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1988

CAPE ELIZABETH, MAINE

HARBOR ADVISORY COMMITTEE

FINAL REPORT

SEPTEMBER 1, 1988

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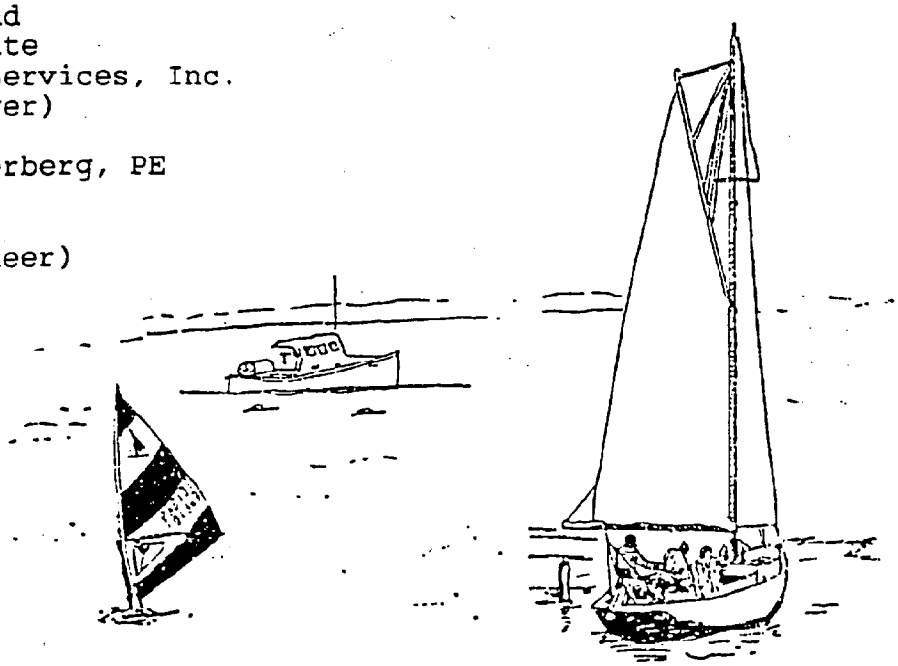

Maine Coastal Zone Management Program

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INTRODUCTION AND SUMMARY

INTRODUCTION AND SUMMARY

In October of 1987, the Cape Elizabeth Harbor Advisory Committee was established by the Town Council and asked to address various issues associated with the use of the Town's coastal areas. Since that time, the Committee has met on a monthly basis and has devoted the bulk of its attention to the following:

1. Solving the problems of managing Kettle Cove

2. Preparation of a harbor ordinance

3. Review of potential sites for additional public boat access

The Committee was fortunate to have the assistance of Governmental Services Inc. and TEC Associates, who not only assisted the Committee in its activities, but also prepared reports on the following, all of which are attached to this report:

1. A needs assessment for commercial fishing and recreational boating facilities in the Town;

2. Launch ramp alternatives in the Town;

3. Mooring standards and mooring plans; and

4. An analysis of shoreside issues as they relate to water use goals of the Town, together with proposed zoning changes.

Cape Elizabeth is experiencing an increased demand upon its public shorefront areas from various types of users, including boaters, beach goers, scuba divers, board sailors, picnickers and others. Recreational boating is projected to grow by at least 8 percent per year, with these boaters competing with commercial fishermen for moorings, parking and launching facilities.

Although the commercial fishing industry in Cape Elizabeth is modest in economic terms, it is important to the Town's character and the Committee believes it should be protected. The Committee also believes that with proper management, both commercial fishing, pleasure boating and other water-related uses can be accommodated in Cape Elizabeth.

In March, the Committee submitted its preliminary report, containing a number of recommendations for managing Kettle Cove. These recommendations were adopted by the Town Council and implemented during the summer of 1988, and as seen in the attached report of Police Chief David W. Pickering, went a long way toward solving many of the problems which the Town had experience at Kettle Cove in prior years. The permitting system recommended by the Committee has been successful, and as anticipated, has significantly reduced the number of cars parking on the beach. The system has also generated fees of nearly $2,000, which helps to offset the cost of the Kettle Cove program. The Town also received a $2,000 grant from the Department of Parks and Recreation to help fund the cost of the Kettle Cove program, and we anticipate that a similar grant will be available for at least another year.

In addition to focusing on solutions to the problems at Kettle Cove, extensive efforts were made to identify options for alternative boat launching facilities which would take some of the pressure off the Kettle Cove area. As is shown by the consultants' study on launch ramp alternatives, of the eleven sites studied, most were eliminated because of their limiting physical characteristics. This report also shows that in terms of technical feasibility, the best alternative is to improve the existing launch ramp at Kettle Cove. However, deed restrictions may prevent further development of this area and in any event, many people, including the Committee, are opposed to enlarging the site to accommodate increased use. The launch ramp report also shows that the second best alternative would be to construct a smaller ramp at Dyers Cove in the Two Lights area, and that a third alternative would be to build a small ramp at Route 77 on the Spurwink River.

The Committee, with the assistance of the consultants, has prepared and recommended the adoption of an extensive harbor ordinance which we believe will make it easier for the Town to accommodate and manage the increased boating activity in the Town.

Turning to shoreside issues, the Town should continue to work closely with the Bureau of Parks and Recreation to monitor activity at Crescent Beach State Park and its side effects on the Kettle Cove Area. Crescent Beach is the most heavily used State Park in Maine with nearly 300,000 visitors annually.

In other shoreside matters, the consultants in their report on shore side issues have recommended that the Town's shoreland zoning standards, its resource protection district and certain provisions of the general land use ordinance be updated. Most changes are simple housekeeping items to correct references that have become outdated by State changes. Other changes are need to

reflect clarity of purpose and recent state changes affecting state oversight of municipal actions, and to remove development possibilities which are undesirable but currently allowed (such as allowing marinas in the resource protection district).

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RECOMMENDATIONS OF THE COMMITTEE

RECOMMENDATIONS OF THE COMMITTEE

The Committee makes the following recommendations to the Town Council:

1. That the Town continue with the program described in the Preliminary Report and which was implemented this year at Kettle Cove, with the modifications suggested in Chief Pickering's report. The Committee does not agree, however, that the parking lot should be gated at night. The Committee believes the fee structure for boat launching permits should be modified slightly as follows:

   A. Resident Seasonal Pass - $10
   B. Daily Pass - $5
   C. No charge to persons who have paid a mooring fee for the current year.
   D. Non-resident commercial fisherman without a mooring to be entitled to a season pass upon payment of an amount equal to the non-resident mooring fee.

2. That the Town contact the Department of Parks and Recreation and request that a light be installed in the Kettle Cove parking lot as recommended by Chief Pickering.

3. That current commercial uses of Kettle Cove be permitted to continue.

4. That the Town continue to work closely with the Department of Parks and Recreation to monitor use and management of Kettle Cove and the impact of Crescent Beach State Park.

5. That the Town adopt the proposed Harbor Ordinance.

6. That the Town review and consider further the possibility of acquiring land and constructing some form of launching ramp at Dyer's Cove in the Two Lights area.

7. That the Town continue to seek greater public access to its shore and aggressively seek to acquire additional shorefront property for this purpose if it becomes available.

8. That the Town continue to monitor harbor management efforts so they can be modified and strengthened as needed.

9. That the Town consider the zoning changes suggested by the consultants.

10. That the Town adopt a mooring plan and mooring standards.

The balance of this report contains the recommendations of the Committee, a copy of the Committee's Preliminary Report, which has pretty much become the guide for managing Kettle Cove, Chief Pickering's report and recommendations regarding Kettle Cove, the consultants' reports, the proposed Harbor Ordinance and the suggested mooring plan and mooring ordinance.

The Committee hopes that this report will be helpful to the Town as it considers the many issues confronting it as demand upon its public shorefront areas increases.

Each member of the Committee is grateful for having had the opportunity to participate in this project.

Respectfully submitted,

CAPE ELIZABETH HARBOR ADVISORY COMMITTEE

By:_____
Bruce A. Coggeshall, Chairman

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COMMITTEE'S PRELIMINARY REPORT

COMMITTEE'S PRELIMINARY REPORT

CAPE ELIZABETH HARBOR ADVISORY COMMITTEE
PRELILMINARY REPORT

March 9, 1988

INTRODUCTION

The Cape Elizabeth Harbor Advisory Committee was established by the Town Council in October of 1987, and the following persons were appointed members:

Bruce A. Coggeshall
Gary Cummings
Richard Hall
Stephen Jordan
William Jordan
James Kerney
Frank LaTorre
John Maxwell
Thomas Skofield
Douglas Tinsman

The responsibilities assigned by the Council to the Committee were as follows:

A. To review and make recommendations concerning the Town's Harbor Ordinance.

B. To determine the adequacy of shoreline areas for moorings.

C. To develop a long-range plan for the Kettle Cove Area.

D. To examine potential sites for public boat access.

E. To review and make recommendations on Section 19-3-6 of the Town Ordinance relating to shoreline zoning.

F. To consider such other matters as the Town Council might request.

The Committee held its initial organizational meeting on November 19, 1987, and has met once each month since then. In addition, the Committee visited Kettle Cove on November 22 to view the area and to give some of the members a better understanding of the area and its facilities.

The Committee has found it necessary, due to time constraints, to assign priorities to the various responsibilities assigned to it by the Council and has decided that it should address the various issues in the following order:

1. Issues involving land side problems at Kettle Cove.

2. Examination of potential sites for public boat access.

3. Review of the adequacy of mooring areas and required revisions to the Harbor Ordinance.

4. Other matters

To date the Committee has focused primarily on the Kettle Cove land side issues, and in addition has selected a consultant who will be assisting the Committee primarily with boat access and mooring issues, and who will be preparing a mooring plan and mooring ordinance for the Committee's consideration.

The Committee has reached some conclusions on the Kettle Cove land side issues and submits this preliminary report dealing with those issues, with the hope that the recommendations of the Committee can be implemented in time to be in place for the 1988 summer season. The Committee intends these to be short-term answers to the Kettle Cove issues and is continuing to search for longer term solutions.

Kettle Cove Overview

Kettle Cove is the name generally given to the area between Crescent Beach and McKenney Point. The small coves within the area have a variety of names, depending on which chart one reads, but the two most common names for the coves within the Kettle Cove area are Stump Cove and John Cove.

The land at Kettle Cove is owned by the State and is part of the Crescent Beach State Park. The town owns a small acess to the water running from the westerly side of Ocean House Road to the beach at a location just northerly of the Kettle Cove parking lot. With the exception of Fort Williams, this is apparently the only Town-owned access to the water in Cape Elizabeth, and is the only public boat launching area in the town.

Historically, commercial fishermen have used the various coves and beaches at Kettle Cove for their fishing activities. In recent years, the area has seen increasing use, for commercial fishermen, pleasure boaters, scuba divers, beach goers, picnickers, and sail boarders and as a meeting place at night for teenagers. Because of the limited size of the area and the limited facilities available, there is an obvious need to strike an appropriate balance between the competing demands on Kettle Cove.

In approaching the Kettle Cove issues, the Harbor Advisory Committee adopted as its goal the following:

> "To attempt to arrive at a recommendation for a balanced use of the Kettle Cove area, giving due consideration to the various diverse and competing interests within the town, the availability of alternate facilities, the interests of abutting neighbors, the needs of Cape Elizabeth's commercial fishermen and the historical uses of the facility."

Having established this as its goal, the committee then identified what it believed were the major issues needing resolution and has made recommendations dealing with each of these issues.

Major Kettle Cove Issues

The major land side issues at Kettle Cove fall into four general categories:

1. Competition between commercial fishermen and pleasure boaters for use of the facility;

2. The availability generally of a launching area for small pleasure boats;

3. Parking; and

4. Supervision.

Each of these issues and the committee's recommendation is discussed below.

1. Competing Uses:

Commercial fishermen have for years launched their boats and brought their catch up at Stump Cove, which is the narrow gravelly area to the right of the parking lot as one enters. The area is small, with room at low tide for only one small boat, and at high tide, not more than two.

There is room to park four to six vehicles in this area close to the launch site. The fishermen need to back their trucks and trailers down to the water, unload their dingies and equipment, and then park their vehicles and trailers in the area. When the fishermen come back in, they need ready access to their vehicles so they can quickly get the catch up and out of the sun, into their vehicles and ultimately to market.

People with a variety of pleasure boats have also used Stump Cove as a launching area and for parking their vehicles and trailers once their boats are in the water. The complaint of the fishermen is that these pleasure boaters interfere with their coming and going through Stump Cove by being slow to get their boats and equipment in and out, blocking access with cars and trailers, and taking up the limited number of parking spaces adjacent to the launch area.

The committee recognizes the needs of both groups to use the Kettle Cove area for water access and believes that if the commercial fishermen and the pleasure boaters could get to the water at different launching sites, and if each could have their own separate parking area, many of the problems of the competing uses would be alleviated.

Accordingly, the committee recommends that the Stump Cove parking and launching area be reserved for commercial fishermen from Monday through Saturday from sunrise to 5 p.m., and that during this period all pleasure boats be launched from the beach which can be reached through the town-owned access. Only cars launching boats would be permitted on the beach, which would mean putting a stop to the practice of generally permitting cars to park on the beach.

Although it appears that most commercial fishermen use Stump Cove, some do use the beach and would continue to be able to do so, since the use of the beach by both commercial fishermen and pleasure boaters has apparently not caused the same problem as it has at Stump Cove.

The committee further recommends that appropriate signs be posted clearly designating Stump Cove as the commercial fishing area and the beach access as the area for launching pleasure boats, with enforcement by the parking lot attendant.

The committee also recommends that the town institute a permit system which would require anyone launching a boat at Kettle Cove to have either a commercial or pleasure boat launching permit.

An annual permit would be available at a cost of $10 to commercial fishermen fishing out of Kettle Cove and to residents owning pleasure boats, permitting the commercial fishermen to launch and park at Stump Cove as well as using the town-owned access to the beach, and permitting cars with pleasure boats to travel across the town-owned access for launching at the beach. It is suggested that daily permits also be available in limited numbers at the public safety building for $2.50 per day. The attendant would check to see that people using the Stump Cove and the beach launching areas have the appropriate permits, and refuse access to any cars without a permit.

As noted, the committee will be preparing a harbor and mooring ordinance for consideration by the Town Council. Included in the proposed ordinance will be provisions for mooring fees, and the committee believes that anyone having a mooring and paying a mooring fee should receive his lauching permit for free.

The committee believes that the level of mooring fees should bear some relationship to the cost of the town of providing mooring services, and that the fees should be set once the cost to the town is determined.

As a temporary measure, the committee recommends that mooring fees now be established at $25 bi-annually for residents and $100 bi-annually for non-residents, with the fee period running on a calendar basis. (The state statutes governing moorings permits the establishment of a non-resident mooring fee of up to five times the resident fee.)

Related to the issue of commercial versus pleasure boat use of Kettle Cove is the use of the area by scuba divers. It is the committee's recommendation that neither swimming nor scuba diving be permitted in either boat launching area and that these activities be restricted to the John Cove area, which is southerly of Stump Cove and which is the area most commonly used by scuba divers. Appropriate signage should be installed directing swimmers and divers to this area.

2. Parking problems:

The parking problems at Kettle Cove are threefold:

1. Cars parking in the Stump Cove area, as discussed previously;

2. Overcrowding of the existing parking lot; and

3. Excessive and unnecessary parking on the beach.

The committee believes the Stump Cove problem will be solved by restricting the area to persons with a commercial fishing launching permit. The beach parking problem will be greatly lessened if vehicle access to the beach is permitted only in connection with the launching of a boat and only for those with a launching permit.

The problem of overcrowding of the paved parking area can only be solved by better enforcement. Too many vehicles attempt to use the parking area during peak times and when all of the spaces are full, the cars are parked on the lawn, in the launching area, on the beach and wherever there is a vacant spot of land.

The committee considered whether or not it would be wise to attempt to enlarge the parking area or to construct an additional parking area. The committee concluded that the use of Kettle Cove is already too intensive and that enlarging the parking areas would only worsen the problem.

Accordingly, the committee does not recommend that the existing parking area be increased. What is recommended, however, is that approved parking areas be clearly marked, that the parking areas be supervised and that the parking rules be enforced.

3. Supervision and Enforcement

In order for things to work at Kettle Cove, there needs to be someone there to direct the boating traffic to the appropriate launching area, to check on launching permits and to enforce the parking rules.

The committee recommends that the town hire an attendant to be on duty at the Kettle Cove parking lot from 8 a.m. to 5 p.m. on weekends from Memorial Day to mid-June, and seven days a week from mid-June to Labor Day.

The role of this attendant would be to direct boat traffic, enforce parking regulations, enforce the permitting system and write tickets for cars illegally parked. The attendant should also be in radio contact with the police department and be able to call the police department if there is any problem at Kettle Cove.

The problem at night at Kettle Cove is of a different nature. The basic complaint is that teenagers hang around, drink, make a lot of noise, drive their cars up and down the beach and generally disturb the residents of the area.

There has been some discussion of putting up a gate at the entrance of the parking lot which would be closed at night to prevent cars from getting into the parking lot. The committee rejected the idea of a gate and thinks the problem can be better handled by stricter enforcement. There should be no parking permitted after dark without special permission from the police department and cars found in the area after dark should be ticketed.

Also, state laws against drinking in public places should be enforced. The committee feels that if the police department cracks down early in the season to get the message across as was done effectively a few years ago at Fort Williams, the problem at night will become manageable.

The committee also discuss the possibility of adding additional lighting at the far end of the parking lot and thinks this should be considered during the summer months.

Town vs. State Responsibilities

The committee has met with a representative of the State Bureau of Parks and Recreation, and the consultants have met with the director of the bureau in an effort to better define the respective responsibilities of the town and of the state regarding the establishment and enforcement of regulations at Kettle Cove.

The state has indicated a willingness to cooperate with the town, but there are some differences of opinion. For example, the state has indicated a preference for installing a gate at Kettle Cove and has asked that the town consider installing a gate or chain at its access to the beach.

The state has also expressed some concern over the town charging a fee for a launching permit, on the theory that only the state can charge for parking at a state-owned facility. The committee believes the fees can be justified on the basis that the permit entitles the beholder to drive across the town-owned access to the beach. The committee believes that these issues will be resolved satisfactorily through additional meetings with the state.

Summary of Recommendations

1. Designate the Stump Cove area as primarily for commercial fishing activities and the beach area for launching pleasure boats;

2. Adopt a permitting system for boat launching at Kettle Cove and require anyone launching a boat to have a permit;

3. Install appropriate signs at Kettle Cove with respect to boat launching and parking;

4. Hire an attendant to be on duty at Kettle Cove from Memorial Day to Labor Day to enforce parking and boat launching regulations;

5. Instruct the police department to more strictly enforce the rules at Kettle Cove; and

6. Establish mooring fees for the next two years at $25 for residents and $100 for non-residents.

4

REPORT OF POLICE CHIEF DAVID PICKERING

REPORT OF POLICE CHIEF DAVID W. PICKERING

KETTLE COVE

As you know, this was the first year that we assigned people to this detail. Although we got a late start in recruiting for these positions, I feel that Lee Pennel and Eric Brown have done a fantastic job for this area. I have spoken with a number of fishermen as well as representatives of the Harbor Advisory Committee who related that these officers' presence during the summer has alleviated most of the problems that were previously encountered.

The manner in which they handled themselves was exactly what we had in mind. Both officers were personable, mixing well with the locals and visitors alike. Their appearance was not at all threatening, yet they were equipped and readily identifiable as law enforcement officers. I have no doubt that their presence prevented many incidents that we've encountered in the past.

As examples:

1. Last year, we towed 10 vehicles from the no parking zone along Kettle Cove Road, (so called). This year, we didn't have to tow any as the officers had them moved as soon as they arrived.

2. Last year, road officers were continuously writing parking tickets for vehicles that were parked illegally but were not in tow away zones. This year, the reserve officers observed fewer parking violations and wrote fewer tickets. Additionally, when they did issue tickets, they were available to speak with the vehicle's owner and explain the parking ordinance and it's purpose which resulted in my handling fewer complaints in the office.

3. Last year, we had about 4 automobiles broken into at Kettle Cove. Thus far this summer, no vehicle has been burglarized or maliciously damaged while the reserve officers were present.

4. The beach parking, of course, was the catalyst for this detail. Last year, as you recall, we had more than 50 vehicles on the beach at various times throughout the summer. This year, the permitting system has worked well, (once we worked the bugs out), and, at most, only about 10 vehicles have been parked there, at any one time.

5. The permitting system has generated some off setting revenue. To date, Public Safety has taken in approximately $1,150. I would expect that year end revenues will be between $1,500 and $2,000. These monies do not include the revenue generated from mooring fees which, heretofore, have not been collected with any accuracy. This 'side benefit' of the permitting system should have generated considerably more revenue than in past years.

6. The commercial vehicle parking at Stump Cove has not been affected by unauthorized vessel launchings as in the past. This area is still crowded, but the vehicles are registered to be there and are more closely monitored than in the past.

7. Although I can't make a direct connection, we've had no reports of lobsters being stolen from their cars off shore. Nor have we had any reports of thefts of outboard motors or lobsters being taken by unconventional means, (scuba diving, spearing, etc.). I would like to think that our increased attention to this area has resulted in these findings.

8. The problems encountered after the reserve officers leave is another matter. It was my intention to utilize the reserve officers in the evenings when they did not work during the day due to inclement weather. However, the summer has been fantastic, weatherwise, and we have only been able to use them on three weekend nights to help curb the problem of drinking, squealing tires, and other disruptive behavior.

9. Although the reserve officers have not been required to make any arrests this year, they did issue several summonses, mostly for traffic infractions that has helped maintain a safe, orderly traffic flow.

SUMMARY AND RECOMMENDATIONS

1. The Kettle Cove detail should be continued as part of a consolidated, part-time reserve officer program, (explained below).

2. The same "low key" police presence should be maintained during this detail.

3. More durable and more visible 'seasonal parking permits' should be purchased next year. This year, permits tended to weather and fall off the windshields.

4. A more flexible schedule should be investigated for another season as many days, particularly in early summer, do not warrant day long coverage. The officers would be better utilized in the parking lot at night.

5. A different type of gate system should be installed at the beach access. The present cable system has been cut several times this year.

6. The parking lot should be lighted at night, (at the very least), by vandal resistant incandescent lighting. At best, the lot should be gated with a suitable turnaround area. The gate should be maintained by State Parks people. Keys should be provided for any one using Stump Cove as a commercial launch sight.

DESCRIPTION OF SHORELINE

DESCRIPTION OF THE SHORELINE

The Cape Elizabeth shoreline extends 15 miles from the Spurwink River, which forms the town's southern boundary with Scarborough, to the town's northern boundary with South Portland, just above Maiden Cove. From the sea, Cape Elizabeth is a highly visible and unusual landmark for mariners, as the following explains:

> "Geographical Cape Elizabeth in its configuration, elevation and appearance, is in many respects one of the most remarkable points on the coast of Maine. It juts out several miles beyond the general line of the coast and marks a distinct change in the direction of the coastline. As far as the Cape the coast runs northerly and beyond it, turns more to the eastward. It also marks a distinct change in the general nature of the coast. To the south of Cape Elizabeth, long, low sandy beaches are often found among the rocky necks and spits; however, to the northeast, these sandy beaches generally disappear, and it becomes predominantly rocky cliffs, necks and islands." [William B. Jordan, Jr., A History of Cape Elizabeth, Maine, Heritage Books, 1987, p 1. (reprint)]

As can be seen, Cape Elizabeth is essentially a transition zone between the sandy beaches of southern Maine and the craggy inlets and islands of Casco Bay to the north and east.

On Cape Elizabeth's southern coastline, sandy beaches and undeveloped land predominate. Development on the southern end of the coastline is far less dense than the northern end because of large tracts of privately owned land, state parks and the town-owned Spurwink Marsh.

As the coastline moves east before bowing to the north, small inlets, forebodingly exposed to the northeast, carve the landscape. Small coves and steep cliffs characterize the shore at it moves north to the South Portland line. Land side development increases in density as it moves toward Cape Elizabeth's northern boundary.

6

HISTORY OF SHORELINE

HISTORY OF THE SHORELINE

Cape Elizabeth was originally part of a larger community which included the present day Falmouth, Portland, South Portland and Cape Elizabeth. In 1765, Cape Elizabeth and South Portland became an independent town, and in 1895, South Portland separated from Cape Elizabeth.

The local shoreline has experienced diverse maritime activities in its history. Its heritage includes fishing, shipbuilding, military exercises, and a variety of passive uses related to tourism and recreation.

Early explorers sailed near the Cape Elizabeth coast. Cape Elizabeth is considered to be the "cabo de muchas islas" (cape of many islands) designated on 16th century Spanish maps. In the early 17th century, Samuel de Champlain provided one of the earliest descriptions of the area. A European fishing operation based at Richmond Island in 1632 is considered the earliest recorded settlement in the Greater Portland area.

Early settlers of Cape Elizabeth included subsistence farmers and fishermen. In the early 19th century, Seal Cove, which includes what is now known as Kettle Cove, was an active commercial fishing area. By 1835, Cape Elizabeth was well-established as an excellent location for outings and summer visitors (a little too established for some folks - a special town meeting in 1836 passed resolutions deploring Sunday revelry which upset church services).

The 1800s also witnessed the arrival of cottage colonies, social club outings and large vacation hotels. Describing the resorts, a local historian observed:

> "This was life at its best, sophisticated living in an unhurried age that vanished with the great war." (Jordan, p. 160)

All has not been pastoral on the Cape Elizabeth shoreline, however.

From the earliest days, the Cape Elizabeth coast, with its ledges, has been an adversary to ships using Casco Bay and Portland Harbor. The list of area shipwrecks is a long one. The construction of Portland Head Light, the first lighthouse built on the Maine coast, was a major step towards safety.

Such precautions continued throughout the 19th century:

* The erection of twin lighthouses on the ridge between Staples Cove and Dyer's Cove - the famed two lights now incorporated into the name, "Two Lights State Park;"

* Construction of the Richmond Island Breakwater, an attempt at providing a safe harbor in the area;

* The marking of various hazardous underwater ledges not visible to mariners;

* The opening of the Cape Elizabeth Lifeboat Station, now a U.S. Coast Guard facility, at Dyer's Cove; and

* The creation of Fort Williams (originally called "The Battery at Portland Head") to protect the entrance to Portland Harbor from military incursions.

Major activities in the 20th century have included efforts to restore coastal land available for public use. The increased suburbanization of Cape Elizabeth rapidly reduced the ability of the public to use the town's shore areas. By the late 1940s, the situation was considered serious. In the 1950s, the state acquired land for both Two Lights State Park (at a cost of $67,000) and for Crescent Beach State Park (at a cost of $280,000).

In the 1960s, the state acquired the Kettle Cove area for one dollar from the Fine, Truesdale and Woodsum families, and the town acquired Fort Williams from the federal government at a cost of $200,000.

Many citizens of Cape Elizabeth opposed the creation of the state parks because of the local expense in road building and police enforcement, and increased traffic.

Today, Two Lights and Crescent Beach are among the most heavily used recreation sites in Maine. According to the Maine Bureau of Parks and Recreation, Crescent Beach has more visitors than any other state park facility, approaching 300,000 users.

A recent study concluded that Cape residents are generally satisfied with the parks, although some attention must be given to the amount of traffic they generate (Thomas Handel, Impact of Crescent Beach and Two Lights State Park on the Town of Cape Elizabeth, conducted for Town of Cape Elizabeth by the University of Southern Maine's Public Policy and Graduate Program, 1986).

In recent years, the Kettle Cove/Crescent Beach area has become used increasingly by board sailers, SCUBA divers, as well as recreational boaters. The area known as Seal Cove, which includes Kettle Cove and Crescent Beach, is described as a "not to be missed" anchorage for transient boaters travelling up and down the coast of Maine (Hank and Jan Taft, A Cruising Guide to the Maine Coast, Camden: International Marine Publishing Co., 1988 pp. 46-47).

Most recently, the Town Council voted to have the U.S. Fish and Wildlife Service manage 158 acres of the town-owned Spurwink Marsh.

NEEDS ASSESSMENT - WATER DEPENDENT USES

COMMERCIAL FISHING

RECREATIONAL BOATING

COMMERCIAL FISHING

This section provides an explanation of commercial fishing in Cape Elizabeth, including a general overview of the industry's place in the local economy and way of life, and an assessment of industry needs. Information for this section comes from local fishermen who served on the Harbor Advisory Committee, the harbormaster, the National Marine Fisheries Service, studies regarding Maine ports, licensing information from the Department of Marine Resources and the 1980 Cape Elizabeth Comprehensive Plan.

Overview

Cape Elizabeth is not a major commercial fishing port. However, commercial fisheries are an important part of the community's way of life.

Of the 92 moorings currently granted by the town, 57 (62 percent) are used by commercial vessels. Some of the commercial users consider themselves full-time commercial fishermen. The remainder are part-timers who use lobster fishing as a second job, a moderate income producer to supplement retirement, a summer job, or recreation.

A further illustration of the industry's role in Cape Elizabeth are state commercial fishing licenses. State records show that Cape Elizabeth residents hold approximately 30 groundfish licenses and approximately 95 lobstering licenses. There are a number of commercial fishermen and lobstermen who reside in Cape Elizabeth, but fish out of other ports, such as Portland Harbor.

In short, despite Cape Elizabeth's reputation as an affluent Portland suburb, the town continues to provide, at least in part, the experience of a traditional coastal village. Historically, portions of the citizenry are accustomed to having the ocean frontier and an open access fishery close to their front doors.

The number of full-time lobstermen has remained stable in recent years. The number of part-timers has grown significantly since 1978, however.

Fourteen commercial boats were moored in Kettle Cove in 1978. Today, there are 46 commercial boats in the Kettle Cove/Crescent Beach area.

The lobster fleet generally fishes within a three-mile area off-shore from Cape Elizabeth, between Saco Bay and Casco Bay. Full-time fishermen fish an average of 110 days a year.

Because Cape Elizabeth is a small commercial port whose landings are generally marketed through Portland, the National Marine Fisheries Service does not keep statistics on the economic impact of the fishery in the community. However, as indicated by the number of full-time and part-time fishermen in Cape Elizabeth, the industry is obviously important financially to dozens of families, and plays an on-going, if limited, role in the local economy. It is recommended that commercial fishermen be allowed to continue their historic use of the Kettle Cove and Crescent Beach area for activities relating to their work.

NEEDS

In many ports, lobstermen can drive a truck on to a pier providing equipment and services. Traps are loaded or unloaded with relative ease, thanks to hoists, and the availability of fuel is just a few feet away.

In Cape Elizabeth, lobstering is not so convenient.

It is not unusual for a Kettle Cove lobsterman to purchase bait in a barrel, load the barrel on to his truck, drive the truck to the parking lot, load the bait from the barrel to a plastic tote, carry the tote to a skiff, row the skiff to his vessel, and load the bait on to the boat.

While fuel is easily obtained, the lobsterman must carry the necessary gallonage in cans aboard his truck in order to transport it from the fuel dealer to the boat.

The benefits of operating out of Kettle Cove include the proximity of the workplace to one's home and the maintaining of kinship ties with other local lobstermen.

The costs of operating out of Kettle Cove involve competing with the recreational demand for use of the parking lot and launch ramp, congestion in the mooring area and problems of security regarding one's boat and stored catch.

An interest in new commercial facilities is not an issue in Cape Elizabeth, however.

The possibility of new fishing facilities are limited because of the geographic constraints of Cape Elizabeth's coastline. If a new facility was constructed at Kettle Cove, it may attract more users, thereby worsening the congestion issue. Furthermore, a new facility probably isn't feasible given the restrictive deed arrangement on the Kettle Cove property.

The most pertinent issue for commercial fishermen at Kettle Cove is access to the existing facilities. This issue is dealt with in depth in the Harbor Advisory Committee's preliminary report.

One fear expressed by the fishing industry representatives on the harbor advisory committee is that the cost of housing in Cape Elizabeth may eventually lead to fewer fishermen being able to afford to live in town. In turn, the amount of fishermen who make their living off Cape's shores would be reduced.

The affordability issue relates to information in Cape Elizabeth's 1980 Comprehensive Plan, which states "The Planning Board has stated that one of its goals is to have a population with a 'heterogeneity of incomes, social and cultural groups, occupations, ages, etc.' This is clearly impossible in the present situation, with the majority of housing consisting of expensive single family homes." (p. 4)

Thus, the affordable housing issue not only affects community diversity, it also affects the future of the small, commercial fishermen who lives in Cape Elizabeth and fishes out of Kettle Cove or other mooring areas.

PROSPECTS FOR THE FUTURE

Housing affordability issues aside, the future of the lobster industry in Cape Elizabeth is much the same as that of the industry in the state as a whole.

Statewide, lobster landings have recently been recovering from relatively displaced levels of the mid-1970s. Landings in the early 1980s returned to approximately the same level as the early 1960s, although a decline has been occurring since 1982. The level of fishing effort has been steadily increasing since the 1960s: nearly four million traps are now employed to catch what two million traps caught 25 years ago.

This is partly due to more trap intensive methods of fishing, in which more traps are placed in order to establish territories, and partly as a result of the tendency toward overharvesting in all fisheries.

In any event, harvesting and natural mortality take a combined 90 percent of a given year class of the fishery during the first year of exposure to fishing. Fortunately, the amount of recruits which have entered the fishery appear to have remained more or less constant (+-20%) over the past decade or so.

Looking at the fishing industry as a whole, all of Maine's fisheries experienced rapid expansion during the late 1970s, in response to the 200-mile limit. Despite losses in clam and worm harvesters, fish harvesting in Maine grew from about 4,000 fishermen in 1980 to 7,000 in 1985. The 1984 World Court decision on the U.S./Canada maritime boundary excluded Maine and other U.S. fishermen from the rich northern third of the Georges Bank in the Gulf of Maine. This exclusion and the resulting surplus in Maine groundfish harvesting capacity suggests that fisheries employment will see at least a moderate decline over the next decade, as the industry adjusts to changed market and product supply conditions. The State Planning Office expects overall employment in the industry to decline from its 1985 estimate of 7,000 to 6,000 by 1995, a decline of 14 percent.

The data suggests that the number of full-time Cape Elizabeth lobster fishermen will remain relatively stable. Less certain is the future of part-time lobstering, although with available mooring areas reaching capacity, Cape Elizabeth probably won't experience the large growth in part-timers that has characterized the last 10 years or so.

RECREATIONAL BOATING

The primary recreational impact on the coastal waters of Cape Elizabeth is recreational boating, although other activities such as swimming, beach-going, hiking, scuba diving and sail boarding are also occurring. Recreational boating was investigated specifically because it is clearly a growth-oriented activity with substantial impacts on Harbor capacity and parking.

Information for the market assessment of recreational boating was obtained through interviews with the current and past harbor masters; state recreation officials and harbor masters in other ports; a 1987 survey of boating activity in other ports, conducted by GSI; and market information from previous boating studies and boating trade organizations.

Overview of demand

Currently there are 771 boats registered in Cape Elizabeth. The types of boats include:

* Pleasure - 699
* Commercial fishing - 67
* Rental - 4
* Other - 1

An investigation of local registrations over time has not been compiled because of difficulties resulting from when record-keeping reverted from the state level to the town level several years ago. However, the State of Maine averaged an increase in boat registrations of about one percent annually in the early 1980s.

Currently, Cape Elizabeth grants 92 moorings, up from an estimated 75 in 1985. Fifty seven of the moorings (62 percent) are commercial fishing boats. In addition, not all moorings represent separate individuals. Some people control between two and five moorings each.

In the 1970s, Cape Elizabeth granted about 20 moorings. It is safe to say that the number of moorings has probably more than tripled in the last 15 years, with an increase of 22.6 percent in the last three years (resulting in an estimated annual increase of 7.5 percent). For the first time, the harbor master has more requests for moorings than space available, and has begun compiling a waiting list.

In addition, anecdotal reports confirm that dozens of people launch their boats at Kettle Cove and off Crescent Beach on peak weekends.

The growth in boating demand parallels boating growth statewide.

In 1987, Governmental Services Inc. conducted a survey of 10 Southern Maine and Mid-Coast marinas and interviewed several harbormasters as a way of determining boating growth and demand for use of ramps, moorings and slips.

The marinas responding to the survey reported they had added between five and 39 additional moorings or slips since 1982. Two expected to add at least 25 over the next few years. Waiting lists at many marinas run from 50 to 200 people. Some of the respondents said if they had either the room or permission from local authorities, they could add an additional 100-250 slips. One state-built boat-launch and parking facility which was built only a few years ago to accommodate 75 on peak weekends now meets that number regularly.

The nearest boating facilities to Cape Elizabeth which can accommodate substantial numbers of users are in Scarborough to the south and Portland Harbor to the north.

Scarborough Harbor is currently at capacity for moorings, with all of the approximately 60 taken. Town officials are currently making plans to expand parking and improve the area for commercial fishermen.

Use of Portland Harbor by boaters is as dramatic. The number of slips at marina facilities has grown to more than 800, nearly tripling the number available in 1980. South Portland maintains a high-quality public boat launch and parking facility which provides good access to Portland Harbor for trailered boats. In addition, Portland has made substantial improvements to its public launch/parking facility at East End Beach. Like other transient facilities, the Portland and South Portland facilities are used heavily during peak periods.

The most recent berthing study of the Greater Portland region was conducted in 1983 for the Greater Portland Council of Governments. That report estimated that demand for recreational facilities would increase 2-to-8 percent annually through the end of the decade. However, local officials have estimated that the growth rate may be as high as 20 percent annually in certain areas for the last couple of years.

Market Factors

There are several ways to assess boating demand, from using national models which rely on ownership-to-population ratios or demographics and income statistics, to compiling information about uses of similar facilities in other communities. The experience of other communities has already been explained. This subsection focuses on the other methods.

On a national scale, according to the National Marine Manufacturers Association, boating participants represent 23 percent of the population, and boat owners represent 20 percent (or one in five) of the participants.

If the 699 recreational boats in Cape Elizabeth represent one fifth of the participants, then total participants would be 3,495 (5 X 699), or 42.6 percent of the estimated population of 8,200. This is well above the national average.

A key factor in determining boating growth is household income. A 1981 survey of boat owners by the National Marine Manufacturers Association determined that the typical boat owner was a 35-44 year old male, with children and a working spouse. Typically that person bought a 15.8-foot boat, motor and trailer for under $5,000. Of course, the change in buying power of the dollar since then would place that cost over $5,000.

As incomes grow, more people move into an income bracket allowing them to afford a boat. According to the 1980 census, Cape Elizabeth's median income was $24,014, the highest in Maine for an organized community. In a state where recreational boating is experiencing rapid growth along the coast, Cape Elizabeth ranks high among communities with a population most likely to own boats.

Another determinant in boating growth is federal tax law, which permits certain vessels to be treated as second homes, thereby creating tax breaks for the owner.

The caviat in this strong growth scenario is that boat purchases are tied directly to discretionary spending which in turn is related to the overall health of the national economy. According to Prudential-Bache Securities, personal expenditures nationwide on boats in 1986 was up 97.3 percent over 1985. In 1987, the figure dropped 57.4 percent from 1986. Other observers of the industry, such as the marina and boatyard management program at Maine Maritime Academy, continue to see boating as a growth industry, with an estimated $17 billion spent on boating nationally in 1985.

Future Boating Demand

The are several methods for assessing future boat demand: Projecting local boat ownership in general; chronicling the historic growth in demand; and referring to past studies of boat demand in the region.

Models for projecting local boat ownership are shown below. The charts compare 1988 with 1995. The column headings compare population, number of boats, number of boating participants, estimates of boat increases and estimates of percentage increases, both for the entire time period and the projected annual rate. As stated earlier, boat owners represent one-fifth of boating participants.

* The 1 Percent Rule: This projects ownership by using the average 1 percent annual growth in boating that Maine experienced in the early 1980s.

1% Rule

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	8200	699	3495			
1995	9522	748	3740	49	7%	1%

* The Current Ratio Rule: This projects ownership by estimating that the percent of boating participants in Cape Elizabeth will remain at 42.6 percent of the population.

Current Ratio Rule (42.6%)

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	8200	699	3495			
1995	9522	811	4056	112	16%	2.3%

* The 34.3 Percent Rule: This projects ownership by the rate at which boat ownership increased nationally in the 1970s.

34.3% Rule

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	8200	699	3495			
1995	9522	867	4335	168	24%	3.4%

The above models show that overall boat ownership in Cape Elizabeth is projected to increase at an annual rate of 1-to-3.4 percent over the next seven years. It is important to emphasize that the figures do not project usage of a specific facility. They merely show that overall boat ownership will increase, with the understanding that most people look for boating opportunities close to home. In addition, most boating observers consider the range low, particularly in light of the rapid boat growth in southern Maine.

Thus, the actual figures and the Greater Portland Council of Governments study take on more importance.

Actual figures, based on mooring increases over the last three years, show that demand for boats 15 feet and over (those most likely to use coastal facilities or require moorings) has increased 22.6 percent over the last three years (75 moorings in 1985 to 92 moorings in 1988), or an estimated annual rate of increase of 7.5 percent. The numbers correspond to the 1983 berthing study by the Greater Portland Council of Governments, which projected annual increases in the late 1980s of up to 8 percent.

In summary, while models showing overall boating demand show Cape Elizabeth experiencing a moderate 1-to-3.4 percent annual rate of increase, actual experience and the Council of Governments study indicate that the town's increase is at least more than twice that amount.

Issues

Among the major issues resulting from the growth of recreational boating are:

1. The capacity and technical feasibility of Cape Elizabeth's coves and harbors to handle more moorings or launch ramps;

2. The availability of parking, including space for trailers.

3. Congestion in the harbors and coves, with its related challenges to harbor management.

Recommendations for managing recreational boating demand and providing boating facilities are addressed in the chapters, "Management of Kettle Cove," and "Strategies for Improving Boat Access."

STRATEGIES FOR IMPROVING BOAT ACCESS

8

LAUNCH RAMP ALTERNATIVES

MOORING PLANS

MOORING STANDARDS

LAUNCH RAMP ALTERNATIVES

The Town of Cape Elizabeth has no municipal pier, and most of the property which abuts the coastline is either privately owned or technically unfeasible for pier construction, making public boat access to the waterfront very limited. In terms of general access, the Town does own a stairway down to the water near the South Portland line. It also has rights to the water through the State owned land at Kettle Cove and Town owned land abutting the beach next to the Coast Guard Station at Two Lights. The general public also has access to the water through the State-owned Parks at Two Lights and Crescent Beach and at the Town-owned Fort Williams, as well as at several much smaller areas along the coast.

However, the Cape Elizabeth coastline is most inhospitable, (this is particularly true at Fort Williams and Two Lights State Park); consequently, access to the moored boats or launching of small boats is limited to beach areas.

Without spending enormous sums of money for breakwaters or other massive structures, the possibility of constructing any kind of a Municipal Pier is just about nil. The only avenue left to explore for improved access is more efficient use of the existing beach lands through boat launch ramps.

Sites for boat launch ramps do have specific criteria which must be satisfied if a ramp is to be successful. These include:

1. Relatively protected waters which have little or no wave and wind action.

2. Ability to construct the ramp at a slope between 10 and 15 percent.

3. All tide access to water at least three feet deep.

4. Stable soils which will both support the structure and be resistant to erosion.

5. Sufficient shoreside area for maneuvering and parking of trailers and towing vehicles. For high volume launch ramps, there should be parking for about 30 tow/trailer rigs per launch lane. For lower demand ramps, an area of about one acre parking per launch lane is acceptable. Any parking for tow/trailer rigs should be within 600 feet of the ramp if at all possible.

6. Launch ramp lanes should be a minimum of 15 feet wide and preferably up to 20 feet wide.

7. There should be some mechanisms for the temporary storage while the boat is afloat and the trailer is either being brought to a parking area or returned to the ramp for boat retrieval. Temporary boat storage, on the ramp itself, erodes launch ramp capacity.

At Cape Elizabeth, a number of locations were reviewed by the consultant engineer, for new or improved boat launch ramps. These sites included:

1. Cliff House Beach (near the South Portland line)

2. Maiden Cove

3. Fort Williams

4. Zeb's Cove

5. Trundy Point Beach

6. Peabbles Cove - North and South

7. Hannaford Cove

8. Dyer's Cove (Two Lights)

9. Kettle Cove/Crescent Beach Area which includes Stump Cove, John Cove, etc.

10. Spurwink River - 2 locations

None of the sites were perfect; however, the Stump Cove Beach most nearly met the physical requirements for the ramp itself, from a water point of view. In an effort to fully explore the possibilities, the committee recommended that the consultant contact Mr. Richard Skinner of the Maine Bureau of Parks and Recreation, the state's expert on boat launch ramps.

On April 26, 1988, Mr. Skinner reviewed the locations affording the greatest promise with the consultant engineer. These sites included:

1. Fort Williams

2. Dyer's Cove (Two Lights)

3. The Kettle Cove/Crescent Beach Area

4. Spurwink River

Mr. Skinner concurred with the consultant engineer's assessment of the possibilities and only Dyer's Cove, Kettle Cove, and the Spurwink River remained as possible locations. The others were rejected for the following reasons:

1. Cliff House Beach - The approach from the road to the water is too steep and there is no available parking area. This is one of the few areas that might be considered for a Town Pier if a parking area was available. A pier at this location would have to be a very expensive, massive structure capable of protecting small boats from storm winds out of the easterly quadrant. No improvements at this location would be cost effective today.

2. Maiden Cove - The beach is too flat for a good ramp, but even if a ramp could be constructed properly, the only access to the beach is over private property and there is no area available for parking. The potential cost to obtain sufficient land for access and parking make the cost to develop this site extremely prohibitive.

3. Fort Williams - There is a remote possibility that a ramp could be built at Ship Cove within the park; however, it must be rejected for three reasons.

A. First, except on rare occasions, there is constant wave action at this site under almost all wind conditions, requiring exceptionally skilled mariners for the launching or retrieval of boats.

B. Second, at this location, foundation conditions for any structure are extremely difficult. The beach itself is composed of relatively unstable sand and unstable rounded beach stones. On each side of the cove there is ledge rock and large broken stones which could provide good structural support, but would be very damaging to boats if any navigational errors were made. The site is further complicated by the installation of an off shore utility cable which extends off the beach.

C. Third, the cove is open to the destructive forces of major Northeast storms. Any structure built at Ship Cove is not expected to have an extremely long useful life.

4. Zeb Cove - This site is surrounded by private property and is open to the most destructive northeasterly storm conditions. The cost of the land plus the exposure to adverse weather conditions preclude development of a ramp here.

5. Peabbles Cove, Trundy Point Beach, and Hannaford Cove all suffer under the same problems at Zeb Cove, (ie. private land costs plus adverse weather exposure). Surprisingly, during one of the visits to Trundy Point Beach, the weather conditions were such that boat launching would have been quite practical; however, with return visits, the good conditions proved to be the exception rather than the rule.

6. Dyer's Cove (Two Lights) The ledges to the east of the beach at this cove do offer a small degree of protection from wave action. Under summer conditions with fair weather and prevailing westerly winds, it would be quite practical to launch small boats at this site. However, under storm conditions with northerly and easterly winds, a launch ramp would be unusable. At one time, the Coast Guard maintained a concrete ramp at this site which failed structurally because of erosion. The cove is punished severely by winter storms and the ramp slope would have to conform to the existing slope of the beach if it is going to stay in place. In all probability, the lower sections of this ramp should be the typical, sectional, precast, concrete slab construction used frequently here in Maine. Where the ramp approaches the top of the beach and the banking to the parking lot, it would be necessary to continue the ramp at the same beach slope, but as a cast in place, reinforced, concrete structure. This portion of the ramp would require deep side walls and protection from erosion to prevent a failure similar to that of the Coast Guard Ramp. Because of the severe conditions during northeasterly winds, it is not recommended that any sort of a float system be installed for temporary boat tie up.

At present, there is a small parking area at the end of Two Lights Road; however, this is normally quite well used in the summertime and cannot be considered adequate for boat launch ramp parking. All of the additional land adjacent to the shore which might be converted for car/trailer rig parking use belongs to the U. S. Coast Guard who owns some 10 acres. Only a portion of this land is suitable for construction of a parking area, but it would be worthwhile for the Town to investigate the possibility of a long-term lease or purchase arrangement. There have been severe cutbacks in Coast Guard funding over the past few years and some sort of lease or purchase might turn out to be an advantage to all concerned. However, communication with the Coast Guard indicates that the land is not surplus property. (A letter from the Coast Guard is attached at the end of this chapter. - Exhibit # 1)

Even if an agreement could be reached with the Coast Guard, there is not sufficient room to construct a ramp and parking area large enough to satisfy requirements for participation by the State Department of Recreation. Therefore, any facilities at Dyer's Cove would have to be constructed entirely with Town funds or by utilizing the Waterfront Action Grant program through the State Department of Economic and Community Development.

7. Kettle Cove/Crescent Beach/Seal Cove including Stump Cove, John Cove, etc.

Presently, most commercial boats are launched at Stump Cove while the remaining small commercial boats, as well as pleasure boats, are launched at the northern end of Crescent Beach. There are no man made launching improvements at either location. At Stump Cove, the beach is coarse, granular sand with little or no cohesive qualities for sufficient support of wheel loads. The beach is at an efficient slope for launching and retrieval; however, because of the consistency of the sand, only relatively light weight boats with four wheel drive tow vehicles can use it with any confidence. The northern end of Crescent Beach consists of sands more capable of supporting heavier wheel loads, but is at such a flat slope that launching of a boat which draws more than a foot or so is not easy.

A dual-lane launch ramp meeting the technical requirements explained previously (page 24) could be built at Stump Cove which could launch and retrieve between sixty and

seventy-five boats on a daily basis. With detailed investigation (beyond the scope of this report), it is possible that the figure might be increased to ninety or one hundred boats per day. In addition, it is also quite conceivable that under summer weather conditions, it would be possible to include floating facilities that would allow commercial interests to leave skiffs and dinghies in the water unless a severe storm was predicted. This expanded capacity would require placing a rip rap wave barrier on the ledges south of Stump Cove. This would be expensive of course, but as the demand for access to salt water increases, expensive options become more justifiable.

It has also been suggested that a ramp could be constructed at John's Cove adjacent to Stump Cove. Both Mr. Skinner and the consultant engineer agree that a ramp probably could be built here; however, it would not be very efficient except between full and half tide. More importantly, it would encroach upon a beach which is enjoyed by a number of people, just the way it is today. Above the beach is a very pleasant nature walk, consequently, a ramp in this location cannot be recommended.

The real problem to be solved, if anything but the status quo is to exist in the area, is improved parking. This is a problem beyond the control of the Town. Except for about 10 private lots (all of which are less than an acre of land each), the State of Maine controls all of the land between the Stump Cove/John's Cove waterfront easterly to Two Lights Road and northerly to Fessenden Road. A rough calculation based upon the assessor's map indicates that the State-owned land in this parcel is in the neighborhood of 50 acres. It is understood that the terms of the deed transferring title to the land from private interests to the State severely limits how extensively the area can be developed by the State or any other entity.

Without this constraint, there is no known technical reason why a boat launch facility adequate to the needs of the Town could not be built at this site.

At the southwestern end of Crescent Beach, there is an area slightly higher than much of the park which, at first glance, might be considered for a launch facility. A parking area could be constructed in the upland field with a fairly steep ramp construction to low water. However, the

shore consists of fingers of ledge which are open to extensive wave action. In addition, there are also constraints upon development of this area as well. Consequently for both technical and legal reasons, this site cannot be recommended for further consideration.

8. Spurwink River. The land along the Spurwink River from Route 77 downstream to the open ocean is all privately owned. Several Cape Elizabeth residents have suggested that the Town does have an interest in a right of way to the water which leads from Fowler Road down to the River. Supposedly, this way was part of the 'King's Highway' and there was a fording place on the river which enabled early settlers to travel to Scarborough from Cape Elizabeth and return. If there was a right of way here at one time, there is presently no indication of one on any maps at the assessor's office in Town Hall. It was been said that some research was conducted on the matter without positive results. Further investigation or research regarding this matter is beyond the scope of this report.

Purely from a technical view point, it is important to note there was no bridge, but a fording place in conjunction with the 'King's Highway'. At low tide, there are many very shallow spots in this portion of the river and it appears that the sands do shift from time to time. Shallow water and shifting sands would not only be a problem for any boat launch ramp built along this cite, but could make access to the open ocean very difficult and dangerous for small boats. Without a Town-owned right-of-way to the water, there does not seem to be much point in pursuing a boat launch ramp that would not be useful during all tide levels. Frequently, the largest cost for boat launch ramp construction is the purchase of sufficient land to construct the facilities. Under the present circumstances, construction of boat launch ramp on this portion of the Spurwink River cannot be recommended. However, if in the future, the Town does have the opportunity to obtain land in the area through a gift or long term low cost lease, it would be appropriate to investigate whatever particular site is available to find any possible technical solutions which could solve the environmental problems connected with constructing a boat launch ramp leading to the river.

Further upstream at the new Route 77 bridge which connects Cape Elizabeth to Scarborough, there may be some opportunity for providing limited access to the water. There is some town owned land just upstream. There is a Portland Water District right of way or easement and there is the former roadbed which connected to the old bridge. It may be possible to tie all of these interests together in some way to provide a very limited access point to tidal water. Because the river is so shallow and the bridge is so low, it is doubtful that anything longer than a 12 or 14 foot outboard boat could use any primitive facilities for boat launching. It is recommended that the Town investigate all the possibilities for at least providing parking for a few cars at this site enabling small outboard boats, canoes, etc. to use the river for a limited extent.

Summary

1. After investigating all of the foregoing sites, it is very clear from a technical point of view that the site best suited for an improved boat launch ramp is at Kettle Cove. However, the committee is opposed to a more intensive use of Kettle Cove. And deed restrictions may inhibit further development.

2. The second choice is the limited use smaller ramp at Dyer's Cove (Two Lights) and this is only a possibility if additional parking area and funding can be obtained.

3. Nothing but the most primitive ramp should be constructed at Route 77 at the Spurwink River. However, provisions for the parking of a few cars at this location is advisable and probably could be accomplished at a relatively low cost. It is recommended that Town officials contact the MDOT without delay to see if any cooperative effort can be worked out.

EXHIBIT # 1

U.S. Department of Transportation
United States Coast Guard

Commander
First Coast Guard District

Capt. John Foster Williams Bldg
408 Atlantic Avenue
Boston, MA 02210-2209
Staff Symbol: (oan)
Phone: (617) 223-8338

11011

27 MAY 1988

Mr. Michael K. McGovern
Town Manager
320 Ocean House Road
P.O. Box 6260
Cape Elizabeth, ME 04107

Dear Mr. McGovern:

This is in answer to your letter of April 29, 1988 concerning Coast Guard property at "Two Lights."

The parcel of land that you have referred to supports Cape Elizabeth Light, Cape Elizabeth Light fog signal and housing for Coast Guard personnel. All of this property is necessary for our current and foreseeable future use.

Should you wish to discuss this matter further, please feel free to contact Captain Stephen L. Richmond, Chief of my Aids to Navigation Branch, at the above phone number.

Sincerely,

R. L. JOHANSON
Rear Admiral, United States Coast Guard
Commander, First Coast Guard District

MOORING PLANS

By far, the largest number of moored boats is at the Seal Cove/Kettle Cove/Crescent Beach area, followed by Maiden Cove with the second largest number of moorings. Groups of from one to eight moorings may be found at various locations along the coast. A listing of the various locations with the number of boats moored in the spring of 1988 are as follows:

Spurwink River	3
Ram Island	3
Seal Cove/Kettle Cove/ Crescent Beach	46
Angel's Cove	1
Dyer's Cove	5
Hannaford Cove	5
Peabble's Cove, South	6
Peabble's Cove, North	8
Zeb's Cove	4
Maiden Cove	10
Cliff House Beach	1

All of the moorings in Town do come under the purview of the Harbor Master; however, the Seal Cove area, which includes Kettle Cove and Crescent Beach, is the only area which is used significantly all year long. It is, after all, the location most protected from the northeast winter storms. It is quite open to southeast winds and could be a very dangerous location in a hurricane if the eye of the storm were to come ashore just south of Cape Elizabeth and pass slightly to the west of the Town.

With the exception of Maiden Cove and portions of the Spurwink River, none of the mooring areas outside of Seal Cove can be recommended as good mooring locations other than during the best summer weather. All moorings in these exposed areas should be constructed of extra heavy, extra strong materials and should be checked by their owners every year.

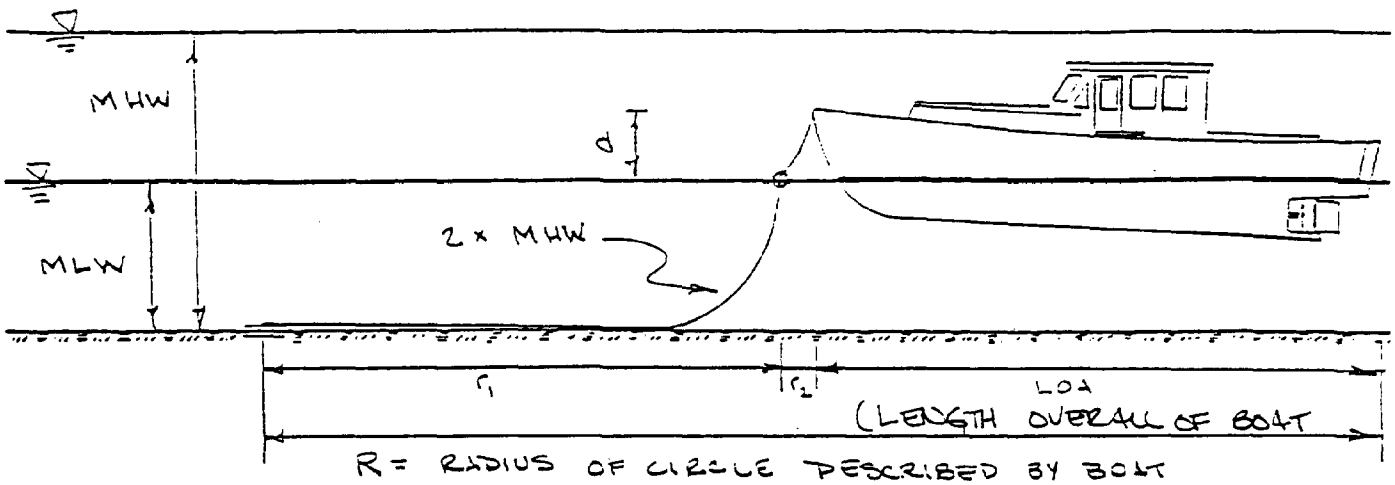
In the Seal and Maiden Cove mooring areas, it is recommended that chain at least two times the depth at high water be connected from the mooring block to the mooring float. Then, a mooring pennant of two and one half times the distance from the water to the stem of the boat should lead from the mooring buoy to the bow of the boat. At Seal Cove, many commercial boats have a mooring pennant which is equal to almost the full length of the boat moored. This provides useful additional scope under winter and storm

conditions. However, under crowded summer conditions, this extra long pennant cannot be accommodated at all locations. (See sketch on page 40 showing how the radius of a circle described by a moored boat is calculated.)

The mooring capacity of both Seal and Maiden Coves was projected by plotting circles of influence described by boats at mooring on drawings of the two harbors. (See enclosed mooring plans for each area -- Exhibit # 2 - Seal Cove and Exhibit # 3 - Maiden Cove.) The harbor drawings are based upon aerial photos and government charts of the areas plus some depth information collected from a small boat. Of course, the sizes of boats within a harbor are constantly changing as owners buy and sell their boats, but for the most part, Seal Cove is capable of providing mooring space for 56 boats (up from the current 46) and Maiden Cove can provide space for 11 boats (up from the current 10). As a safety measure, no moorings have been shown within 100 feet of any rocks, ledges or submerged reefs. It appears as though some moorings for small boats have been placed closer than this to obstructions at Maiden Cove. If boat owners are willing to take this type of risk, the capacity of the area, of course, is greater. In well-protected harbors, the circles of influence described by boats can overlap. This provides more mooring space in a given area; however, this practice is not recommended at Cape Elizabeth because of the wide variety of boats and the relatively exposed character of the harbors. It is recommended that maximum use of the mooring areas not occur unless sufficient parking is established shoreside to accommodate increased mooring use.

At Seal Cove, a few moorings are used for storage of live lobsters in crates or lobster cars. These moorings are in areas that are subject to severe wave action during storms so that they are not suitable areas for boat moorings. The crates survive because they are relative shallow and yet almost entirely submerged. No boats have these characteristics.

MOORING CIRCLE CALCULATION



Worst case occurs at low tide, therefore the radius of the circle described is calculated as follows:

$$r_1 = \sqrt{(2 \times MHW)^2 - (MLW)^2}$$

At Kettle Cove:

$$r_2 = \sqrt{(.8LOA)^2 - (d)^2}$$

At Maiden Cove:

$$r_2 = \sqrt{(2\ 1/2 \times d)^2 - (d)^2}$$

$$R = r_1 + r_2 + LOA$$

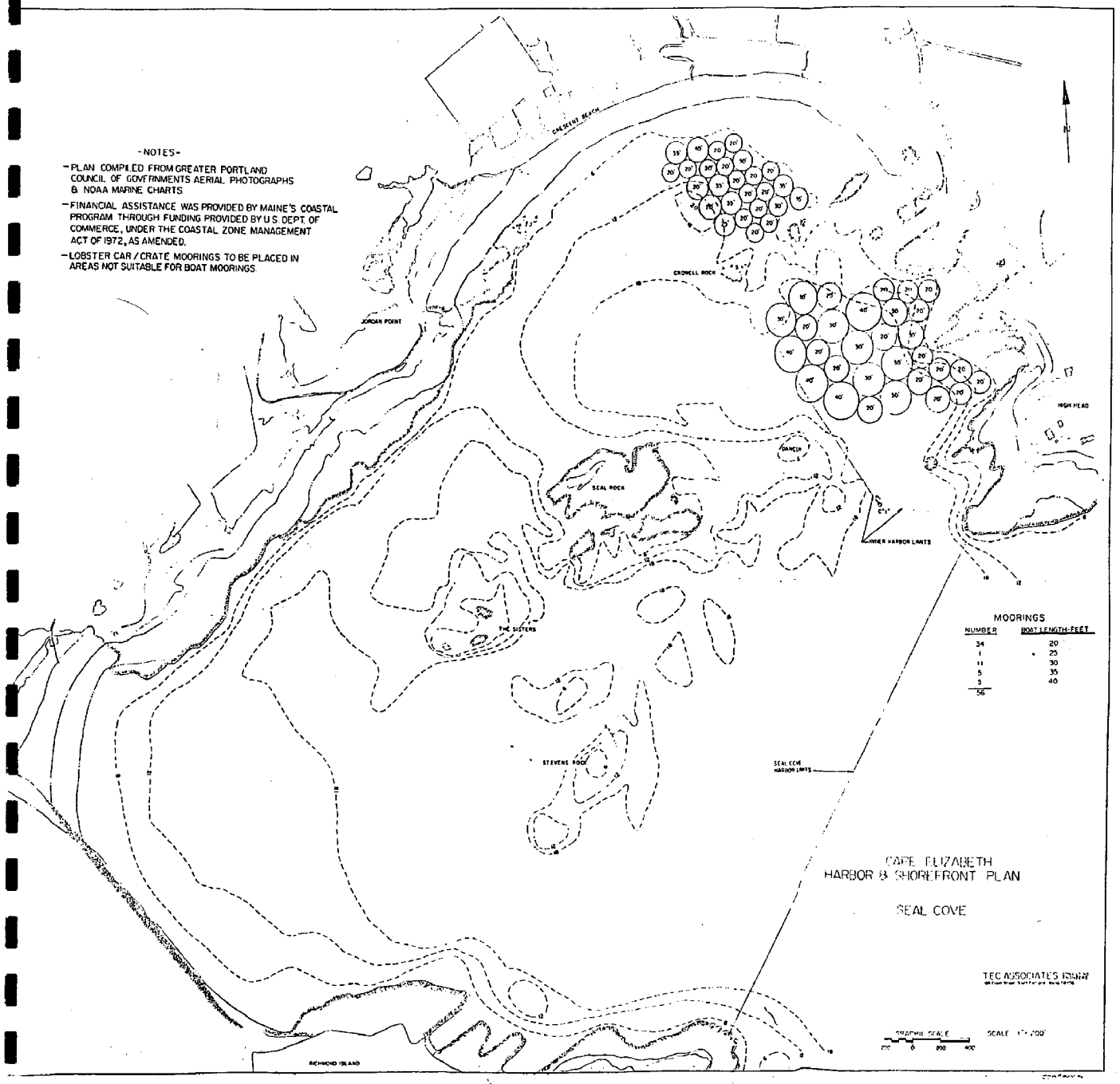
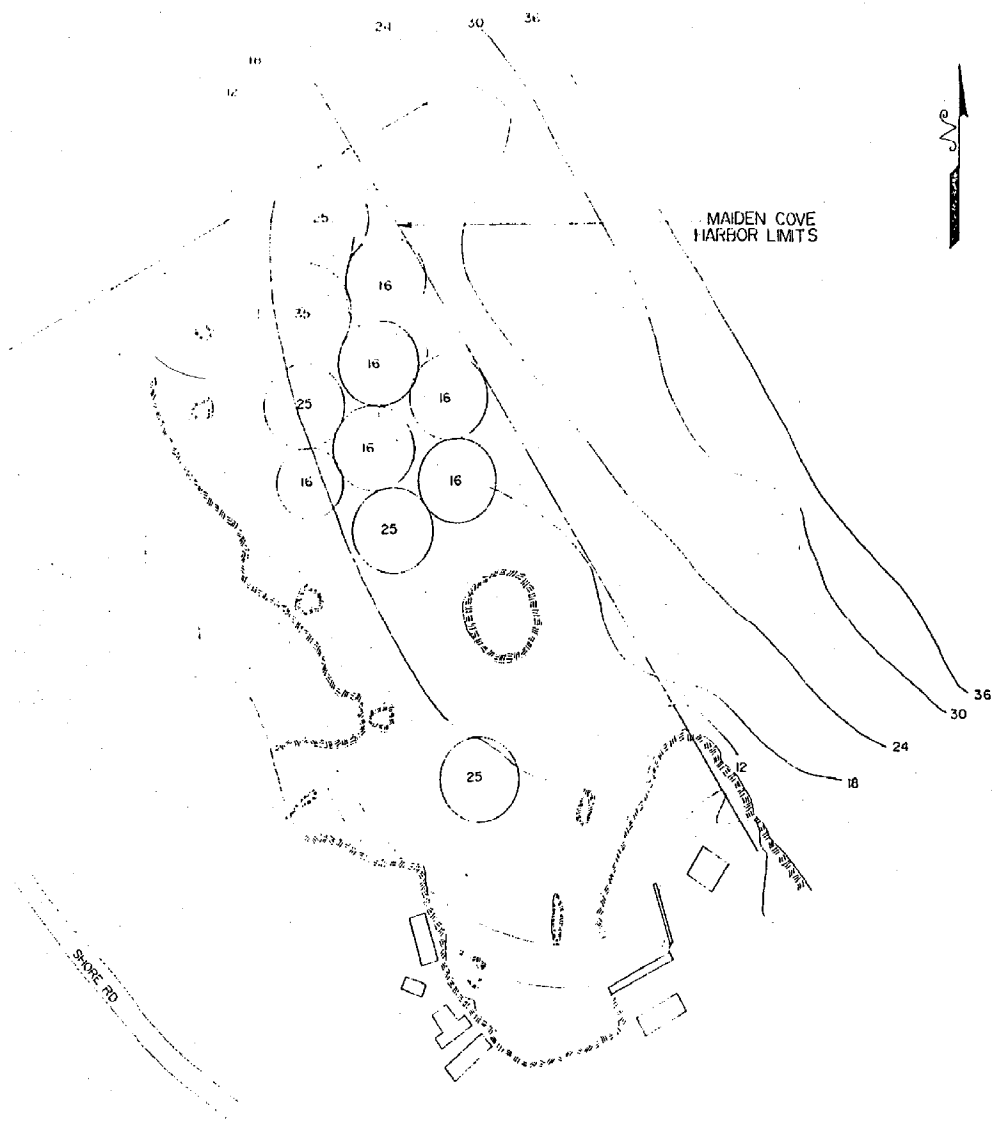

-NOTES-
- PLAN COMPILED FROM GREATER PORTLAND COUNCIL OF GOVERNMENTS AERIAL PHOTOGRAPHS & NOAA MARINE CHARTS.
- FINANCIAL ASSISTANCE WAS PROVIDED BY MAINE'S COASTAL PROGRAM THROUGH FUNDING PROVIDED BY U.S. DEPT. OF COMMERCE, UNDER THE COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED.
- LOBSTER CAR / CRATE MOORINGS TO BE PLACED IN AREAS NOT SUITABLE FOR BOAT MOORINGS.
CRESCENT BEACH
JORDAN POINT
CROWELL ROCK
HIGH HEAD
DANGER
SEAL ROCK
INNER HARBOR LIMITS
THE SISTERS
STEVENS ROCK
SEAL COVE HARBOR LIMITS
RICHMOND ISLAND
MOORINGS
NUMBER
BOAT LENGTH-FEET
34 20
1 25
11 30
5 35
5 40
56
CAPE ELIZABETH
HARBOR & SHOREFRONT PLAN
SEAL COVE
TEC ASSOCIATES INC.
GRAPHIC SCALE
SCALE 1" = 200'

EXHIBIT 2

EXHIBIT 3



-NOTES-

PLAN COMPILED FROM GREATER PORTLAND COUNCIL OF GOVERNMENTS AERIAL PHOTOGRAPHS & NOAA MARINE CHARTS.

FINANCIAL ASSISTANCE WAS PROVIDED BY MAINE'S COASTAL PROGRAM THROUGH FUNDING PROVIDED BY U.S. DEPT. OF COMMERCE, UNDER THE COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED.

MOORINGS

NUMBER	BOAT LENGTH-FEET
6	16
4	25
1	35
11	

CAPE ELIZABETH HARBOR & SHOREFRONT PLAN

MAIDEN COVE

GRAPHIC SCALE

100 0 100 200

SCALE: 1" = 100'

TEC ASSOCIATES CONSULTING ENGINEERS

MOORING STANDARDS

Loads placed upon moorings vary considerably depending upon the type of vessel at the mooring. For example, under a storm induced wind, a 25-foot open boat with no cabin will exert a pull of about 540 pounds on its mooring. Under the same conditions, a 25-foot cabin boat will exert a force of about 700 pounds. Boats which lay docilely with their bow into the wind exert less force on their moorings than those which constantly sail around their mooring and so on. Consequently, it is as impossible to say that all boats of equal length require the same size mooring, as it is to say that all men of the same height should wear the same shoe size.

A boat owner should have some confidence that, during storm conditions, other boats will not break loose from their moorings and damage his vessel. For this reason, it is advisable for a community to set some minimum standards. However, because mooring loads are so variable, such standards cannot be applied to all boats, neither can the community be held liable for damage inflicted if a minimum standard mooring fails. A parallel to this is State inspection of automobiles. The vehicle may pass inspection, but the State is not held liable if at a time following inspection, the car or truck is involved in an accident.

The American Boat and Yacht Council recommends the following design loads as standards for mooring design:

Ground Tackle Design Load

Length of Boat	42 knot wind	60 knot wind
20'	720 #	1,440 #
25'	980 #	1,960 #
30'	1,400 #	2,800 #
35'	1,800 #	3,600 #
40'	2,400 #	4,800 #

It is recommended that all chain used for moorings be strong enough to resist the loads caused by a 60 knot wind. Chain comes in a variety of strengths, depending upon the type of link and alloy of steel used, but ordinary chain can be expected to have the following characteristics:

Chain Characteristics

Size	Weight/Foot	Working Limit
1/4"	.75	1,325 #
5/16"	1.14	1,980 #
3/8"	1.64	2,750 #
1/2"	2.92	4,750 #
5/8"	4.43	7,250 #

Twisted 3 strand nylon rope is recommended for any rope used on a mooring. It is not only rot resistant and does not deteriorate appreciably in salt water, but it has considerable capacity to stretch and act as a shock absorber under shock loads. Under day to day loading, nylon rope should not be stressed more than 11 percent of its breaking strength according to cordage manufacturer's recommendations. However, to obtain the advantage of the stretch for shock loading, it should be stressed to 25 percent of its breaking strength and under ultimate loading, it should not be stressed to more than 50 percent of its breaking strength simply because of the loss in strength at knots and splices.

Taking into consideration the characteristics of nylon rope, it is recommended that moorings be designed so that the loads produced by a 60 knot wind should not exceed 25 percent of the breaking strength of the rope. A table for the characteristics and strengths of 3 strand nylon rope is shown below:

Characteristics and Strengths
Twisted 3 Strand Nylon Rope

Dia. of inches	Rope Mms.*	Weight lbs/100 ft	Average Breaking test - lbs	Breaking Test 11%	Breaking Test 25%
3/8	9	3.5	3,700	410	925
7/16	10	5.0	5,000	550	1,250
1/2	12	6.5	6,400	700	1,600
9/16	14	8.3	8,000	880	2,000
5/8	16	10.5	10,400	1,140	2,600
3/4	18	14.5	14,200	1,560	3,550
7/8	22	20.0	20,000	2,200	5,000
1	25	26.0	25,000	2,750	6,250

*Closest metric rope size

The size and weight of the mooring block or anchor used to secure the mooring chain to the bottom is also a variable factor. By providing scope, the weight is not a direct lift but has a horizontal factor as well when the block drags across the bottom and digs into the harbor floor. The softer the bottom, the more the block digs in and the stronger the mooring. All anchors, of course, take advantage of this digging characteristic.

A mooring block does not have sharp edges designed to bite into the harbor floor so that weight alone is the deciding factor when sizing the block. The material the block is made of is all important as can be seen from the comparison of the submerged weights of concrete, concrete and steel or granite listed below:

Mooring Block Comparison

	Air Weight	Weight in Sea Water
30 gal. container filled w/concrete	601.6 #	344.9 #
30 gal. container filled w/90% concrete and 10% steel	747.84 #	481.14 #
55 gal. container filled w/concrete	1,102.9 #	623.3 #
55 gal. container filled w/90% concrete and 10% steel	1,352.4 #	881.8 #

2,000 pound block concrete vs 2,000 pound block/granite:

2,000 lb. concrete block in sea water weighs	1,147 #
2,000 lb. granite block in sea water weighs	1,269 #

When comparing the variety of blocks available for mooring, it is important to consider the submerged weight of concrete is only 86 pounds per cubic foot, while the submerged weight of granite is 111 pounds per cubic foot.

Since, as discussed above, a boat does not pull directly up on a mooring block, but at an angle, the actual uplift on a mooring block is less than the tension on the mooring chain. The longer the chain, the less uplift upon the block. With a chain at least twice the depth of the water, the direct uplift on the block is about one half the tension on the chain. Therefore, the mooring block theoretically must only weigh, when immersed in water, one half the force applied to it by the sloping mooring chain.

However, this sloping pull on the chain also produces a horizontal force on the mooring block as well. This force is about 87% of the tension in the chain. On a soft bottom, the mooring block sinks into the mud and when a strong horizontal pull is produced, it is necessary to displace the mud before the mooring will drag. The shape of the block and the characteristics of the bottom certainly have a bearing on the ability to resist this horizontal force so that no general rule of thumb can be set up to size the mooring block. However, round objects, such as barrels filed with concrete, may roll on the bottom and are not thought to be as good as more rectangular objects.

It is recommended that rectangular granite blocks be used for moorings if at all possible. Based upon the foregoing, the following standards are recommended as a minimum:

MINIMUM MOORING STANDARDS

Boat	Chain	Pennant	Block
20	5/16"	1/2"	360 #
25	5/16"	9/16"	490 #
30	3/8"	5/8"	700 #
35	1/2"	3/4"	900 #
40	1/2"	7/8"	1200 #

***Weight in Water**

The above standards are minimums. The mooring owner is advised to increase sizes of the mooring components if his vessel is to be exposed to adverse conditions or if his boat places more than ordinary strain on its moorings.

In areas where there is soft sand, silt or mud, a mushroom anchor may be an appropriate alternative. Once dug in, a mushroom anchor is said to be able to hold a force equal to ten times its weight. This is not at all true in gravel, hard sand, hard clay or any other ocean floor that does not permit a mushroom anchor to dig in; therefore, a mushroom anchor should not be substituted for a block if the bottom characteristics are not appropriate.

PROPOSED HARBOR ORDINANCE

CAPE ELIZABETH, MAINE

PROPOSED COASTAL WATERS AND HARBOR ORDINANCE

ARTICLE I

General Provisions

Section 1 - Purpose

This ordinance is to establish regulations for marine activities within the harbors, waterways and tidal waters of the Town of Cape Elizabeth, Maine to ensure safety to persons and property, to promote availability and use of a valuable public resource and to create a fair and efficient framework for the administration of that resource. This ordinance shall be subordinate to existing Federal and State Laws governing the same matters and is not intended to preempt other valid laws.

Section 2 - Harbor Limits

Seal Cove Harbor Limits - The harbor limits of Seal Cove, sometimes referred to as Kettle Cove, shall include the area of water northerly of the straight line between McKenney Point and East Point, so called, on Richmond Island. The Inner Harbor at Seal Cove (northerly of a line from McKenney Point to black can buoy 'C-1' near the harbor entrance and easterly of a straight line from such can buoy through the Crow Rock, so called, to the shore) shall be designated as a mooring area.

Maiden Cove Harbor Limits - The harbor limits of Maiden Cove shall include the area of water located southwesterly of a straight line running approximately 345 magnetic from the point forming the easterly end of Maiden Cove and located southeasterly of the rocks off the cliff at the westerly end of Maiden Cove. The waters within such harbor limits, excepting the swimming area designated by the Cape Cottage Beach Association, are hereby designated as a mooring area.

Additional Harbors - In addition to the two major harbors listed above, numerous other coves and inlets are used for mooring and anchorage of boats. This ordinance shall also apply to these coves and inlets although no harbor limits have been established. The additional coves and inlets shall include, but shall not be limited to the following:

Angel's Cove	Cliff House Beach
Dyer's Cove	Hannaford Cove
Peabble's Cove, North	Peabble's Cove South
Ram Island	Spurwink River

Zeb's Cove

ARTICLE II
Definitions

1. Anchorage: Shall mean an area of a harbor set aside for the temporary anchoring of boats and vessels.

2. Auxiliary: Shall mean any vessel having both sails and either an inboard or outboard motor and which may be propelled by its sails or by its motor, or both.

3. Basin: Shall mean a naturally or artificially enclosed or nearly enclosed body of water where small craft may lie (anchor).

4. Beach: Shall mean a public or private beach area bordering the waters of Cape Elizabeth.

5. Boat: Shall mean any floating object or vessel designed for self propelled navigation on the water.

6. Commercial Vessel: Shall mean any vessel whose primary use is fishing.

7. Distress: Shall mean a state of disability or a present or obviously imminent danger which, if unduly prolonged, could endanger life or property.

8. Emergency: Shall mean a state of imminent or proximate danger to life or property in which time is of the essence.

9. Float: Shall mean any floating structure normally used as a point of transfer for passengers and goods and/or for mooring purposes.

10. Mooring: Shall mean any appliance used by a craft for permanent anchoring purposes and which appliance is not carried aboard such craft when underway as regular equipment.

11. Non-Resident: Shall mean all persons without a residence in the Town of Cape Elizabeth.

12. Resident: Shall mean any person whose principal residence is in the Town of Cape Elizabeth; or who owns property and uses that property as a residence for 60 days a year.

    Proof of residency may be established through voter registration, payment of real estate taxes or rental receipts for residential property within the Town of Cape Elizabeth.

13. Riparian Owner: Shall mean an owner of a parcel of land located in the Town of Cape Elizabeth which borders upon a harbor, cove or inlet commonly used for mooring or anchorage of vessels.

14. Shore: Shall mean that part of the land in immediate contact with a body of water, including the area between the high and low water lines.

15. Shall and May: 'Shall' is mandatory, 'May' is permissive.

16. State: Shall mean the State of Maine.

17. Stray Vessel: Shall mean (1) an abandoned vessel, (2) a vessel the owner of which is unknown, or (3) a vessel underway without a competent person in command.

18. To Anchor: Shall mean to secure a vessel to the bottom within a body of water by dropping an anchor(s) or other ground tackle; which is carried aboard a vessel when underway as regular equipment.

19. Underway: Shall mean the condition of a vessel not at anchor, without moorings, and not made fast to the shore nor aground.

20. Waterway: Shall mean any water area providing access from one place to another, principally a water area providing a regular route for water traffic.

ARTICLE III
Harbor Master

Under title 38 of the Maine Statutes, the municipal officers of a community are required to appoint a Harbor Master upon the request by any person desiring mooring privileges. Accordingly, the Harbor Master for the Town of Cape Elizabeth is appointed by the Town Council and he is subject to all of the provisions of title 38 as amended.

In addition, the Harbor Master for the Town of Cape Elizabeth shall also be subject to the following local provisions:

1. The Harbor Master is to be considered the maritime agent of the Cape Elizabeth Town Council and shall have full authority for the interpretation and enforcement of all regulations affecting the harbors, waterways and tidal waters of the Town of Cape Elizabeth.

2. The Cape Elizabeth Town Council shall appoint to staggered terms three harbor commissioners who shall serve as a Board of Appeals for any person(s) aggrieved by any decision, act or failure to act by the Harbor Master. The Harbor Commissioners shall be knowledgeable individuals who understand boats, moorings and maritime practice.

3. The Harbor Master shall be the municipal overseer of all town owned marine oriented equipment not specifically included within the purview of any other Town Board or Department.

4. The Harbor Master shall maintain copies of all mooring records as well as any waiting list for mooring location assignments.

Anchoring of Vessels

1. There shall be no anchoring of vessels in the designated mooring areas of Seal Cove and Maiden Cove without the

permission of the Harbor Master except under extreme emergency conditions.

2. Anchoring will be permitted within all other tidal waters of the Town of Cape Elizabeth for up to twenty-four (24) hours at the discretion of the vessel's operator. Anchorage of a vessel for more than twenty-four (24) hours will not be allowed without the permission of the Harbor Master.

3. All anchored vessels shall abide by all Federal Regulations for anchored vessels including but not limited to Day Signals and/or lights for signals, etc.

ARTICLE IV
Moorings

1. All mooring locations shall be assigned by the Harbor Master. No moorings shall be placed without a written permit from the Harbor Master which authorizes placement of a mooring at a specific location. Moorings must be placed within thirty days of obtaining a permit or July first (1) of the year the permit is obtained; whichever date occurs latest in the year.

2. All permits issued hereunder shall be for a period of two (2) years, and shall be subject to renewal every two (2) years. The mooring permit of any person who violates any of the provisions of these regulations may be revoked by written notice to that effect signed by the Harbor Master.

3. Moorings shall be registered and numbered at all times. Mooring numbers shall be issued by the Harbor Master at the time a mooring permit is issued.

4. All moorings shall be subject to change in location at the owner's expense if such change is deemed by the Harbor Master to be in the best interest of the Town.

5. If a mooring owner refuses to move his mooring after receiving written notice to do so, the Harbor Master is authorized, after a fourteen (14) day waiting period to remove the mooring float, mark the mooring chain with an identifying tag and drop the chain to the bottom. The Harbor Master shall store the mooring float that has been removed for up to six (6) months. During that period of time, the owner may reclaim the mooring float after payment of any expenses or fines as provided under Title 38.

6. Location and Waiting Lists: Within the limitations of Sections 3 and 6 of Title 38, the Harbor Master is to assign mooring locations and maintain a waiting list for mooring locations.

7. Standards: All moorings shall be of sufficient size and weight with chain and rope in sound condition to properly secure the moored vessel and the float attached to the mooring line shall be of sufficient size and buoyancy to remain afloat when not attached to the vessel.

   Moorings shall be equal or greater in size, strength and weight than the minimum standards as set by the Town Council. The adequacy of each mooring set remains the responsibility of the individual boat owner. Standards set by the Town are minimum standards.

8. Fees: The Town Council shall establish mooring permit fees.

9. Abandoned Moorings: Any mooring not used by its owner for at least thirty (30) consecutive days during a calendar year shall be deemed to have been abandoned. Abandoned mooring owners shall be notified in writing by the Harbor Master to remove their mooring equipment. If the mooring is not removed within two (2) weeks, the Harbor Master is authorized to proceed with removal of the mooring float as in Section 5 of the Article.

10. Inspection: All moorings shall be inspected before July first of the year in which the permit is renewed. The inspection is to be performed by the Harbor Master or his authorized agent.

11. Buoys: Mooring marker buoys shall show at all tides. Buoys shall be white with a blue stripe.

12. Town Moorings: Any mooring placed by the Town of Cape Elizabeth in any harbor under the jurisdiction of the Town shall not be used for a period longer than twelve (12) hours by any boat or vessel, except by permission of the Harbor Master.

13. Subletting of Mooring Space: The Owner of any vessel having mooring space shall not sublet said mooring or mooring space to another user or boat owner; however, another boat owner may use the mooring, provided the original owner pays the fee or fees and has requested permission from the Harbor Master to moor such vessel.

14. Dinghies may not be tied astern of moored boats for more than 24 hours.

15. Lobster crate or lobster car moorings are not to be used for boat moorings.

ARTICLE V
Channels

1. Channel Designations and Restrictions: The Town Council may from time to time establish channels for the passage of vessels in the harbors and waterways of the Town after due consideration of the recommendations of the Harbor Master. There shall be no anchoring or mooring in any channels designated as such.

2. Interference with Channel markers: Whoever moors a vessel, boat, raft or scow to any buoy or beacon placed by the Town of Cape Elizabeth in any waters subject to its jurisdiction to define the channels for vessels, or in any manner make the same fast thereto, or willfully destroys any such buoy or beacon shall be liable upon complaint of the Harbor Master.

3. Obstruction of Channels and Removal of Sunken Vessels:

   a. It shall be unlawful to tie up or anchor a vessel in a Cape Elizabeth Harbor in such a manner as to obstruct the fairways, launch ramps or channels or to prevent or obstruct the passage of other vessels; or to voluntarily or carelessly sink or allow to be sunk any vessel in any channel, fairway, berthing space; or to float loose timbers, debris, logs or piles in any channel, fairway or berthing space in such manner as to impede navigation or cause damage to vessels therein. It is understood that wrecked or sunken vessels within a harbor are subject to the published rules and regulations of the United States Coast Guard and any applicable State law, rules or regulations.

b. Whenever the navigation of any waters within a Cape Elizabeth harbor or maritime facility, including anchorages and berths herein, shall be obstructed or endangered by any sunken vessel or other obstruction or danger which has existed for a period of more than ten (10) days, the vessel or obstruction shall be subject to removal, sale or other disposition. The owner(s) of such vessel or other property causing said obstruction or danger shall be liable to the Town of Cape Elizabeth for all costs incident to said removal and disposition, and the Town of Cape Elizabeth, its employees, agents and officers shall not be liable for damages of any nature whatsoever origins out of or in any way connected with removal, sale or disposition of such vessel or other property.

ARTICLE VI

General Boating and Traffic Control Regulations

1. Traffic Control Authority: The Harbor Master shall have the authority to control water borne traffic in any portion of the waters of a harbor or maritime facility under his jurisdiction by use of authorized State regulatory markers, signals, orders or directions at any time preceding, during and after any race, regatta, parade or other special event held in any portion of the waters of a harbor or maritime facility or at any time when the Harbor Master deems it necessary in the interest of safety of persons and vessels or other property, and it shall be unlawful for any person to willfully fail or refuse to comply with any authorized State regulatory marker utilized by the Harbor Master, or with any signal, orders or directions of the Harbor Master.

2. Basic Speed law: The operation of any vessel within the harbor area in excess of posted speed limits or, in the absence of such limits, in a manner to create a wash which

endangers persons or property, shall constitute a violation of this Ordinance; provided that special written permission may be granted to conduct and engage in water sports and regattas in specific designated areas.

3. Discharge of refuse and Sewage: It shall be a violation of this Ordinance to discharge or permit the discharge into the waters of the harbor any sewage, refuse, garbage or waste matter, petroleum or petroleum matter, paint, varnish, timber or any other foreign matter, including dead animals, fish and bait.

4. Responsibility for Sanitation of Facilities: The Owner, Captain, lessee, agent, manager or person in charge of a vessel, facility or water area adjacent to or within a Cape Elizabeth Harbor shall, at all times, maintain the premises under his charge in a clean, sanitary condition, free from malodorous materials and accumulations of garbage, refuse, debris and other waste accumulations of garbage, refuse, debris and other waste materials. Should the Harbor Master find that any vessel, facility or water area is not so maintained; he shall in writing notify said owner, lessee, agent, manager or other person in charge of said vessel, facility or area to immediately commence and diligently prosecute to completion of the necessary correction of the unsanitary condition to the satisfaction of the Harbor Master. Failure to do so with reasonable dispatch shall be a violation of this Article, and the Harbor master may then cause the condition to be corrected and the cost of such correction shall be charged to said owner, captain, lessee, agent, manager or person in charge.

5. Buoys: No person shall place buoys of any type, other than lobster pot buoys and marker buoys, within the boundaries of the mooring areas established by these regulations without written permission of the Harbor Master.

6. Water Skiing: There shall be no water skiing within established mooring areas.

7. Launch Ramps: Motor vehicles are not to be left unattended on or near launch ramps. All motor vehicles are to be parked only in designated areas and motor vehicle operators are to comply with all parking regulations as posted by the Town of Cape Elizabeth.

8. Liability

   a. Boat Owner: Any person using the facilities within the limits of a harbor or maritime facility shall assume all risk of damage or loss to his property and the Town of Cape Elizabeth assumes no risk on account of fire, theft, Act of God or damages of any kind to vessels within the harbor or maritime facility.

   b. Secure Berthing and Anchoring of Vessels: The Owner of any vessel moored or anchored within Cape Elizabeth Harbors or maritime facility shall be responsible for causing such vessel to be tied and secured or anchored with proper care and equipment and in such manner as may be required to prevent breakaway and resulting damage, and shall, thereafter, provide for periodic inspection maintenance, replacement and adjustment of anchor, mooring or tie lines at reasonable intervals.

9. Unseaworthy Vessels Prohibited in Harbor: A person shall not moor or permit to be moored, in any harbor, a vessel of any kind whatsoever which is unseaworthy or in a badly deteriorated condition or which is likely to sink or to damage docks, wharves, floats or other vessels or which may become a menace to navigation, except in cases of emergency.

10. Correcting an Unsafe Berthing: If any vessel shall be found, in the judgement of the Harbor Master, to be anchored or moored within any harbor or maritime facility in an unsafe or dangerous manner, or in such a way as to create a hazard to other vessels, persons or property, the Harbor Master shall order and direct necessary measures to eliminate such unsafe or dangerous condition. Primary responsibility for compliance with such orders and directions shall rest with the owner of the improperly anchored or moored vessel or his authorized agent; in the absence of such owner or agent, said responsibility shall rest with the authorized operator of the facility at which the vessel is anchored or moored. In an emergency situation and in the absence of any such responsible person, the Harbor Master shall forthwith board such vessel and cause the improper situation to be corrected, and the owner of the vessel shall be liable for any costs incurred by the Town of Cape Elizabeth in effecting such correction.

11. Removal and Custody of Illegally Berthed or Abandoned Vessels: If any unattended vessel shall be found to be anchored or moored illegally within a harbor or maritime facility, or if the Harbor Master has reasonable grounds to believe that a vessel has been abandoned within a Cape Elizabeth Harbor or maritime facility, the Harbor Master may assume custody of such vessel and cause it to be removed and held or placed in storage. The Town of Cape Elizabeth or its officials shall not be held liable for any damage to such vessel nor liable to its owners before or after assuming custody. Vessels so taken into custody shall be released to the owner by the Town Manager only after satisfactory proof of ownership has been presented and full reimbursement made to the Town for all costs incident to recovery, movement and storage.

12. Damage to Harbor or other Property: It shall be unlawful to willfully or carelessly destroy, damage, disturb or interfere with any public or private property in the harbor area.

13. Tampering with or Boarding Vessels without Permission: It shall be a violation of this Ordinance for any person willfully to board, break in, enter, damage, move or tamper with any vessel or part thereof located within the harbor unless authorized by the rightful owner of such vessel. Violation of this provision shall constitute a misdemeanor, punishable by the penalties hereinabove provided for violations of this Ordinance and to additional penalties not to exceed the aggregate $1,000 and six months imprisonment for each offense. Any person violating this provision shall, in addition, be responsible to the rightful owner of any such vessel for any damages caused by such violation and to the reasonable cost of any attorney's fees necessarily incurred as a result thereof.

14. Obstruction of Facilities: It shall be a violation of this Ordinance for any person to willfully prevent any other person from the use and enjoyment of the harbor facilities.

ARTICLE VII
Enforcement and Invalidity

1. Enforcement: Except as enumerated elsewhere in this ordinance or as stated by the Maine Revised Statutes, violation of this ordinance shall be punishable as follows:

   a. Any person who shall violate any provision of this ordinance shall be punished upon conviction, by a fine of not less than twenty-five dollars ($25.00) and not more than one hundred dollars ($100.00) and all fines shall inure to the Town of Cape Elizabeth.

b. Each day that such violation continues to exist shall constitute a separate offense. Any law enforcement officer vested with the authority to carry a weapon and make arrests shall have the authority to enforce this ordinance.

2. Invalidity Provisions: If any provisions of this ordinance are held invalid or inoperative, the remainder shall continue in full force and affect as though such invalid or inoperative provisions had not been made.

SHORESIDE ISSUES/PROPOSED ZONING CHANGES

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SHORESIDE ISSUES/PROPOSED ZONING CHANGES

One of the major objectives in developing a harbor and shorefront plan is to address shoreside issues as they relate to the water-use goals of the community. An analysis of shoreside issues is necessary for two reasons:

1. To gain a perspective of how land or water uses are changing shoreland character; and

2. To ensure that land use regulations and activities are complementary to the particular marine-oriented emphasis the community is planning for its shoreline areas.

To accomplish this task, five steps were taken:

1. A review and analysis of Cape Elizabeth's shoreland zoning standards, including a comparison of the standards with the state's model shoreland zoning ordinance and recent Legislative changes;

2. A review and analysis of the general provisions of the Cape Elizabeth zoning ordinance to ensure that they address the water-related goals of the current harbor and shorefront study; and

3. A review of the unimplemented recommendations of a 1983 Shoreline Study to determine the applicability of the study today;

4. A review of the 1986 study regarding the impact of state parks on the town of Cape Elizabeth;

5. A review of the 1988 Greenbelt Plan; and

6. Interviews with the Town Manager, Town Planner and the state's assistant shoreland zoning coordinator.

The remainder of this section is divided into the following categores:

1. Potential for Change;

2. Public access.

3. Shoreland zoning;

4. Relationship of Residence Districts to shoreland zoning;

5. Resource Protection District; and

6. Modifications in other sections of the zoning ordinance.

1. Potential For Change

An important objective in developing a harbor and shorefront plan is to address the issue of change. Change most frequently occurs as growth or an increase in activity, but it is equally important to assess the potential for a decline in a particular activity or perhaps a shift from one activity to another which is neither growth nor decline.

One source for an analysis of change is the Cape Elizabeth Shoreline Study (December, 1983). Because Cape Elizabeth's shoreland zone primarily includes two residential districts (RA and RC), potential changes relate to residential development, either renovations or new units. Thus, town officials must focus on the ability of shoreland zoning to regulate such changes, while ensuring that the town's goals are met regarding public access and providing for commercial and recreational water uses.

Another area of change is the Crescent Beach State Park/Kettle Cove area. Immediate issues in the area are addressed in the Harbor Advisory Committee's Preliminary Report. In addition, local officials and the state Bureau of Parks and Recreation have begun discussions on longer-term solutions to the area.

Within these discussions, it is recommended that on-going attention be given to the use of Crescent Beach and the resulting impacts on Cape Elizabeth.

Crescent Beach is the most heavily used state park in Maine. Two sets of statistics illustrate the situation:

The beach has approximately 176,000 visitors in 1981 and 295,277 in 1985, an increase of 67.7 percent overall. The figures represent an average annual increase of 16.9 percent.

In the last two years, the state has changed its counting methodology to what it considers a more accurate system. According to the new system, Crescent Beach experienced 235,000 visitors in 1986 and 250,000 in 1987, a 6 percent increase.

Whichever methodology is used, it is clear that use of Crescent Beach is growing, and is rapidly approaching 300,000 visitors annually.

Traffic and overall congestion appear to be current issues, based on a recent study of the area by the University of Southern Maine's Public Policy and Management Program (Thomas Handel, Impact of Crescent Beach and Two Lights State Park on the Town of Cape Elizabeth, 1986).

The increased use and the identified issues heighten the importance of an annual assessment of use of the Crescent Beach/Kettle Cove area by local and state officials.

2. Public Access

Thousands of people use Cape Elizabeth's shoreline for public access, that all encompassing phrase that is technically defined by the State of Maine as "the ability to enter, approach, pass to and from, see over or through, and make use of shoreline areas and coastal resources."

Who uses the coast? Commercial and recreational fishermen, recreational boaters and board sailors, beachgoers and swimmers, hikers and sightseers, divers and joggers, and shell collectors and seaweed gatherers.

As a whole, Maine has insufficient public access. Only three percent of the Maine coast is currently available to the public. As the state's population grows and greater numbers of tourists are attracted to Maine, the need for public shoreline access will increase.

Cape Elizabeth, on the other hand, enjoys significant public access. Of the 15 miles of coastline, over six miles (or more than 33 percent) are under either local or state control. Not suprisingly, Cape Elizabeth's coastline is a regional attraction, with large numbers of people using facilities such as the locally controlled Fort Williams Park and the Crescent Beach State Park.

Three recent reports have focused on the potential for increased public access in Cape Elizabeth: Cape Elizabeth Shoreline Study, (Town of Cape Elizabeth, December, 1983), Cumberland County Municipal Coastal Public Access Inventory (Greater Portland Council of Governments, July 1987) and Cape Elizabeth Greenbelt Plan, 1988 (Town of Cape Elizabeth, 1988).

Each report was compiled, at least in part, because the legal right of the public to use waterfront land for pedestrian access and general recreation is an area of the law which is in transition. Therefore it is necessary for communities to inventory existing and potential public access and make plans for formalizing access rights.

The shoreline study and the public access inventory each recommended seeking public access at the end of Running Tide Road. The area includes a number of easements which were established as part of the installation of a sewage treatment plant. One of the easements runs to the shorefront and could provide possible public access to the water.

The Greenbelt study highlights the importance townwide of preservation of open space, creating a pedestrian trail system, preserving visually significant areas. It recommends various acquisition, easement and zoning techniques for increasing public control over land. The report relates specifically to the current Harbor and Shorefront Plan because it recommends completion of the Greenbelt Pedestrian Trail System between Fort Williams Park and Crescent Beach State Park.

Zoning issues must also be considered with change and public access in mind. The following sections of this chapter address zoning issues. It was outside the scope of this study to rewrite Cape Elizabeth's ordinance. However, an attempt was made to provide recommendations and direction. The consultants urge Town officials to work with their Town Planner and State Shoreland Zoning officials to address ordinances in detail.

In the following sections, terms which are recommended to be deleted are placed in [brackets] and cross-lined. Sections which are recommended to be added are <u>underlined</u>.

An analysis of the zoning ordinance and the interviews conducted in conjunction with the analysis indicate that Cape Elizabeth needs several changes to reflect:

1. Clarify of purpose;

2. Recent changes in state level authority;

3. Recent updates of state shoreland zoning legislation; and

4. Jurisdiction over land uses which reflect Cape Elizabeth's character.

3. Shoreland Zoning

Shoreland zoning describes standards and restrictions on structures and uses within 250 feet of the normal high water mark of any great pond, river or saltwater body (or within 250 feet of the upland edge of a coastal or freshwater wetland). Most Maine communities, including Cape Elizabeth, adopted shoreland zoning ordinances in 1974. Shoreland zoning statewide has undergone several revisions through the years, reflecting a heightened awareness of the coastal resource and attempts to close loopholes which skirted the intent of the regulations.

On the state level, laws were recently revamped once more, with the intention of providing better guidance for local officials and strengthening the state's oversight role. In the past, a shoreland zoning ordinance could be amended by a majority vote of the town council, then by notifying the Department of Environmental Protection within 30 days after the effective date of the amendments. Now, amendments are not effective unless approved by the Board of Environmental Protection. If the board fails to act on any proposed amendments within 30 days of receiving them, the proposed amendments are automatically accepted.

A new state shoreland zoning ordinance model will be discussed in public hearings this fall and Town officials are urged to attend.

Cape Elizabeth's shoreland zoning ordinance reflects an evolution of various amendments added to the original ordinance since the mid-1970s. The shoreland zoning ordinance is reprinted here in its entirety to give a complete understanding of its intent.

Sec. 19-3-6. Shoreland Area Land Use Standards. In order to further the maintenance of safe and healthful conditions; prevent and control water pollution; protect fish spawning grounds, [~~fish,~~] aquatic life, bird and other wildlife habitat; [~~uses,~~] protect buildings and lands from flooding and accelerated erosion; protect archeological and historic resources; protect commercial fishing and maritime industries; protect freshwater and coastal wetlands; control building sites, placement of structures and land uses; conserve shore cover, visual as well as actual points of access to inland and coastal waters; [~~and~~] conserve natural beauty and open spaces; and anticipate and respond to the impacts of development in shoreland areas; all land use activities within the limits of the Spurwink Marsh as defined in Sec. 19-2-8 (a) (3) and of the normal high water mark of any salt water body, shall conform to the following applicable land use standards:

(a) Agriculture.

1. All spreading or disposal of manure shall be accomplished in conformance with the "Maine Guidelines for Manure and Manure Sludge Disposal on Land" published by the University of Maine and the Maine Soil and Water Conservation Commission, in July 1972, ~~[or subsequent revisions thereof]~~.

2. There shall be no tilling of soil within 50 feet from the normal high water mark of any ~~[pond whose shorelands are covered by the Ordinance,]~~ Great Pond or Little Pond or within 20 feet from the normal high water mark of Alewife Brook or from the limits of the Spurwink Marsh as defined in Sec. 19-2-8 (a) (3).

3. Where soil is tilled in ~~[a]~~ the Resource Protection District or where soil in excess of 20,000 square feet lying wholly or partially within those sections of the the other districts that are also within the Shoreland Zone, such tillage shall be carried out in conformance with the provisions of a Conservation Plan which meets the standards of the State Soil and Water Conservation Commission, and is approved by the appropriate Soil and Water Conservation District. The number of the plan shall be filed with the Planning Board. Nonconformance with the provisions of such Conservation Plan shall be considered to be a violation of this Ordinance.

(b) Beach Construction. Beach construction on any great pond stream, brook or coastal wetland, as defined by statute, shall require a permit from the Department of Environmental Protection. ~~[Beach construction on any stream or brook capable of floating watercraft shall require approval from the Commissioner of the Department of Inland Fish & Game, as required by law.]~~

(c) Clearing. Clearing of trees and conversion to other vegetation is permitted for approved construction and landscaping. Where such clearing extends to normal high water mark or the limits of the Spurwink Marsh, a cleared opening or openings totalling not more than 30 feet in width ~~[per]~~ for any 100 feet of frontage measured along the normal high water mark ~~[on]~~ or Marsh limits on any lot or abutting lots under the same ownership (regardless of where measured along the normal high water mark) may be created ~~[if]~~ in the strip extending 50 feet inland from such normal high water mark or Marsh limits and parallel thereto. Where natural vegetation is removed, it shall be replaced with other vegetation that is equally effective in

retarding erosion and preserving natural beauty. In the Resource Protection District, the clearing of vegetation shall be limited to that which is necessary for uses expressly authorized in that district. In addition:

A. Within a shoreland area zoned for resource protection abutting a great pond there shall be no cutting of vegetation within the strip of land extending 75 feet inland from the normal high-water mark except to remove safety hazards; and

B. Selecting cutting of nor more than 40 percent of the trees four inches or more in diameter, measured at 4 1/2 feet above ground level is allowed in any 10-year period, provided that a well-distributed stand of trees and other natural vegetation remains.

(d) Erosion and Sedimentation Control. Filling, grading, lagooning, dredging, earth-moving activities, and other land use activities shall be conducted in such manner to prevent to the maximum extent possible, erosion and sedimentation of surface waters. ~~[To this end, all construction shall be accomplished in conformance with the erosion prevention provisions of "Environmental Quality Handbook Erosion and Sediment Control," published by the Maine Soil and Water Conservation Commission dated June, 1974, or subsequent revisions thereof.]~~ On slopes greater than 25%, there shall be no grading or filling within 100 feet of the normal high water mark, except to protect the shoreline and prevent erosion.

(e) Mineral Exploration. Mineral exploration to determine the nature or extent of mineral resources shall be accomplished by hand sampling or other methods which create minimal disturbance. A permit from the planning board shall be required for mineral exploration which exceeds the above limitations.

(f) Piers, docks, wharves, breakwaters, causeways, marinas, bridges over 20 feet in length, and uses projecting into bodies. In addition to federal or state permits which may be required for such structures and uses, they shall conform to the following:

1. Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.

2. The location shall not interfere with developed beach areas.

3. The facility shall be located so as to minimize adverse effects on fisheries.

4. The facility shall be no larger in dimension than necessary to carry on the activity and be consistent with existing conditions, use, and character of the area.

All such structures shall be considered permanent unless constructed for removal from the water and remaining in the water for less than seven months in any period of twelve consecutive months.

(g) Sewage Disposal Standards.

1. All subsurface sewage disposal systems shall be located in areas of suitable soil of at least 1,000 square feet in size. The determination of soil suitability shall be based on a soils report prepared in accordance with Chapter 15, Article II, of this Code, Private Sewage Disposal Ordinance.

2. The minimum setback for underground sewage disposal facilities from the normal high water mark of a waterbody shall be no less than 100 horizontal feet. Where daily sewage flow exceeds 2,000 gallons, the minimum setbacks shall be 300 feet from any shoreline. All other setback requirements imposed under said Article II of Chapter 15 shall be met in full. Setbacks from shorelines for all subsurface sewage disposal facilities shall not be reduced by variance.

3. Other systems of sanitary waste disposal may be permitted after approval by the Maine Department of [~~Health and Welfare~~] Human Services, Division of Health Engineering or the Maine Department of Environmental Protection in the case of overboard discharge, and after a permit has been issued by the planning board in accordance with Sec. 19-2-8 (c), but no such other system shall include facilities for discharge to any water body, unless the same are buried and not visible to a point below normal low water, and are secured against damage and uncovering by the tides, erosion or other foreseeable action of the elements.

(h) Soils. All land uses shall be located on soils in or upon which the proposed uses or structures can be established and maintained without causing adverse environmental impacts, including severe erosion, mass soil movement, and water pollution, whether during or after construction. Proposed uses requiring

subsurface waste disposal and commercial or industrial development and other similar intensive land uses, shall require a soils report and suitability ~~[as provided in (g) above.]~~ That report shall be prepared and signed by a duly qualified person who has made an on-the-ground evaluation of the soil properties involved. Persons qualified to prepare these reports shall be certified by the Department of Human Services and shall include Maine State Certified Soil Scientists, Maine Registered Professional Engineers, Maine State Certified Geologists and other persons who have training and experience in the recognition and evaluation of soil properties and can provide proof of this training and experience in a manner specified by the Department of Human Services.

**** The entire setback section is proposed to be rewritten.**

The existing setback section reads as follows:

(i) **Setbacks.** Setbacks within the areas subject to these Standards shall mean the shortest horizontal distance from the foundation, sills or other supports of a building or structure, or from the edge of the improved areas of any other improvement, to the normal high water mark of any pond, brook or marsh, or to the top of the bank, beach, cliff or other "normal high water mark" of any salt water body, and such setbacks shall be as follows:

1. Each main building within the Resource Protection District shall have a setback of not less than 150 feet.

2. No building permit shall be issued for the original construction of any building, structure or other detached improvement, or of any addition, having a setback of less than 30 feet, for the original construction of a main building having a setback of less than 50 feet, or for the original construction of any non-residential building or improvement having a setback of less than 250 feet from the Atlantic Ocean or from the Portland Ship Channel.

3. Notwithstanding the provisions of subsection (i), 2, above, no building permit shall be issued for the original construction of any dwelling, or any building, structure or other improvement accessory thereto, having a setback of less than 75 feet along the following portions of the shore of the Atlantic Ocean: from the Spurwink River easterly, including Richmond Island, to the easterly line of Two Lights State Park; between the southerly end of the beach at Boathouse Cove to the northerly end of the beach or head of Staples Cove (at Hannaford Cove Road); between the Resource Protection District at Alewife Brook and the northerly line of the Robinson Estate extending from the vicinity of Todd Road to the shore; within the limits of Fort Williams.

The setback distances required under paragraphs 2 and 3 above may be reduced upon a finding by the board that the proposed building or use as located with such reduced setback would meet the requirements of Sec. 19-2-8 (c), 1-9.

There are several recommended changes in these provisions based on the zoning analysis:

1. Paragraph 1., which establishes setbacks in the Resource Protection Districts, is not necessary because principal structures are not permitted in these areas.

2. There are separate provisions for principal structures and "accessory structures and other improvements" in the 50-foot setback areas but not in the 75-foot setback areas. This inconsistency should be corrected.

3. The ordinance wording suggests a basic setback requirement of 50 feet, providing for a more restrictive 75 foot setback in certain areas. The State Shoreland Zoning regulations recommend the 75-foot setback. It would be more reasonable, and understandable, to require a basic 75-foot setback, allowing for a less restrictive 50-foot setback in certain (already developed) areas.

4. Reduction of these setbacks can be allowed by the Zoning Board as a special exception, or conditional use, rather than by variance. This procedure is more permissive that the variance procedure. The "special exception" designation suggests that a use is permitted unless it is found to have some adverse impact as articulated by the ordinance. The variance procedure requires the applicant to prove that the ordinance imposes an "undue hardship." It is recommended

that these provisions be amended to make it more restrictive to get a reduction for new construction, while not posing any additional burdens for alterations or expansions of existing dwellings.

The proposed ordinance amendment would look like this:

(i) Setbacks. Setbacks within the areas subject to these Standards shall mean the shortest horizontal distance from the foundation, sills or other supports of a building or structure, or from the edge of the improved areas of any other improvement, to the normal high water mark of coastal or inland waters, as defined. The setback shall be 75 feet for all principal structures, and 50 feet for all accessory structures and other improvements, except as provided below:

1. Principal structures shall be allowed to a setback of no less than 50 feet, and accessory structures and other improvements to a setback of no less than 30 feet in the following areas: from the South Portland boundary to the northern boundary of Fort Wiliams Park; from the southern boundary of Fort Williams Park to a point directly opposite Todd Road; from the southern edge of the Resource Protection district at Alewife Brook to the northern edge of the beach at Staples Cove; from Dyer Point to the eastern boundary of Two Lights State Park.

2. The first floor elevation or openings of all buildings and structures including basements shall be elevated at least one foot above the elevation of the 100 year flood, the flood of record, or in the absence of these, the flood as defined by soil types identifiable as recent flood plain soils.

3. No variance from these requirements shall be granted by the Board of Zoning Appeals for the construction of a new dwelling unit, unless the Board finds that the proposed use is also in conformance with the conditions in Sec. 19-2-8 (c).

(j) Water Quality Protection. No activity shall locate, store, discharge, or permit the discharge of any treated, untreated, or inadequately treated liquid, gaseous, or solid materials of such nature, quantity, obnoxiousness, toxicity, or temperature that run off, seep, percolate, or wash into the surface of ground waters so as to contaminate, pollute, or harm such waters or cause nuisances, such as objectionable shore deposits, floating or submerged debris, oil or scum, color, odor, taste, or unsightliness to be harmful to human, animal, plant or aquatic life.

(k) Timber Harvesting.

1. No substantial accumulation of slash shall be left within fifty (50) feet of the normal high water mark of any pond, river, or salt water body as defined. NOTE: These terms are not defined under Sec. 19-1-3. It would be best to name specific areas. At distances from fifty (50) to two hundred fifty (250) feet from the normal high water mark of such waters, all slash shall be disposed of in such a manner that it lies on the ground and no part thereof extends more than four feet above the ground.

2. Skid trails, log yards, and other sites where the operation of logging machinery results in the exposure of substantial areas of mineral soil shall be located such that an unscarified filter strip is retained and vegetation shall be left intact between the exposed mineral soil and the normal high water mark of any pond, river, or salt water body as defined. NOTE: Same comment as above - it would be best to define the terms. The width of this filter strip on the ground shall vary according to the average slope of the land within it, as follows:

Average Slope of Strip	Width of Strip in Feet
0%	25
10%	45
20%	65
30%	85
40%	105
50%	125
60%	145
70%	165
70%+	250

3. Harvesting operations shall be conducted in such a manner and at such time that minimal soil disturbance results. Adequate provision shall be to prevent soil erosion and sedimentation of surface waters.

4. Harvesting operations shall be conducted in such a manner that a well-distributed stand of trees is retained.

5. Harvesting activities shall not create single openings greater than seven thousand five hundred (7500) square feet in the forest canopy.

6. In any stand, [~~harvesting~~] selective cutting shall remove not more than forty (40) percent of the volume of trees four inches or more in diameter, measured at 4 1/2 feet above ground level, in any ten (10) year period, provided that a well-distributed stand of trees and other natural vegetation remains. For the purpose of this standard, a stand means a contiguous group of trees, sufficiently uniform in species, arrangement of age classes, and conditions, to be identifiable as a homogeneous and distinguishable unit.

7. Timber harvesting operations not in conformance with 2, 4, 5 and 6 above may be allowed by the planning board upon approval of a permit granted in accordance with the provisions of Sec. 19-2-8 (c), upon a clear showing by the applicant that such an exception is necessary for proper timber management.

8. Within a shoreland area zoned for resource protection abutting a great pond there shall be no timber harvesting within the strip of land extending 75 feet inland from the normal high-water line except to remove safety hazards.

(1) Road Construction.

1. Roads shall be located, constructed, and maintained in such a manner that minimal erosion hazard results. Adequate provision shall be made to prevent soil erosion and sedimentation of surface waters.

2. Additionally, all roads constructed shall conform with the following standards:

a. Road crossing of watercourses shall be kept to the minimum number necessary;

b. Bottoms of culverts shall be installed at streambed elevation;

c. All cut or fill banks and areas of exposed mineral soil shall be revegetated or otherwise stabilized as soon as possible;

d. Bridges or culverts or adequate size and design shall be provided for all road crossings or watercourses which are to be used when surface waters are unfrozen. The requirement for a bridge or culvert may be waived by obtaining a permit from the Planning Board.

NOTE: Roads must also be defined: Road - A route or track consisting of a bed of exposed mineral soil, gravel, asphalt, or other surfacing material constructed for or created by the repeated passage of motorized vehicles.

4. Relationship of Residence Districts to shoreland zoning

Shoreland zoning is an overlay district which can cover areas under other zoning designations. Uses permitted in the other zoning designations are not always allowed in the area subject to shoreland zoning. Cape Elizabeth's residential zones must be amended to reflect that fact.

Sec. 19-2-2. Residence A District - Permitted Uses. The following buildings or uses only are permitted in the Residence A. District:

(c) school (including day nursery), hospital, municipal building or use, church, or any other institution of educational, religious or philanthropic nature, subject to approval of the zoning board. Site plan review and approval by the planning board is required. These uses are not allowed when this district occurs in the shoreland zone;

(d) any fraternal or social instutition, subject to the approval of the zoning board. Site plan review and approval by the planning board is required. These uses are not allowed when this district occurs in the shoreland zone;

(g) two commercial signs, to advertise goods produced or services rendered on the premises, or to show that the premises are for rent or for sale. A sign shall contain not more than 4 square feet per side, and may be illuminated by only a steady, shielded light. For rent and for sale signs cannot exceed 3 square feet in the shoreland zone;

(h) one annoucement sign or bulletin board, not exceeding 10 square feet per side in area, for the buildings and uses listed in subparagraphs (c) and (d) above. A sign may be illuminated only by a steady, shielded light. Signs cannot exceed 6 square feet in the shoreland zone;

NOTE: The town also must address sign height. Signs cannot be more than 20 feet above the ground in the shoreland zone.

(i) one sign accessory to a subdivision under development or to a building under construction or exhibited as a model, and containing not more than 30 square feet per side. Upon completion of the subdivision, the developer may erect at each main entance to the subdivision an identification sign containing not more than 12 square feet per side and showing the names of the subdivision and the developer. A sign permitted herewith may be illuminated only by a steady, shielded light. A permit shall be required for its erection and maintenance, which permit shall be renewed annually. If the sign is inadequately maintained, the building inspector shall not renew the permit, and the sign shall be removed. Signs cannot exceed 6 square feet in the shoreland zone;

(l) toolsheds, woodsheds, and other accessory structures which have a floor area not greater than 100 square feet, and outdoor swimming pools, tennis courts, basketball courts and other outside athletic facilities, accessory to permitted uses, if not located with any part of such pool or accessorty structures within the required setback distances. Setback requirements may be reduced upon approval of a proposed location by the board, which approval shall be granted if the board is satisfied that the reduction is in harmony with the existing uses of adjacent properties, will conserve the attributes and values of adjacent properties, and will not jeopardize traffic safety by interference with existing lines of sight or otherwise. The Planning Board cannot reduce the water setback;

Sec. 19-2-3. Residence C District - Permitted Uses: The following buildings or uses only are permitted in Residence C District:

(b) rooming house, medical or dental offices or clinic, subject to the approval of the zoning board. Site plan review and approval by the planning board is required. These uses are not permitted when the district occurs in the shoreland zone;

(d) notwithstanding any provision of Section 19-3-1 (d) (Multiplex Housing Standards) to the contrary, the conversion of any former municipal building which exceeds 4,000 square feet of floor area, exclusive of the basement, to three or more dwelling units, provided that no dwelling unit in the building as converted shall contain less than 700 square feet of floor area and the

maximum density shall be one unit per 5,000 square feet of lot area. Such use is subject to the review and approval of the Zoning Board under Section 19-4-7 (b) (Conditional Use Applications) and to review and approval by the Planning Board under Section 19-2-9 (Site Plan Review). When the former municipal building occurs in the shoreland zone, all dimensional requirements shall be net per dwelling unit;

5. Resource Protection District

Like the Shoreland Zoning District, a Resource Protection District is an overlay zone. It includes areas in which development would adversely affect water quality, productive habitat, biotic systems, or scenic and natural values. Cape Elizabeth's Resource Protection District needs several minor changes to update its applicability, clarify regulations and to guard against improper development.

Sec. 19-2-8. Resource Protection District.

(b) The buildings and uses permitted within the Resource Protection District, and the conditions upon which they shall be permitted, shall be as follows:

1. Forest management actitivities, except for timber harvesting. Wildlife management activities. Fishery management activities. Fishing activities.

2. Agricultural uses, with a permit from the Planning Board.

7. Piers, docks, wharves, breakwaters, causeways, [~~marinas,~~] bridges over 20 feet in length, and uses projecting into water bodies with a building permit if of a temporary nature and with a building permit and a planning board permit if permanent;

9. Public utilities, including sewage collection and treatment facilities, and other essential services accessory to permitted uses, including private sewage disposal systems, with planning board permit. Private sewage disposal systems are prohibited in the shoreland zone;

12. Mineral Exploration. Mineral exploration to determine the nature or extent of mineral resources shall be accomplished by hand sampling, test boring, or other methods which create minimal disturbance. A permit from the Planning Board shall be required for mineral exploration which exceeds the above limitations;

(c) with respect to those uses which require a planning board permit as indicated above, the planning board shall, after payment by the applicant of a reasonable permit fee established by the town council and his submission of a complete application including all information requested, grant a pemit upon such reasonable conditions as it deems necessary to assure conformity with the following requirements, if it makes a positive finding based on the information presented to it that the proposed use:

1. will not result in unsafe or unhealthful conditions;

2. will not result in erosion or sedimentation;

3. will not result in water pollution;

4. will not result in damage to spawning grounds, fish, aquatic life, bird and other wildlife habitat;

5. will conserve shoreland vegetation;

6. will conserve visual points of access to waters as viewed from public facilities;

7. will conserve actual points of public access to waters;

8. will conserve natural beauty;

9. will avoid problems associated with flood plain development and use; and

10. is in conformance with the provisions of Sec. 19-3-6, Shoreland Area Land Use Standards, of this Ordinance.

A party aggrieved by a decision of the planning board upon application for a special permit under this paragraph may appeal within 30 days of the decision to the Superior Court as provided by the Maine Rules of Civil Procedure.

6. Modifications in other sections of the zoning ordinance

This section is divided into five areas:

6-a. The "Purpose" guidelines of the zoning ordinance;

6-b. The "Definitions" guidelines of the zoning ordinance; and

6-c. Other

6-a. Purpose.

The "Purpose" section of the ordinance (Sec. 19-1-2) describes the intent of the town's zoning regulations by listing the goals and philosophy of the regulations. Although the purpose section as written presents a clear picture of the town's intent, it is recommended to insert language specifically relating to the town's harbor and shoreland areas. The current attention given to them through this study, as well as the extent of coastal area within the town, indicates that the areas are important to Cape Elizabeth. The ordinance should emphasize that fact.

Sec. 19-1-2. Purpose. The purpose of this ordinance, made as part of a comprehensive plan for the development of the Town of Cape Elizabeth and for the promotion of the health, safety and general welfare of its residents, is to encourage the most appropriate use of land throughout the Town; to promote traffic safety; to provide safety from fire and other elements; to provide adequate light and air; to prevent overcrowding of real estate; to promote a wholesome home environment; to prevent housing development in unsanitary areas; to provide an allotment of land area in new development sufficient for all the requirements of community life; <u>to support shoreline management that gives preference to functionally water-dependent uses over other uses, that promote public access to the shoreline and that considers the cumulative effects of development on coastal resources</u>; to conserve natural resources; and to provide for adequate public services. The foregoing purposes shall be implemented by establishment of the zoning districts adopted hereby and herein and by compliance with all of the other provisions of this ordinance.

6-b. Definitions.

A zoning ordinance also contains definitions, which are used to clarify the meaning of terms in the ordinance so that there is no confusion about the regulation's intent. At this time, Cape Elizabeth has no definition for several terms used in the zoning ordinance and recent state changes have affected the definition of existing terms.

Sec. 19-1-3. Definitions. For the purposes of this ordinance, the following terms, words, and phrases shall have the meanings given herein.

Coastal wetlands: All tidal and subtidal lands below any identifiable debris line left by tidal action; all lands with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous low land which is subject to tidal action or normal storm flowage at any time except during periods of maximum storm activity. Coastal wetlands may include portions of coastal sand dunes.

Commercial fishing activities: Activities directly related to commercial fishing and those commercial activities commonly associated with or supportive of commercial fishing, such as installation or repair of boats, engines and other equipment commonly used on boats.

Floodway: The channel of a river or other water course and the adjacent land areas that must be reserved to allow for the discharge of a 100-year flood without cumulatively increasing the water surface elevation of the 100-year flood by more than one foot.

Freshwater wetlands: Freshwater swamps, marshes, bogs and similar areas which are:

1. Of 10 or more contiguous acres; and

2. Characterized predominantly by wetland vegetation.

Functionally water-dependent uses: Those uses that require, for their primary purpose, location on submerged lands or that require direct access to, or location in, coastal waters and which cannot be located away from these waters. These uses include commercial and recreational fishing and boating facilities, navigation aides, basins and channels and uses which primarily provide general public access to marine or tidal waters.

Great Pond: Any inland body of water which in a natural state has a surface area in excess of 10 acres, and any inland body of water artificially formed or increased which has a surface area in excess of 30 acres except for the purposes of this article, where the artificially formed or increased inland body of water is completely surrounded by a single owner and except those privately owned inland bodies of water which are held primarily as waterfowl and fishbreeding areas or for hunting and fishing.

Normal high-water mark of coastal waters: [~~That line on the shore of tidal waters which is the apparent extreme limit of the effect of the tides, i.e, the top of the bank, cliff or beach above high tide.~~] That line which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or changes in vegetation, which distinguishes between predominantly aquatic and predominantly terrestrial land.

Principal structure: A building other than one which is used for purposes wholly incidental or accessory to the use of another building on the same premises.

River: Any free flowing body of water from that point at which it provides drainage for a watershed of 25 square miles to its mouth.

Road: A route or track consisting of a bed of exposed mineral soil, gravel, asphalt, or other surfacing material constructed for or created by the repeated passage of motorized vehicles.

Timber Harvesting: The cutting and removal of trees from their growing site and the attendant operation of cutting and skidding machinery, but not the construction or creation of roads. Timber harvesting does not include the clearing of land for approved construction.

Structure: Anything built for the support, shelter or enclosure of persons, animals, goods or property of any kind, together with anything constructed or erected with a fixed location on or in the ground, exclusive of fences.

Undue Hardship: The term "undue hardship" shall mean:

1. that the land in question cannot yield a reasonable return unless a variance is granted;

2. that the need for a variance is due to the unique circumstances of the property and not to the general conditions in the neighborhood;

3. that the granting of a variance will not alter the essential character of the locality; and

4. that the hardship is not the result of action taken by the applicant or a prior owner.

6-c. Other parts of the zoning ordinance either fail to explain a particular section's relationship to shoreland zoning, or simply contain outdated information.

6-c-1. **Sec. 19-2-10. Lots in Two or More Districts.** Where a District boundary line as established in this Ordinance and as shown on the Zoning Map divides a lot which was of record at the time of enactment of this Ordinance, the use and other requirements applying to the less restricted portion of such lot under this Ordinance may be extended 30 feet beyond the District boundary line into the lot in the more restricted District. This section does not apply within the shoreland zone.

6-c-2. Article III. Land Use Regulations.

Sec. 19-3-1. Area and Frontage of Lot; Building Setbacks; Multiplex Standards.

(b) Width of Lot. Structures in the shoreland zone cannot cover more than 20% of any lot.

Water Frontage. In a shoreland zone, at least 100 feet of frontage is needed per dwelling unit.

6-c-3. **Sec. 19-4-5. Violations.**

(c) Penalties. Any person, firm or corporation, having been issued a building permit for, or being the owner or occupant of, or having control or the use of, or being engaged in the construction, alternation or repair of, any building or land or part thereof, found to violate any of the provisions of this Ordinance, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than [~~$25.00~~] $100.00 and not more than [~~$100.00.~~] $2,500. Each day such violation is permitted to exist after notification thereof by the building inspector shall constitute a separate offense.

6-c-4. **Sec. 19-4-7. Jurisdiction of Board of Zoning Appeals.**

(a) Zoning Appeals. The Board shall have the following exclusive powers and duties to be exercised only upon written appeal by a party aggrieved by a decision of the building inspector:

2. To grant variances from the terms of this Ordinance where, owing to conditions peculiar to the property and not the result of the actions of the applicant, a literal enforcment of the ordinance would result in unnecessary and undue hardship [~~as defined,~~] provided that there is no substantial departure from the intent of the Ordinance, and provided that no variance shall be granted to permit a use or structure otherwise prohibited. No variance shall be granted without an affirmative vote of 4 members of the Board. A copy of each variance granted by the Board from the provisions of Sec. 19-2-8, Resource Protection District, [~~or from the provisions of Sec. 19-3-6, Shoreland Area Land Use Standards,~~] shall be submitted to the [~~State Planning Office~~] Department of Environmental Protection. A copy of each request for a variance from the provisions of Sec. 19-2-8, Shoreland Area Land Use Standards, shall be forwarded to the Commissioner of the Department of Environmental Protection at least 20 days prior to action by the municipality. The material submitted shall include the application plus all suporting information provided by the applicant. The commissioner may comment when the commissioner determines that the municipal issuance of the variance would be in noncompliance with the requirements of state law. Such comments, if submitted by the commissioner prior to the action by the municipality, shall be made part of the record, and shall be considered by the municipality prior to taking action on the variance request.

(d) Conversion to Multi-unit Dwelling. The Board may permit the conversion of any single-family dwelling subject to the provisions of Section 19-4-7 (b) above and in compliance with all of the following additional standards:

8. Conversions in the shoreland zone must meet all of the dimensional requirements.

6-c-5. **Sec. 19-4-9. Amendments.** This ordinance may be amended and its regulations, boundaries, and district classifications changed by the Town Council, provided that the following criteria are met:

(c) Notifications. The [~~State Planning Office~~] Department of Environmental Protection shall be notified by certified mail or any amendments to Sec. 19-2-8, Resource Protection District, or to Sec. 19-3-6, Shoreland Area Land Use Standards, prior to the effective date of such amendments. A file of return receipts from such mailings shall be maintained as a permanent record.

Summary

In summary, Town officials should address shoreside issues by:

1. Continue to work closely with the Department of Parks and Recreation to monitor use and management of Kettle Cove and the impact of Crescent Beach State Park;

2. Work with the Town Planner and state shoreland zoning officials to up-date Cape Elizabeth's zoning ordinances; and

3. Proceed with implementing recommendations of past public access studies.

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