS POINT (SWAN POND):

Paved road to curb, then crushed stone into water; boat ramp; erosion occurring below curb

MEADOWBROOK ROAD PUBLIC ACCESS POINT (SWAN POND) :

Meadowbrook Road Conservation Area: At end of Meadowbrook Road, pathway to the left consists of steps and a trail through phragmites to a two-plank boardwalk which runs approximately 310' through the swamp and marsh. Benches and observation platform have been vandalized and are no longer available; the view is awesome.

PARKER'S RIVER:

CONSERVATION COMMISSION FISHING PIER OBSERVATION DECK :

Wooden deck adj. Route 28 and Parker's River; benches; nice views; one of the few areas along Route 28 where water is visible; educational signage opportunity

SKIPPY'S PIER 1 MARINA :

See Marina listings. Parking, restaurant w/water views

NANTUCKET SOUND AREA: (West to East)

SEAGULL BEACH (NANTUCKET SOUND)

Huge, beautiful beach! Backed by dunes, some eroding; informal pathways through dunes; need snow fencing and educational signage here

HP access: restrooms not accessible; HP ramp to boardwalk to beach is in need of repair, but it works; deck at end of boardwalk allows wheelchair access to sun/beach

Left side: adj. Parker's River; sloped rock armament up from river; continues as jetty out into water; narrow beach at base of wall on this side of river; camper and car parking separate from beach parking. Other side of jetty is starved.

Right side: private beach (beg. Of Great Island complex)

THACHER TOWN PARK (NANTUCKET SOUND)

Asphalt and concrete walkway atop sloping rock seawall; groins and seawall on properties at both sides; all armored; cement stairs to beach

No beach at high tide; was nourished in 1993

No facilities

Right side: adjacent dunes eroding - private lot. No structures

Left side: hotel

Across the street: new beach grass and pines on town-owned lot adj. cottages and nearby motels

New catch basins in street; where discharge?

HP Access: Wood steps up from parking to walkway. Walkway 1'-3' higher than parking lot; not HP accessible.

Could be made HP accessible if left end of parking lot were graded up to meet walkway, but there is no guardrail on edge of seawall and may present a liability problem

SEAVIEW BEACH (NANTUCKET SOUND)

Seawall of sloped rock; concrete top; concrete stairs; groins

Bank erosion: no

Beach erosion: 10'+ more at groins

Dune erosion: yes, plus 3 informal pathways through dunes; sandy areas atop concrete walk is worn into the dunes because when lower beach is full, people make new space above.

When parking lot is full, there is not enough sand space.

Picnic tables in a pine grove provide shade.

Right side: hotel

Left side: house

HP Access: Attendant warns HP that there is no wheelchair access; portapotty is not wheelchair accessible.

PARKER'S RIVER BEACH (NANTUCKET SOUND)

Concrete stair to beach (3 sets) against sloping rock seawall with 5'-6' wide concrete walkway atop seawall; walkway is approximately 3" thick and exposed 3"-5" above grade at the beach - would be easy for someone to slip off the walkway and turn an ankle.

Beach erosion: 10'-15' beach at high tide, with more accreting at groins; large, open unveg. Beach

Dune erosion: yes, plus informal paths through dunes; need barricades and educational signage

Bathhouse brand new; only facility in town with a shower

Swimming lessons here Monday-Friday bring substantial numbers of people.

Right side: private homes

Left side: condos

HP Access: Wheelchair cannot access bathrooms or snack facility from front of parking lot location. Parking lot to side of snack facility and bathroom have HP spaces and ramp for proper access; however, wheelchair-bound users have to cross a driveway from the parking spaces to the ramp. A separate wheelchair ramp goes to the gazebo from parking lot; gazebo provides shade.

BEACHWOOD DRIVE PUBLIC ACCESS POINT (NANTUCKET SOUND):

Rock groin

Left side: seawall; sloped rock with other rock atop - different color - new? Was it added for more protection?

Many stairways down face of armored bank on left.

Right side: Private - seawall w/dune grass atop; stairs cut into seawall

Beach on east side of groin is full; west side moderate; 10' beach at low tide

Dune grass on sand atop seawall

No HP access

Appears to connect to South Middle Beach

JUDAN WAY PUBLIC ACCESS POINT (NANTUCKET SOUND):

Small rock groin mid-beach. Groins visible to the right; none on left until Bass River jetty

Dune grass eroding; in place both sides and narrow at top of bank; houses behind could use some protection. Is this much beach necessary or can a dune be created? Dune at entry is partially fenced; pretty well vegetated w/grass and roses.

Connects to South Middle Beach

Beach is beautiful, wide, sandy, lifeguard

No HP access

Sign saying "Permitted Boats Only" - check it out with Harbormaster

SOUTH MIDDLE BEACH (NANTUCKET SOUND):

RESIDENTS ONLY beach plus walk-ins from surrounding neighborhood. Leo, the beach attendant, says that renters are outraged that they're paying a lot of money for their cottages and are not considered residents by the Town; they can walk in from the neighborhood, but cannot drive in. 450 spaces across the street for residents only. Gorgeous beach!

Dune erosion occurring as waves/wind/kids playing cut into face of dunes; need snow fencing and educational signage

New bathhouse near road

Right side: cottages

Left side: condos

HP Access: Steep wood ramp and stairs up to beach; sandy path from road; no HP access

Restrooms are new and fully HP accessible

BASS RIVER BEACH (NANTUCKET SOUND):

Some beach erosion; moderate pitch to beach – looks nourished

Substantial dune erosion with cuts on water side and migration at rear into parking lot

Some lateral fencing is doing its work; needs more fencing plus educational signage (one sign has "Keep off Dunes" and the lifeguard said he doesn't have much trouble with kids climbing, but the dunes are still being worn away); some new dune grass plantings with snow fence are adjacent to the parking lot.

Of 5 volleyball courts, only 2 were strung with nets

Coastal engineering structure: rock jetty with nav. light at entrance to Bass River.

Fishing allowed from pier and seawall only according to signage

Two boat ramps and dedicated trailer parking lot; the southerly ramp fills with sand and has to be scraped regularly; ramps are VERY crowded on weekends - insufficient number of ramps in the area for the number of boats needing them according to Asst. Harbormaster J. Callahan.

11 acres parking w/453 parking spaces plus boat trailer parking

No regulations against swimming across the river - swimmers get swept out with the outgoing tide and present navigational difficulties for boaters, not to mention their own personal safety

HP Access: The wooden boardwalk and deck are accessible to wheelchairs. The entry wooden walkway from parking lot is not accessible as last step is 12 " high due to erosion. Bathrooms are accessible from interior parking lot, but not from the front parking lot as there is no path or walkway. The HP ramp to the bathrooms does not have HP parking assigned to it. May improve once new paving is striped.

BASS RIVER / FOLLINS POND / MILL POND AREA: (South to North)

BASS RIVER BEACH (BASS RIVER): (duplicate of Nantucket Sound listing)

Some beach erosion; moderate pitch to beach – looks nourished

Substantial dune erosion with cuts on water side and migration at rear into parking lot

Some lateral fencing is doing its work; needs more fencing plus educational signage (one sign has “Keep off Dunes” and the lifeguard said he doesn’t have much trouble with kids climbing, but the dunes are still being worn away); some new dune grass plantings with snow fence are adjacent to the parking lot.

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Osprey nest adj. Boat ramps.

RIVER STREET COMMON LANDING PUBLIC ACCESS POINT (BASS RIVER) :

Concrete sitars with pipe rails to beach @low tide; water only @ high tide

Bank armored w/sloped rock revetment

Left side: armoring with flat top - roses and wood rail; next - private pier

Right side: 12' of armoring to property line, then 90 degree concrete seawall w/lawn atop; wooden groins (4 or so); several docks

Mooring field; very busy channel; AWESOME view!

Street parking for 2-3 cars; bend in road precludes safe parking

WINDMILL BEACH (BASS RIVER) :

Gravel parking lot; grassy sitting area atop sloped rock armored bank; stairs (wood) from top of wall down to beach; shallow water at high tide (good for kids); beach is 5" wide and sandy at high tide. On the left side at property line, dinghies are stored to reach moorings (primarily sailboats).

Right side: drain - corrug pipe (8-12') discharging into water. Adjacent property has vertical concrete groin and seawall.

Left side: rock armament with well vegetated area atop

Bass River channel is close, but boats go fairly slowly. Awesome view!

HP Access: wheelchair could negotiate the parking lot and walkway to sit on grassy area with minor difficulties– could be upgraded for HP access fairly easily, but no toilet facilities exist.

CROSBY STREET PUBLIC ACCESS POINT (BASS RIVER) :

Face of bank eroding; needs vegetating.

Catch basin not working; most/all water going into swale. Drainage swale has cut channel down face of bank to beach; remnants of asphalt swale visible. Drain pipe exposed at low tide; appears to discharge into water.

Small boats stored on beach.

Patches of salt marsh on properties on both sides.

Right side: house w/lawn; well vegetated bank; pier and float, salt marsh.

Left side: house w/lawn; bank vegetated w/grass; dune, beach, salt marsh,

Mooring field visible.

Shellfishing closed.
No HP access.
Parking: 2-4 cars on street; no facilities.

HOMER AVENUE PUBLIC ACCESS POINT (BASS RIVER):

Steep street down to catch basin at end of street; no visible discharge; leaching?
Street parking for 4-5 cars; no facilities
No HP access
Right side; Timber pile w/lawn behind
Left side: vertical concrete seawall w/lawn behind; 2nd vertical concrete wall has house behind.
Many small boats stored on sand; tiny/no beach at low tide - eroding. Could use some fencing to keep what's left of vegetation on bank.

NORTH COVE LANDING PUBLIC ACCESS POINT (BASS RIVER):

Parking on street for 3-4 cars; no facilities.
Asphalt drainage swale at end of street; ends in pipe, rocks and backwater of marsh; needs review.
Sandy beach w/little vegetation. Important to keep vegetation if V zone or storms will scour house foundation and drain on other side. Flat areas have salt marsh with patch of beach.
Right side: house, side of foundation acts as seawall; vertical seawall with lawn above.
Left side: large house with lawn; well vegetated bank; dune grass at base; sandy path, salt marsh.
Creek from drain pipe through salt marsh.
One boat stored on face of bank. Tiny beach between river and marsh allows entry, but not sitting.
Shellfishing closed.

TOWN LANDING PUBLIC ACCESS POINT (BASS RIVER):

Located between Wing and Akin on Pleasant Street; looks like private dirt driveway; not marked at all; user feels like trespasser.
Possible 2-3 cars parking in street; no services
Used as a landing; has no barrier to cars.
All sandy; marsh either side. Obviously filled to create landing; nourished recently??
Small boats stored for moorings.
Street eroding from drainage; swale on right side begins on flat area opposite house on left side; gets deeper closer to the river.
Left side: 2 sport fishermen, 1 fishing boat.
Mooring: mostly sailboats
No coastal engineering structures.

UNION STREET PUBLIC ACCESS POINT (BASS RIVER):

At Route 28 bridge over Bass River.
Not marked as Town Way.
Asphalt ends and fill begins; no drainage structures; natural leaching.
Street ends in vertical concrete seawall with grass and Queen Anne's lace atop.
No beach; NO ACCESS TO WATER
Left side: vertical concrete seawall nest two lots; lawns atop; no beach or marsh.
Right side: return on concrete seawall, then vertical timber pile seawall for one house, then salt marsh and beach.
Mooring field small here; marina off to left.
Sport fishermen moored.

PACKET'S LANDING MARINA PUBLIC ACCESS POINT (BASS RIVER):

See marina listings. Parking, picnic table, water views, porta potty, drink machines.

GEORGETOWN LANDING PUBLIC ACCESS POINT (BASS RIVER) :

Not marked; street signed for no parking; no facilities.
Asphalt walkway down to bank; houses both sides; well vegetated.
Lower path - grass, eroding.
No coastal engineering structures visible until golf course.
Salt marsh below; dune grass and veg bank; no beach except at low tide.
Steps need repair.
Adj. properties both sides have salt marsh; houses at top of hill not too visible.
Lovely, quiet spot; lots of waterfowl.
Moorings: 3 or 4; channel pretty far away.

BASS RIVER GOLF COURSE PUBLIC ACCESS POINT (BASS RIVER) :

Public access point for shellfishermen. Stairway down well vegetated bank to flats from behind cart shed.
Find out if restricted to shellfishermen only.

WILBUR PARK PUBLIC ACCESS POINT (BASS RIVER)

Wonderful spot hidden away; small sign at road entrance
Stony beach at low tide on one side, interspersed with salt marsh. Bank with dune grass is eroding; grass is very spotty. At bend in river, two areas are eroding badly and trees are undermined. One stairway down bank. River narrows down here and turns a 90 degree bend.
Around the bend is a sandy beach and a boat ramp. Informal paths have come down the bank and it's eroding very badly. Snow fencing to keep people out is present at toe of slope; none above; doing no good at all.
Need safe access to the sandy beach - people are not using the boat ramp to access the beach, probably for safety reasons - need a second stairway or a sign and removal of vegetation to allow safe passage to beach via boat ramp.
Pier and float next to boat ramp well used for fishing by kids.
Park has several shady areas; no HP access.
Shellfishing is closed.
Parking lot has space for boat trailers.
Area from boat ramp to bridge is armored with sloped rock revetment.

BUTTERCUP LANE PUBLIC ACCESS POINT (RONALD SCHMIDT CONSERVATION AREA (BASS RIVER) :

Large gravel parking lot with room for boat trailers; no facilities; commercial shellfishing subject to rain closures; adjacent boat ramp.
Bench at overlook, view of Follins Pond and Bass River interface.
Steep coastal bank on other side; at toe, patches of beach in salt marsh; narrow that side; much wider salt marsh this side.

DRIFTWOOD LANE PUBLIC ACCESS POINT (BASS RIVER/FOLLINS POND) :

Access adjacent to #170; no sign, no facilities.
Parking on street; short trail through woods to sets of stairs and out on to pier with bench.
Beautiful view; very quiet; many birds.
Area is a cove ringed with salt marsh; no other docks.
1 boat moored.
Marsh looks healthy except for small area near dock; looks like a boat may have lain on the grass and killed it.
Across pond - steep coastal banks; eroding; public beach; check from Dennis side.

CRAB CREEK PUBLIC ACCESS POINT (JOHN SEARS CONSERVATION AREA AT CRAB CREEK:

North Dennis Road (very busy); no sign; granite boulder with plaque; Conservation Area both sides of the road.
South side; parking lot; short trail to marsh - salt + cattails, succeeding into stand of phragmites near road;
informal pathways are eroding bank; roadway drainage entering Creek.

North side: roadway runoff into Creek; erosion; pier with benches; informal pathways are eroding bank; cattail marsh and stream; trail winds through BVW full of clethra (no phragmites visible); two overlooks with benches, one flooded at high tide. Lots of dragonflies!

Needs a sign at road entrance and educational signage re crabs - nice text in ConCom brochure.

FOLLINS POND ROAD PUBLIC ACCESS POINT (FOLLINS POND) :

Very steep road is actually a boat ramp; parking on one side of road;

Small beach to right; salt marsh both sides.

Boat ramp is armored with rocks both sides.

No facilities.

Shellfishing open to commercial diggers only; subject to rain closures.

LONGVIEW ROAD PUBLIC ACCESS POINT (FOLLINS POND) :

Road ends at woods. Railroad tie stairs, then sandy path leads down to Pond sitting area.

Quiet neighborhood place; stairs need work soon; path is eroding.

Street parking only; very steep hill.

Catch basin at end of street has corrug. pipe discharging over bank down near Pond; change to leaching cb and cap pipe asap.

POINT OF ROCKS ROAD PUBLIC ACCESS POINT (MILL POND) :

No sign; road end at wooded strip; short sandy lane to water is in the water at high tide.

Road runoff eroding sand into gullies.

Marsh adj. Mill Pond - worn away at entry point. No houses visible from here.

Could be made into boat ramp easily; any reason to do so? Think it's being used for boat launch. but can't be sure - something is keeping the ground bare.

Full trash barrel hidden in woods on right hand side of street - full of McDonald's - maybe kids congregate here.

No facilities; street parking is limited.

GOOSENECK ROAD PUBLIC ACCESS POINT (MILLPOND) :

No access; road ends in wooded parcel owned by Conservation Commission; trail in woods not highly visible; no signage,

Catch basin in road at end of circle takes road runoff to ???

NORTH SHORE AREA (East to West)

GRAY'S BEACH :

North shore's only beach has boat ramp, boat trailer parking, car parking, lifeguards, restrooms, picnic and playground area and the Callery-Darling Conservation Area nature trails. In addition a 860' boardwalk with observation deck crosses the marsh; great for water views and bird watchers. Area surrounded by salt marsh. "Dangerous Currents" sign at beach. Fantastic views.

Float with slips (12-15); small rec boat moorings visible outside swimming area floats. Salt marsh in very poor condition on south side of boardwalk for short distance; other areas are fine; no obvious reason. Perhaps scraped by ice last winter?

WPG report states that boat ramp and trailer parking arrangement are inadequate and hazardous due to proximity to public beach w/o proper separation. Situation not ideal; additional separation not difficult to achieve. More problematic may be the pedestrians who cross the waterfront parking lot to access the boardwalk.

WPG report recommends new bathroom facilities. Existing certainly not fancy or HP accessible.

WPG report recommends extending boardwalk to sandy beach. Piling stubs from the old boardwalk across the creek are visible at low tide. Unsure of how much additional footage would be necessary. With such a destination, use of site is sure to increase. Would there be sufficient parking lot to handle additional people? Don't think boardwalk is wide enough for two people to pass comfortably now; would be worse with beach goers loaded down with chairs, etc. In addition, the destination beach is in an endangered species area, and human access is not desirable there.

CALLERY-DARLING CONSERVATION AREA (GRAY'S BEACH):

This 2.4 mile trail system runs north of Route 6A between the salt marshes west of Center Street and Homer's Dock Road on the east. Several parking areas allow access to several types of upland areas; the Gray's Beach parking area allows access to the salt marsh adjacent to Chase Garden Creek. Wonderful salt marsh views.

THACHER SHORE PUBLIC ACCESS POINT :

Thacher Shore Conservation Area is located off Thacher Shore Road. Short wooded trail brings you to a bench and sweeping views of the Cape Cod Bay salt marsh. Parking area next to the road.

WATER STREET/WHARF LANE PUBLIC ACCESS POINT :

Dirt road at intersection of Water Street and Wharf Lane leads down sandy lane well vegetated both sides with dune grass down to salt marsh. East side armored with line of large boulders. West side just vegetated.

Right side: nearby house has armored front; dock. Left side: marsh joins lawn of house.

End of land is a landing; sandy; not a real boat ramp; sufficient for seasonal put-ins, but probably not used as a regular boat ramp – although, since it appears to be one of only two ramps on the north shore, maybe the daily users put up with it. Shellfish beds are closed, so perhaps the need for a better ramp does not exist.

DREDGING HISTORY

COASTAL RESOURCES INVENTORY

DREDGING HISTORY - SUMMARY:

Hyannis Harbor Channel (Town of Barnstable)

192-			DEM
1930			DEM
1934			DEM
1937			DEM
1975	8,680 cy	Sidecast; ocean disposal	USACOE
1985	25,000 cy	Beach nourishment	USACOE
1991	42,000 cy	BEach nourishment & CAD	USACOE

Mill Creek

1982	3,000 cy Old Mill Creek	Beach nourishment	Town
	4,800 cy New Mill Creed	Beach nourishment	Town
1984	1,800 cy Old Mill Creek	Beach nourishment	Town
	800 cy New Mill Creek	Beach nourishment	Town
1995 prop.	3,300 cy Old Mill Creek	Beach nourishment	Town
	1,000 cy New Mill Creek	Beach nourishment	Town
		Note: not yet completed	

Parkers River

1953			DEM
1960			DEM
1978	3,000 cy	Clamshell; ocean disposal	Town
1980	1,500 cy	Beach nourishment	Town
1983	15,000 cy	Beach nourishment	Town
1988	16,000 cy	Hydraulic; beach nourishment	Town
1994	8,000 cy	Beach nourishment	Town
		Note: Not yet completed	

Bass River

1934			DEM
1937			DEM
1952			DEM
1958			DEM
1966		River & entrance channel	DEM
1980	14,500 cy	Hydraulic; beach nourishment	Town
1983	9,000 cy	Beach nourishment	Town
1986	14,500 cy	Beach nourishment	DEM
1995	8 - 9000 cy	Sidecast; ocean disposal	Town
1996	106,000 cy	Beach nourishment	DEM

FEDERAL DREDGING PROJECTS:

Although there are no federal channels in the Town of Yarmouth, the Town uses the federal channel serving Hyannis Harbor in neighboring Barnstable to reach properties within Lewis Bay. Hyannis Harbor channel within the Outer Harbor is approximately 2 miles in length, 150 feet wide and 12 deep. The Inner Harbor channel is approximately 100 feet wide with a five-acre anchorage area, both approximately 12 feet deep.

Dredging History

1975	8,680 cy	Sidecast dredge; ocean disposal
1985	25,000 cy	Beach nourishment (Kalmus Park Beach, Barnstable)
1991	42,000 cy	Hopper dredge; ocean disposal (offshore)

Future Projects:

Dredging is proposed for 1996 to deepen the harbor and channels to 13 feet to accommodate the newer, larger vessels serving the growing tourist economy. In addition, the ACOE plans to widen the channels and dredge a new entry channel off Dunbar Point to allow safer turning maneuvers. Contaminated sediments from the Inner Harbor will be confined within the existing entry channel and covered with clean material. Clean sediments will be distributed over public beaches and tern colonies in Barnstable, with the potential for beach nourishment on Hyannis Park, Yarmouth, beaches in return for public access.

STATE (DEM) DREDGING PROJECTS:

DEM - Waterways records indicate that their last Yarmouth dredging was Bass River and entrance channel completed in 1966.

A new Bass River dredging project is scheduled to begin next year. It involves the creation of a 100-foot wide channel to a depth of 6 feet below mean low water, extending 2.8 miles from the opening of Bass River to the route 28 bridge. In addition, 28 acres of anchorage would be created south of Marsh Island. The volume of material would be approximately 106,000 cy which may be used to replenish West Dennis bEach. The cost is anticipated to be \$900,000.

(See EM dredging records enclosed from 1924).

USACOE = United States of American Corps of Engineers
DEM = Department of Environmental Management
COE= Corps of Engineers

TOWN DREDGING PROJECTS:

Note: The following information was taken from Orders of Conditions issued by the Conservation Commission; actual completion unknown unless stated.

Bass River:

1978	5,000 cy sand	Ocean disposal (sidecast) (expanded in 1980 USACOE Notice to 14,500 cy, hydraulic; replenish 2,500' of W. Dennis Beach)
1979	Same as USACOE above;	nourish W. Dennis Beach
1983	9,000 cy	Nourish DAVIS Beach
1985	8,000 cy	Ocean disposal (sidecast)
1986	14,500 cy	Nourish Davis Beach (Order notes portion to be dredged was last dredged by State 1966 (see DEM records) and maintained by towns in 1980 and 1983)
1995	8,000 - 9,000 cy	Ocean disposal (sidecast) Note: dredging began approx. 7/1/95 per Conservation Administrator

Mill Creek:

1982	3,000 cy Old Mill Creek 4,800 cy New Mill Creek	Nourish Colonial Acres Beach Nourish Colonial acres Beach (Letter notes 1982 dredging was completed, but channel closed by 1983)
1984	1,800 cy Old Mill Creek 800 cy New Mill Creek	Nourish Colonial Acres Beach Nourish Colonial Acres Beach
1995	3,300 cy Old Mill Creek 1,000 cy New Mill Creek	Nourish Englewood Beach Nourish Colonial Acres Beach Note: Not yet completed; local approvals received; EIR required

Parkers River:

1978	3,000 cy	Clamshell; Ocean disposal (sidecast)
1980	1,500 cy	Nourish Seagull bEach
1983	15,000 cy	Nourish Seagull (7,500 cy)
1987	16,000 cy	Hydraulic; nourish Red Jacket Beach Note: Folder indicates that 9,000 cy material was disposed to Thachers, Seaview, Parkers River and Seagull Beaches in 1988-89)
1994	8,000 cy	Nourish Thachers, Seaview and Parkers River Beaches Note: Not yet completed. (10/11/95)

Appendix

Legislative Photographs



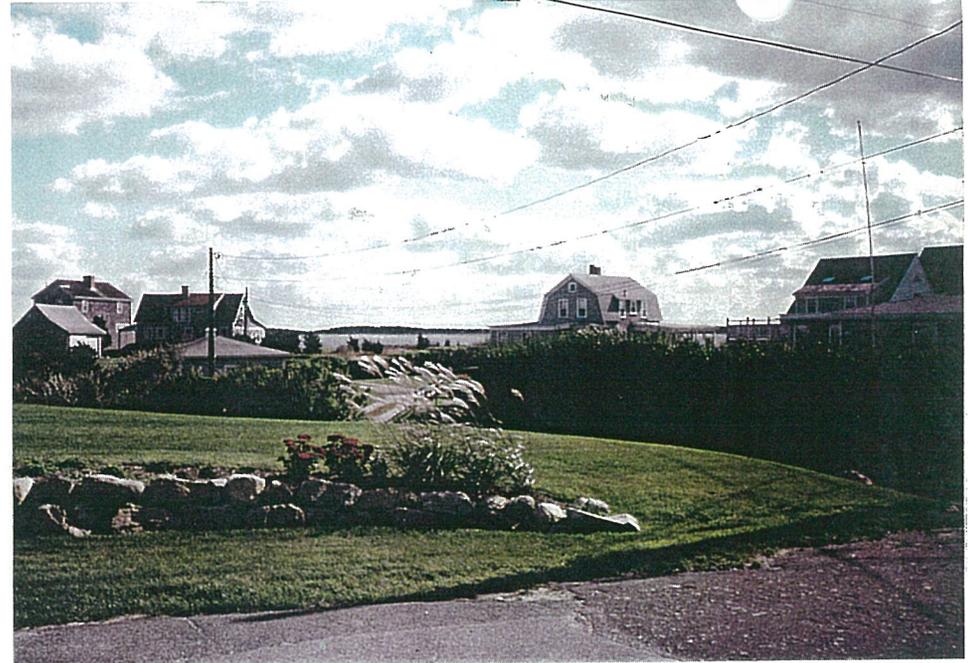
WINDMILL BEACH PARK

Great views; only public space on Bass River which could be made HP accessible very easily.



WHARF LANE

One of Yarmouth's most beautiful public access points!



VIEWSHED: Glenwood Street at
Park Ave
- toward public access point
- through privately owned land

VIEWSHEDS

Phragmites will totally block
views once it takes over



GRAYS BEACH/BASS HOLE

Boat Ramp, Parking Area,
Pedestrian Conflict



BASS HOLE

Area of dead salt marsh; taken
from boardwalk.



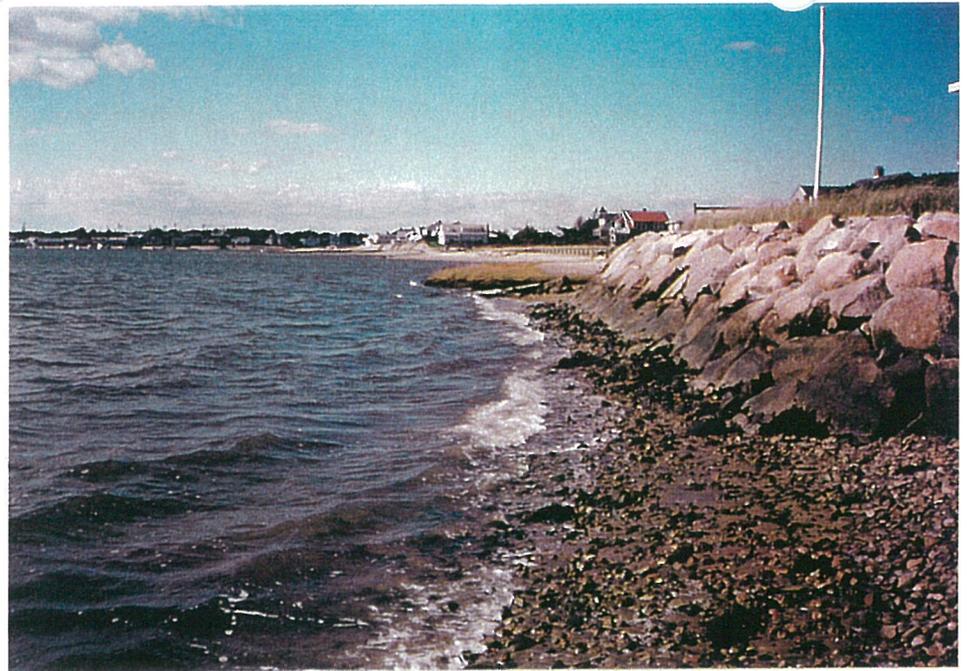
WILBUR PARK

Pedestrian/Boat Ramp Conflict
Serious erosion problems;
pedestrian access needs improve-
ment; revegetation critical.



COASTAL EROSION

Informal Pathways destroy veg.
Signage alone does not work
Fencing & educational signage are
needed



COASTAL EROSION

Salt Marsh @ Bass Hole
Stony beach below revetment, LBay
Eroding beach below revetment,
groins. Nantucket Sound



HP ISSUES

HP parking & no place to go
Shady gazebo with ramp, but no
HP parking

Fantastic HP restrooms with new
ramp that needs extension; no
HP parking



SEAGULL BEACH HP ACCESS:

Parking, Beach Ramp





SEAGULL BEACH HP ACCESS:

Beach Platform



SEAGULL BEACH HP ACCESS:

Restrooms are inaccessible

COASTAL RESOURCES
(Site Notes - Marth Horn)

COASTAL RESOURCES (Site Notes - From Martha Horn)

According to a 1985 CZM report, Yarmouth's coastal resources consist of:

Salt marsh		1,230.0 acres
Tidal flats		1,542.1 acres
Marine	1,065.3a	
Estuaries	476.8 a	
Barrier Beaches		212.5 acres
Barrier Beach Segments		12
Great Island		134.6 acres
	(21 st largest barrier beach in Mass)	

NOTES RE DAMAGED SALT MARSH

The salt marshes in the town appear to be extremely healthy except in two small areas; the reasons are not apparent, but could include: 1) changes in elevation due to wave action, scouring, etc., 2) changes in tidal flow/flushing, 3) ice damage, 4) waterfowl damage, 5) extremely localized pollution.

MILL CREEK ISLAND:

Whole island looks terrible; very spotty vegetation; several birds visible feeding during visit, including Canada geese.

GRAY'S BEACH BOARDWALK:

Large patch of salt marsh to the south of the boardwalk and partially underneath it is almost completely bare.

It isn't possible to compare the areas very well because you can see down on Gray's Beach salt marsh from the boardwalk, but can only look across Mill Creek Island from neighboring shore. Nonetheless, I think we would find that they're the same areas of bare mud punctuated periodically with the roots and broken stems of spartina and shellfish holes. There is no grass waving the grass is broken off at or just inches above the mudline. Aerial photography from 1989 was not helpful for Gray's Beach, but Mill Creek Island damage was visible.

Suggest reviewing on an annual basis to determine whether the areas expand, recede or stay the same. If expansion becomes a problem, professional advice should be sought. (9/16/95 MJH)

LEGISLATIVE PROTECTION54

COASTAL RESOURCES INVENTORY

LEGISLATIVE PROTECTIONS FOR COASTAL RESOURCES

WETLANDS PROTECTION BYLAW AND ASSOCIATED REGULATIONS:

Major Estuaries were identified in the "Water Resources Protection Study" prepared for the Town in 1988 and the Commission exerts jurisdiction within those areas over all land extending 300 feet landward or upgradient from the waterbody or its associated vegetated wetland, rather than the usual 100 foot buffer zone.

The Commission has established special requirements for docks and piers to ensure that sunlight to shellfish beds and grasses is not blocked; that navigation channels and moorings are not negatively affected by docks; that public rights of passage are maintained; and that shellfish beds are not destroyed or otherwise impacted negatively. Projects have been denied where the proposed project will disturb an established shellfish colony or poses a public safety problem.

Setbacks have established to prohibit all non-water dependent structures within fifty (50) feet of coastal resources areas, and to maintain a thirty-five (35) foot undisturbed natural vegetative buffer between all projects and resource areas.

The Commission has established performance standards for the resource area known as Land Subject to Coastal Storm Flowage within 300 feet of a Major Estuary to ensure that septic systems meet minimum standards and that new structures or additions will not unduly displace flood waters.

Coastal Watershed areas have been identified and established as Wetland Resource Areas, and performance standards prohibit underground storage tanks, landfills, stump dumps, septic leaching systems with capacities of 2,500 gpd, road salt storage, package treatment plants, impervious parking areas larger than 5,000 sq ft, and automotive and construction equipment repairs.

BOARD OF HEALTH REGULATIONS:

The Board of Health requires that the septic system for each property be pumped out or have a free inspection every four years. Automated systems are in place for property owner notifications and mapping of compliance and/or repair is ongoing.

ZONING BYLAW:

The objectives of site plan review include minimization of adverse environmental impacts on wetlands, floodplains and aquifer recharge areas, and minimization of obstruction of scenic views from publicly accessible locations.

The dimensional requirements include an "upland bylaw" provision; i.e., they require that 100% of the minimum lot size must consist of upland and may not include wetland resources area.

The parking regulations require that drainage facilities for each parking areas shall be designed and constructed to contain stormwater runoff on the premises.

In designated FEMA Velocity Zones, man-made alteration of sand dunes, use of fill for structural support and placement of mobile homes are prohibited.

RULES & REGULATIONS COVERING THE SUBDIVISION OF LAND:

Due regard must be shown for all natural features including water courses, scenic points, natural drainage areas, and similar community assets which, if preserved, will add attractiveness and value to the subdivision.

Each building lot in the subdivision is to be served by a sanitary disposal system not subject to inundation in the event of coastal flooding to five (5) feet elevation above mean high water. In addition, no Definitive Plan shall be approved unless each lot therein falling with A & V Zones will be served by water and sanitary disposal systems certified by the BoArd of Health to be so designed as to neither be impaired by, nor contribute to, contamination in the event of flooding to base elevations.

BUILDING DEPARTMENT:

All plans for docks and piers mus the signed and stamped by a structural engineer; certification from a civil engineer is not acceptable.

CONSERVATION RESTRICTION PROGRAM:

The Town has adopted a Conservation Restriction Policy and Program to protect environmentally significant privately held open spaces by limiting the future use of the land in order to retain it in its natural condition or its agricultural or forest use. The restrictions, also known as conservation easements, reduce the economic value of the restricted property and certain property tax savings accrue to the owner. The town's Conservation Commission or any suitable conservation organization is eligible to hold the restrictions.

At present the Yarmouth Conservation Trust holds restrictions on 30 acres at Green Hill Farm, 1 acre at Salt Box Beach and a 1.75 acre island in the Bass River. In addition, portions of Great Island are under restriction to the Trustees of Reservations, and the Conservation Commission holds a restriction on the Bass River Rod & Gun Club.

NATURAL RESOURCES DEPARTMENT:

Local bylaw prohibits the feeding of waterfowl within the town to discourage their concentration in large flocks and encourage normal migration. (10/9/95 MJH)

BIBLIOGRAPHY

(From the Martha Horn Report of 1997)

YARMOUTH COASTAL RESOURCE INVENTORY

BIBLIOGRAPHY

MAPS	DATE	SCALE	LOCATION
USGS	1974	1:25,000	Planning Library
FEMA FIRM Maps A & V Zones only	86 & 92	500 200	Planning Library Planning Library
Aerial Photography - townwide - color	1989	400	Engineering
Land-use mapping		1,000	Planning
Assessor Maps w/lots, structures, houses#, rivers, marshes, etc.	1993	200	Planning
Entire town street-tax map-Sewell flight	4/26/89	1,000	Planning
Plan showing outfall locations	1988+others	1,000+others	P. Montague
Topo map depicting watersheds - IEP	1988	1,000	Planning Library
Plan showing all mooring areas			
Plan showing navigation channels (Federal & local)			
Plan of all shellfish areas +1993 Shellfish Plan w/94 update	1995		Planning Planning Library
Harbor Management Plan			None
Endangered Species Mapping		1:25,000	ConCom
Shoreline change maps from CZM	1981		Copies-Planning
Coastal Wetlands Restriction Maps (aerials)	1981	1:5,000	ConCom
Barrier Beach Maps - CZM	1982	1:40,000	Planning Library

<u>DOCUMENTS:</u>	<u>DATE</u>	<u>LOCATION</u>
USACOE navigation surveys	1995 EIR	ConCom
Open Space Plan	1986	Planning Library
Waterfront Master Plan (Tidal Resources Element only)	11/17/94 draft	Planning Library
List of town-owned lots and easement w/access to shoreline	1992	Planning
List of tax-title lots w/access to shoreline	8/95	Planning
Seagull Beach Study USACOE	1988	Con Com
Coastal Watershed Inventory - IEP	1988	Planning Library
Guide to Yarmouth - New Businesses	none	Planning
Comprehensive Plan Update	4/95	Planning
Yarmouth Community Profile	93/94	Planning
Yarmouth - C of C brochure	95/96	Planning
What is the Cape Cod Commission	none	Planning
Annual Town Reports	Several	Planning
Septage Treatment Facility Info.	1993	Planning
Barnstable Local Comp Plan Draft	4/19/94	Planning Library
Local Efforts at Controlling Coastal Pollution	12/88	Planning Library
Barrier Beaches, Salt Marshes & Tidal Flats - CZM	1/85	Planning Library
Mass. Barrier Beaches o- CZM	12/82	Planning Library
Zoning Bylaw		Planning Library
Subdivision Regulation		Planning Library
Board of Health Regulations		Planning
Local Wetlands Bylaw		Planning
Conservation Restriction Guidelines		Planning

COASTAL RESOURCES RECOMMENDATIONS

IMPLEMENTATION

Cape Cod Commission Actions:

- A. The Commission will continue to assist, as needed and appropriate, in determining the needs for dredging and beach nourishment within the county and investigate the means to best satisfy such need.
- B. The Commission will coordinate with towns to provide disposal options for marine head waste.
- C. Commission will provide technical assistance to towns in addressing public access issues in their Local Comprehensive Plans.

Town Actions:

- A. Towns should designate “working waterfront” overlay zones along their shore-line to ensure the preservation and expansion of traditional maritime uses. Within these zones, boatyard preservation programs should be implemented. All new buildings or accessory uses constructed within this zone should directly benefit maritime-related uses.
- B. Towns should research and document public access areas to and along their shorelines, and where possible, reestablish and/or designate traditional rights-of-way to the shore through appropriate legal means.
- C. Towns should identify sensitive coastal areas where public access and development should be restricted in order to maintain the integrity of coastal features, and should take measures to protect these areas.
- D. Towns should develop harbor management plan in accordance with state guidelines and implement watershed zoning to protect coastal resources and prevent use conflicts on the water.
- E. Towns should identify and designate areas as federal No Discharge zones for boats in conjunction with state and federal guidelines.
- F. Towns should evaluate long term dredging and dredge disposal needs and alternative.
- G. In their planning efforts towns should evaluate areas appropriate for aquaculture. This evaluation should consider other uses, including mooring areas, recreational boating and others.
- H. The Town should continue mitigating of non-point pollution impacts to all coastal waterways.
- I. The Town should continue various shellfish propagation programs; create new aquacultural programs for shellfish.
- J. Continue design and development of marina at former drive-in site.
- K. Pursue acquisition and upgrade of Packet Landing facility
- L. Upgrade restrooms and snack bar at Bass River Beach.
- M. Continue study of Run Pond algae problem.

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Continue mitigation of non-point pollution impacts to all coastal waterways

Different types of coastal facilities that serve the public are needed now and in the future.

Town should designate "no discharge" zones for boats

Examine zoning conflicts with State and Cape Cod Commission policies in regard to watershed zoning.

Handicapped access to coastal facilities is in need of improvement.

Continue various shellfish propagation programs. Create new aquacultural programs for shellfish.

Upgrades to Board of Health Regulations:
- recommendations of 1988 IEP Report should be reviewed
- model by-law for single lot ANRs and subdivisions regarding nutrient loading calculations.

Invasive vegetation is entering the marsh system; coordinate mitigation plans.

Additional improvements to water quality are necessary; water quality studies for nutrients are now underway.

Identify areas where private docks and piers have limited access to recreational shellfish areas.

Pursue acquisition and upgrade of Packet Landing facility.

Continue design and development of marina at former drive-in.

A long range plan for coastal facilities improvements should be adopted and funded as soon as possible.

A town-wide harbor management plan for all waterways should be written and implemented as soon as possible.

A long-range plan for maintenance dredging of all waterways should be written, implemented, and funded as soon as possible.

Englewood Beach improvements, such as beach nourishment and a new bath house.

Expand and improve public access to water, wherever practical.

Upgrade existing restrooms and snack bar at Bass River Beach.

Continue study of Run Pond algae problem.

South Shore Drive and Seagull Beach Road need sidewalks.

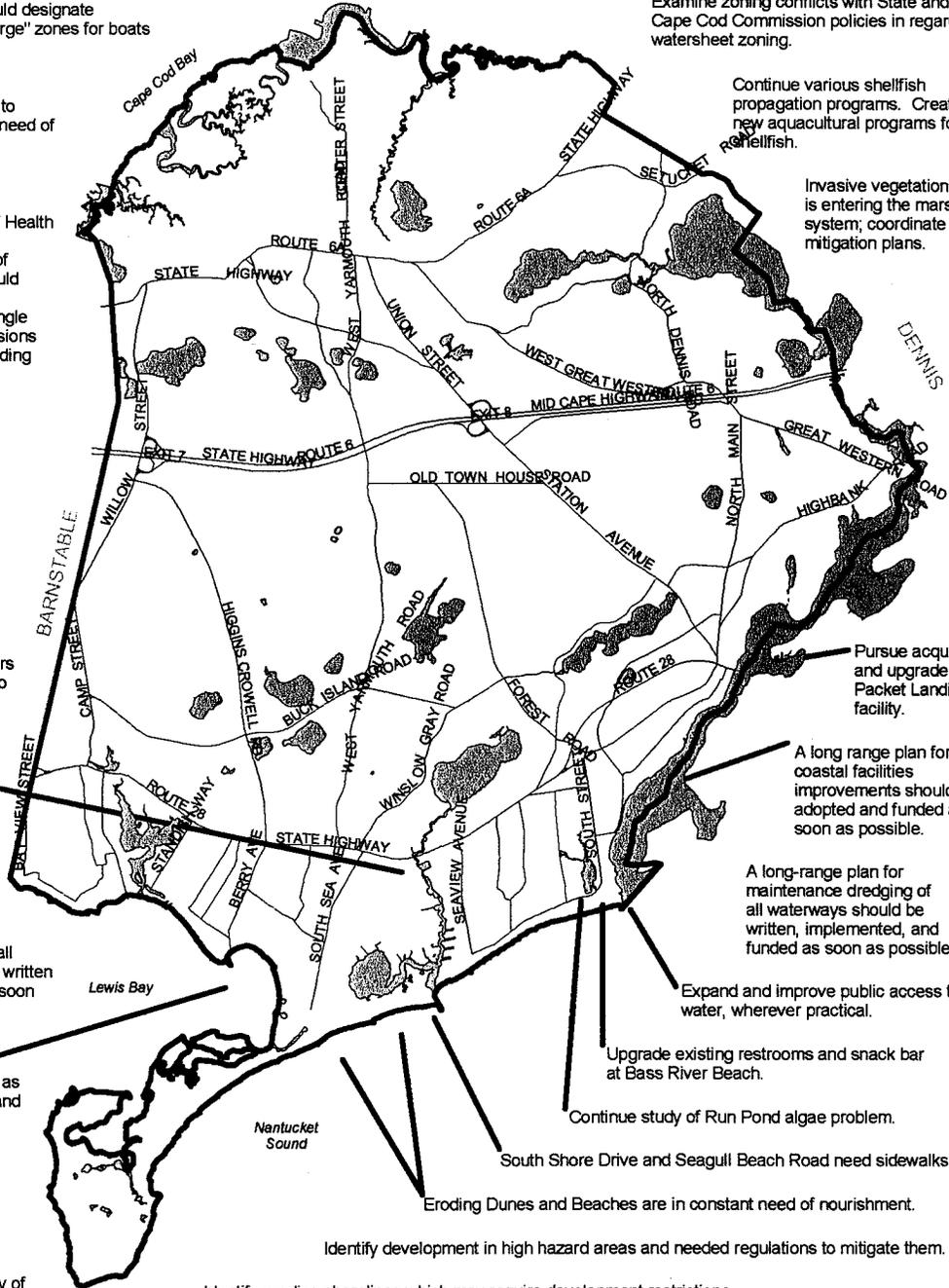
Eroding Dunes and Beaches are in constant need of nourishment.

Identify development in high hazard areas and needed regulations to mitigate them.

Assess the adequacy of commercial and recreational shoreline facilities to meet needs of water-dependent uses.

Identify eroding shorelines which may require development restrictions.

Town should designate "working waterfront overlay zones" to ensure preservation of traditional maritime uses.



TOWN OF YARMOUTH
COMPREHENSIVE PLAN

COASTAL RESOURCES - CHAPTER 7
APRIL 2002
RECOMMENDATIONS



