SACO RIVER
PUBLIC ACCESS STUDY

Prepared for:

CITY OF SACO
COASTAL ACCESS COMMITTEE

Prepared by:

GOVERNMENTAL SERVICES INC.

Portland, Maine

In association with:

ASSOCIATES

Portland, Maine

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1988

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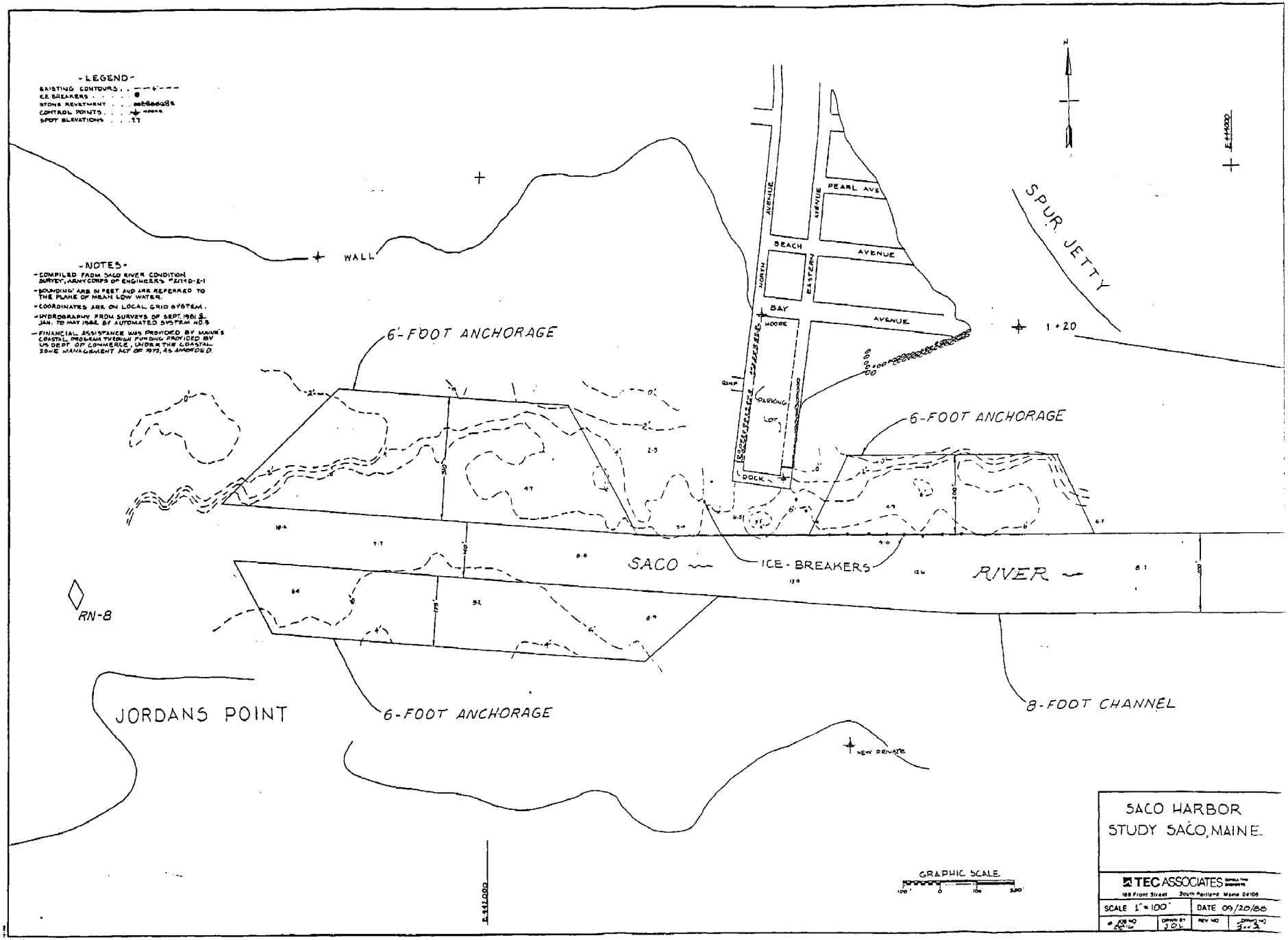
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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

The 1980's have been an era of rapid change for the Saco River. Use of the river has skyrocketed, primarily due to growth in recreational boating. Citizens have become more aware of the river's value as an environmental resource, and government at the local, state and federal levels has been investing heavily in infrastructure improvements.

This report focuses on the results of a major public access planning project. It summarizes and documents the activities that have affected the Saco River in this decade. It is recommended that the City of Saco continue its efforts to improve its marine infrastructure and harbor and shoreline management, building upon the momentum gained in recent years.

The City's coastal atmosphere is one of the community's prime tourism assets. This report is guided by the philosophy that the community should continue to respect its marine orientation, ensuring that shoreside activities and regulation complement, provide support for and protect use of the water.

Specific areas addressed in this report include:

Commercial Fishing

Lobstering is the major activity of commercial fishermen. Some 35 fishing boats provide an estimated 70 jobs, 55 of which are full-time occupations. The number of boats has declined slightly in recent years. Future growth is unlikely over the next several years, but the industry is expected to remain vital and provide a substantial number of jobs.

Issues affecting the local industry include: competition for space with a rapidly growing recreational fleet, the need for dredging, and the need for structural improvements and improved services at the Camp Ellis Pier. Recommendations to help the industry include:

1. The Camp Ellis Pier should be improved in the short-term by installing fender piles to protect the structure. In the long-term, the pier should be renovated using heavier timbers.

2. A new alignment of floats is needed along the icebreakers to give fishermen better tie-up space.

3. A gangway accessed through a lockable gate should replace the existing ladder to the dinghy floats.

4. The fuel truck should be replaced with a tank.

Recreational Boating

Recreational boating is at an all-time high along the Saco river, raising concerns about safety, water management and environmental issues. Both the Saco and Biddeford sides of the river were analyzed for recreational activity. Boating activity in the Saco River attributable to local boat ownership and use of marina and mooring facilities in Saco will grow at an annual rate of approximately 14 percent over the next seven years. Riverwide use by recreational boats, reflecting use of fixed and transient facilities on both Biddeford and Saco, is expected to continue in the 25-to-50 percent annual growth range.

The Camp Ellis area is at capacity for moorings and ramp use. No new moorings are planned. Additional ramp uses should be directed to other facilities. The state is doubling the size of its facility in Biddeford, and Saco will be building a new ramp up the river in conjunction with the Riverfront Park project.

In the short-term at Camp Ellis, it is recommended that the city try to separate use of the pier by commercial and recreational users. Recommendations include: providing a gate to restrict access to commercial boats; modifying fees; providing better enforcement of parking; and providing more dinghy float locations for commercial and recreational users.

In the long-term, the city may want to consider development of a marina west of the Camp Ellis Pier, as well as purchasing land in the North Street/Fore Street area for a boat launch ramp and parking lot.

Parking

Parking is at a premium in the Camp Ellis area. The city should seek land in the area to provide more parking. In the meantime, it is recommended that:

1. Marine users be given priority for parking at Camp Ellis;

2. Transient parking fees be raised;

3. The city monitor parking associated with tour and charter boat growth in the harbor. If growth strains existing facilities, the city should investigate requiring operators to provide off-site parking for passengers.

Harbor Management

The river is viewed as having the capacity to accommodate increased boat traffic, but increased boating raises numerous issues regarding harbor management and regulation of state boating laws and local ordinances.

It is recommended that:

1. The city update its harbor ordinance, using as a guide the amended Chapter 38 of State Statutes;

2. Existing harbor management be augmented by a special officer assigned by the Saco Police Department;

3. Existing fees be modified and new fees be implemented, and the city dedicate its boating excise tax revenues toward harbor management and capital improvements. It is possible for the city to generate $30,000 - $40,000 annually in revenues from the Camp Ellis area;

4. The city begin organizing a joint harbor management with the neighboring city of Biddeford; and

5. Public restrooms and a harbormaster's office should be constructed.

INTRODUCTION

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DESCRIPTION OF CAMP ELLIS/SACO RIVER AREA

HISTORY OF CAMP ELLIS/SACO RIVER AREA

PROJECT OVERVIEW

The purpose of this project is to prepare a comprehensive assessment of public access needs in Saco and develop a strategy and action plan for improving and/or acquiring waterfront property. The city intends to integrate this information into its Capital Improvements Plan.

To get to the heart of the issues, city officials formed a Coastal Access Committee, and contracted with Governmental Services Inc. of Portland and TEC Associates of South Portland to work with the committee and City Planner Peter Morelli in devising a plan for Saco. This study focuses on the Camp Ellis area, but attention was also given to the Ferry Beach State Park area and the Saco River as a whole.

Saco has been experiencing rapid growth citywide, and the pace of development is expected to continue. In 1986, approximately 350 homes were constructed, increasing the population by almost 1,000 people. At the end of 1987, an additional 2,000 lots and housing units were approved or under consideration for approval.

The growth has created a "Catch 22" situation along Saco's shoreline: Overall growth pressures caused by development and increased tourism are creating the need for additional public access facilities, but public access opportunities are actually declining because of residential development along the riverfront and lots close to the ocean.

Other issues affecting Saco's shorefront include:

1. Increased recreational and tourism use of the Camp Ellis Pier area, which traditionally has been the center of commercial fishing activities in Saco. Rapid increases in the amount of recreational moorings and the expected arrival of a second tour/charter boat are perceived as threats to traditional fishing operations.

2. Recreational boating is at an all-time high along the Saco River, raising concerns about safety, water management and environmental issues.

3. Use of the Ferry Beach State Park increased 18 percent in 1987, raising parking issues.

DESCRIPTION OF CAMP ELLIS/SACO RIVER AREA

The Saco River originates in the White Mountains of New Hampshire and flows southeasterly through Maine, separating the cities of Saco and Biddeford on its way to the Atlantic Coast. The mouth of the river forms Camp Ellis Harbor, a tidal inlet navigable to the cities of Saco and Biddeford, approximately six miles upstream.

This section of Maine is located in the seaboard lowland province, a subsection of the New England physiographic province. The estuarine basins of the area were formed historically by the drowning of river valleys, and are usually segregated from open water by larger barrier islands, or spits. At the mouth of the Saco River, a small spit (the Biddeford Pool-Hills Beach area) remains and is composed of coarse fieldspathic sands. Beaches occur where surficial sediments exist below mean high water. The major sandy beaches (Ferry Beach, Hills Beach) occur where outwash sediments are reworked by ocean waves.

The Saco River estuary, from the rivermouth to the tidewater dam in Biddeford-Saco, is a six-mile channel with highly irregular bottom topography. The circulation pattern within the estuary is controlled by fresh-water flows in the Saco River and by tidal currents. On each flood tide, a salt water wedge moves approximately four miles upstream pooling the freshwater discharge until the end of flood when the ebb current carries the lighter freshwater over the salt wedge toward the ocean.

Mean high tide is 8.7 feet above the mean low water level and extreme low tide is 3.5 feet below the mean low water level. Storm surges up to 12 feet above mean low water can be expected at least once or twice yearly.

According to the stream segment priority system developed by the Maine Department of Environmental Protection in 1976, the stretch of the Saco River from Bar Mills to the Atlantic Ocean, which includes the Saco River Estuary, is listed as Class III. Class III waters are those which exhibit moderate water quality problems, including localized problems associated with wastewater discharges.

Landside development in the study area is mostly residential, with Camp Ellis also providing commercial fishing and recreational boating opportunities, and modest tourism activities including seasonal dwellings, small shops and restaurants.

The most prominent marine-related development in the Camp Ellis area is the Camp Ellis Pier owned by the City of Saco. The pier serves as an access point for both commercial and recreational vessels. Facilities on the pier include a 103-space parking lot, a derrick, two hoists, fuel services available from a stationary truck and a boat ramp.

Other marine-related or public access facilities nearby include: Ferry Beach State Park, which fronts Saco Bay; and Norwoods Marina, Riverside Anchorage Marina and the Saco Yacht Club, each situated on the Saco River. Proposed facilities above Camp Ellis near the city center include the Saco Island Marina and the Riverfront Park and Boat Ramp, near Pepperell Square. On the Biddeford side, Rumery's Boat Yard is a major marine service supplier to boats riverwide.

HISTORY OF THE CAMP ELLIS/SACO RIVER AREA

As city historians have noted, the name "Saco" is attributed to the Abenaki people's word for "flowing out" or "outlet," and to the work "Sawacotuck," meaning "mouth of the tidal stream."

The 1987 Saco Comprehensive Plan, based on research by Emerson W. Baker, PhD., of the Dyer Library Association, explained that the lower Saco River was a center of native American activity, both in prehistoric times and through the 16th and 17th centuries. A 1605 map by the French explorer, Samuel de Champlain, shows a large Indian village near the present-day campus of the University of New England in Biddeford, across from the Camp Ellis area. Near the center city, Factory Island was known in colonial times as Indian Island.

The English occupied the lower Saco River area as early as 1618, and starting in 1630, just ten years after the landing of the Pilgrims at Plymouth, the mouth of the Saco became a center of English settlement which included fishermen, traders, lumberjacks and farmers. By 1636, at least 37 families had settled in the area.

The settlement grew gradually throughout the 17th century, until it was abandoned in 1690 at the outbreak of King William's War. After 1713, the Saco side of the river returned to prosperity as a farming, fishing and lumbering community.

The Front Street section of the river, near downtown, has played an important role in the city's history, as noted in the 1987 Riverfront Park and Boat Ramp study, which paraphrased information from Sands, Spindles and Steeples, by Roy Fairfield, a city historian. Lumbering, coastal trade, ice cutting and shipping, excursion and recreational boating, smelting and boatyards have all had an impact on river use.

The Proprietors Wharf, on the current site of the Saco Yacht Club, was an early center of commerce connecting Saco with other coastal cities. In the early 1900s, wood and coal were unloaded on their way to Factory Island. Sawmills and gristmills were situated nearby. In 1926, an oil company built tanks on Proprietors Wharf, but the 1936 flood put an end to that business forever.

Recreational activities have been common through the years. In the early part of the century, thousands of travelers left rail cars and took excursion boat rides to Biddeford Pool and Old Orchard Beach.

The Saco Yacht Club, which was located slightly north of its current site, has provided recreational boating opportunities for over 100 years. The Saco Boat Club was also organized in the 1870s. Rowing contests with $5 and $10 prizes were a common holiday event at the turn of the century. Another popular boating activity was traveling down the river to Camp Ellis for a clambake.

As the 20th century progessed, the federal and state governments began paying more attention to the Camp Ellis area's water-related infrastructure. Shoreside development and recreational boating increased and city officials turned their attention to protecting and improving Saco's shoreline areas.

The U.S. Army Corps of Engineers has been active in the Saco River since 1935, attesting to the area's importance for commercial navigation. The Maine Department of Transportation and the City of Saco invested in the area in 1981, adding eight feet to the Camp Ellis Pier at a cost of $55,000 ($44,000 from the state; $11,000 from the city).

In more recent years, the area has been affected by marina growth, conversion of seasonal dwellings to year-round homes and tourism growth, which has increased use of area beaches and created traffic and parking demands. Not surprisingly, the city's 1987 Comprehensive Plan addressed several coastal issues and made the following recommendations:

* The environmental impacts of marina development will be studied as part of the permitting review by the Federal and State governments. The Planning Board should, however, review all proposed new construction and/or expansion of marinas.

* The City Council will be receptive to recommendations to facilitate the improvement of access to public beach areas, insure adequate maintenance, favor use of the beaches by city residents, and encourage the use of non-car transportation to the beach.

* The Planning Board will increase opportunities for public shoreline access by requiring waterfront site plan applicants to provide access, where feasible.

* The City of Saco encourages future land acquisition to expand the jurisdiction of Ferry Beach State Park.

* The City intends to capitalize on its location within the Maine South Coast Region where over one-third of all travel and tourism expenditures in the state occur. Attractions, accommodations, and facilities in Saco catering to the travel and tourism industry should be of high quality.

* Sewering of Camp Ellis potentially opens up the area to economic forces leading to higher intensity uses serving more tourists and vacationers than presently served at Camp Ellis. The City of Saco wishes to pursue policies for the Camp Ellis Area that will protect the long-term interest of its residents, property owners, and the commercial lobster fishermen, as well as encourage the development of water-dependent uses, such as boating, marina and fishing-related industries.

The future character of the area will be marked by such activities as a sewer line extension to Camp Ellis, which will increase development pressure; a proposed 200-unit housing/157-slip marina complex at Saco Island, which will bring more residents and boat users to the area; and a proposed Riverfront Park and Boat Ramp near Pepperell Square, which will increase overall public access to the river.

NEEDS ASSESSMENT - WATER DEPENDENT USES

COMMERCIAL FISHING

RECREATIONAL BOATING

COMMERCIAL FISHING

This section provides an explanation of commercial fishing in Saco, including a general overview of the industry's place in the local economy and way of life, and an assessment of needs. Information for the section comes from the Coastal Access Committee, which includes industry representation; the Saco and Biddeford Harbormasters; the National Marine Fisheries Service; and studies and other public documents regarding Maine ports published by the Department of Marine Resources, the Maine Department of Transportation and the Maine Sea Grant Program.

Overview

Most of the fishing industry in Camp Ellis is focused on lobstering. A few boats engage in groundfish and shrimp harvesting. Camp Ellis Harbor enjoys many natural locational benefits, with easy access to the open sea and proximity to some of the finest and most frequently used lobster beds off the Maine coast. Local fishermen choose the harbor as their preferred anchorage site because the travel distance to these prime fishing grounds is shorter than from any of the alternative anchorages. This is an important asset during the winter months when seas are characteristically rougher and the air temperature generally below freezing. The peak lobstering season occurs during the months of August, September and October, and the low point occurs from January through April.

Facilities at the Camp Ellis Pier pier include a 103-space parking lot, a derrick, two hoists, fuel services available from a stationary truck and a boat ramp.

It is difficult to pinpoint the exact economic impact of the fishing industry at Camp Ellis. However, there are obvious general economic benefits that the industry provides to the city, which can be identified.

Economic and Social Impact

Camp Ellis is a small-to-mid-size port by State of Maine standards. It does not generate enough landings to be considered individually for statistical purposes by the National Marine Fisheries Services (NMFS). NMFS collects landing information by county. Camp Ellis is one of 10 ports in York County along with Biddeford Pool, Cape Porpoise, Kennebunkport, Wells Harbor, Perkins Cove, Cape Neddick, York, Kittery Point and Kittery.

Further illustration of the industry's modest size in Camp Ellis is that there currently are no local lobster dealers servicing the local fleet (although there have been two or three in the past). The nearest dealer is in Scarborough, with the bulk of the landings being trucked to regional markets. For the even smaller groundfish industry, Camp Ellis serves as a satellite facility to the Portland Fish Pier. Landings are either trucked directly to the Portland Fish Exchange Auction, or Camp Ellis-based fishermen unload directly in Portland.

Its size notwithstanding, the fishing industry at Camp Ellis contributes to a rather substantial regional fisheries economy and provides specific benefits to the local area.

As the following chart illustrates, the industry contributes over $6 million in landed value annually to the York County economy.

YORK COUNTY LANDINGS - LOBSTERS

YEAR	VOLUME (LBS)	VALUE ($)
1982	1,143,648	2,549,391
1983	1,216,018	2,805,224
1984	1,329,029	3,337,772
1985	1,471,407	3,490,348
1986	1,429,033	3,483,518
1987	1,354,139	3,898,762

YORK COUNTY LANDINGS - ALL SPECIES

YEAR	VOLUME (LBS)	VALUE ($)
1982	5,182,152	3,853,368
1983	4,807,051	4,090,224
1984	4,888,513	4,421,162
1985	5,088,673	5,125,075
1986	5,212,181	5,619,899
1987	4,879,083	6,285,564

Models used to estimate the statewide impact of the lobster industry estimate a multiplier of 2 when describing the total amount of income generated in the harvesting and processing sectors from lobster landings (Briggs, H. et al. An Input-Output Analysis of Maine's Fisheries, Maine Fisheries Review, January, 1982). However, the authors of the model believe the statewide multiplier overstates income in local ports.

One of the key calculators of the multiplier relates to the percentage of income lobstermen and wholesalers spend in their community on goods and services related to their business operations. Because Saco (and York County fishermen in general) purchase much of their industry related goods and services outside of their communities, the estimated multiplier for the landings would be far less than 2. However, a reasonable range of economic impact is achievable because even small percentages of purchases made locally would push the income figure beyond the landed values. A specific input-output analysis of local fisheries was beyond the scope of this study. But for general planning purposes in terms of understanding the total economic impact of fisheries, York County's $3,898,762 worth of lobster landings probably generates income between $4 million and $5.8 million (an estimated multiplier range of 1-to-1.5).

A similar analysis can be made regarding the value of all species. According to the 1987 "Evaluation of Maine's Fish Pier Program," conducted for the Maine Department of Transportation, the multiplier for the statewide impact on total income produced by the fishing industry is 2.8 times the landed value. For local areas, the multiplier would be considered lower than the statewide figure because fishermen often make purchases outside of their community or county. But the multiplier for all species would probably be at least the same as for lobsters. Thus, the $6 million worth of landings for all species in York County may generate up to $9 million in income.

Although the landings and other general information show Camp Ellis as a small piece of a bigger pie, other data indicates the important role the fishing industry plays in the City of Saco.

One example is the number of boats active in the industry and the jobs they provide.

The number of fishing vessels has fallen dramatically in the last five years, but it still approximates the number of 10 years ago:

1978 - 39
1982 - 45
1983 - 47
1987 - 38
1988 - 35

The reduction in boats is attributable to two things:

a. Industry stablization after rapid growth in the late 1970s and early 1980s;

b. Increased job opportunities in other fields as the southern Maine economy grows relative to slow growth in the fishing industry.

However, 35 boats is still a substantial number for 1988. There are approximately two men working per boat, or 70 jobs, with about 55 of the jobs full-time occupations. The men support families, own property and reinvest in their businesses.

The importance of the fishing industry to Camp Ellis has been supported time and time again by large infrastructure investments by public agencies and community consensus on protecting the industry.

The City of Saco, the Maine Department of Transportation (MDOT) and the U.S. Army Corps of Engineers have each invested heavily in the Camp Ellis area, in recognition of the importance of commercial fishing to that area of Saco and southern Maine.

In 1981, the MDOT and the city added eight feet to the Camp Ellis Pier as part of a $9 million statewide bond issue which developed fish piers along the Maine coast. The expansion cost $55,000, with the state paying $44,000 and the city paying $11,000. The city also recently spent about $10,000 to repair pier damage caused by ice.

The Army Corps of Engineers maintains a federal channel from the mouth of the Saco River up to the Factory Island area. The federal agency has made numerous improvements since 1935: Jetty construction, dredging (of both the channel and for the creation of an anchorage/maneuvering basin), and the installation of icebreakers.

The icebreaker project has had a significant impact on harbor operations. Completed in 1983, it involved a 3-acre anchorage 6 feet deep east of the Camp Ellis pier protected by 11 icebreakers, and two icebreakers west of the pier. Prior to the work,

commercial fishing activities were nearly terminated in winter. Although winter efforts decline anyway because of migratory habits of lobster and other species, and weather conditions at sea, fishing activities were further hurt by ice floes weighing up to 40 tons, which cut, tore and splintered vessel hulls. Many people believe that the extent of marine employment that does occur today at Camp Ellis would not have been realized without the icebreaker project.

Under current plans, the Army Corps of Engineers has authorized a maintenance dredge in the Camp Ellis area. The Corps estimates the project will cost $500,000. The Corps plans to bid the work soon with the goal of completing the work by May 1, 1989.

In terms of community support, the city's 1987 Comprehensive Plan urged town officials to take advantage of several community assets in formulating clear socio-economic development policies. The city's beach and coastal areas were listed among those assets, and the city was further urged to create a waterfront development district in which water-dependent uses, such as fishing and related uses, could be encouraged.

The Coastal Access Committee strongly believes in protecting and enhancing water-dependent uses. Land use controls to help implement that strategy are explained elsewhere in the report.

Future of the Industry

The future of the fishing industry in Saco 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 have 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 intensive methods of fishing, in which more traps are placed in order to establish territories, and partly as a result of the tendency towards 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 its 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.

In general, 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 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 statewide data suggests the number of fishermen in Saco will decrease somewhat, but fishing will remain a vital industry. If there are approximately 70 jobs associated with the industry today, a 14 percent decline would leave about 60 in 1995. But if other trends hold true, the average size of a lobster boat would be expected to increase to at least 30 feet, reflecting a trend of more traps, longer trips and fishing in deeper water to remain competitive in the industry.

Industry Needs

Facility improvement needs at Camp Ellis have been articulated in the following reports: a 1987 port survey by the Maine Department of Transportation; an evaluation of Maine's fish pier program conducted for MDOT in 1987; and a 1988 report prepared by the U.S. Army Corps of Engineers regarding maintenance dredging. In addition, the Coastal Access Committee, which includes fishing industry representation, has identified needs.

Issues which need to be resolved include:

1. The Camp Ellis Pier is overcrowded. Marina development is needed in the area to take recreational demand off the pier.

2. Dredging is necessary in the Camp Ellis area and in the river channel in general to accommodate increased use of the water at Camp Ellis Pier, private marinas and public landings. Shoals are causing delays and difficulties in portions of the channel and its anchorages. The U.S. Army Corps of Engineers recently received Congressional approval to dredge the Camp Ellis area.

3. The Camp Ellis pier needs structural improvement. The facility is considered structurally inadequate for the amount of use it experiences. The front piles act as both support for the dock and as fender piles. The fender piles should be a separate set of expendable piles. The connecting detail between the fascia beam support the deck and the front piles are poorly designed and should be improved.

4. Improved services are needed at the Camp Ellis pier including modern fuel services, bait facilities, storage facilities and public restrooms.

5. An attempt has been made at the Camp Ellis pier to segregate recreational and commercial use of the pier so they do not conflict. However, more efforts are necessary through installation of more floats to accommodate boat tender storage.

RECREATIONAL BOATING

The primary recreational impact on the coastal waters in the study area is recreational boating, although the area is also experiencing increased use by tour and charter boats. However, recreational boating is the biggest growth-oriented activity with a substantial impact on harbor capacity and parking.

Information for the needs assessment of recreational boating was obtained through interviews with the Saco and Biddeford harbormasters, the Bureau of Marine Patrol, state recreational officials and harbormasters in other ports; a 1988 survey of existing and potential marinas in Saco; a 1987 survey of boating activity in other ports, conducted by Governmental Services Inc. (GSI); and market information from previous boating studies and boating trade organizations.

Overview of Demand

Currently, there are 720 boats registered in Saco, up from 697 in 1987, an increase of 3.3 percent. The types of boats include:

* Pleasure - 673
* Commercial fishing - 39
* Commercial passenger - 1
* Other - 7

An investigation of local registrations over time (with the exception of 1987 and 1988 comparisons) was not compiled because of difficulties resulting from when record-keeping went from the state level to the town level several years ago. The State of Maine has been averaging an increase in boat registrations of about one percent annually in the early 1980s, but the figure is considered low because of rapid increases in boating statewide in the middle of the decade.

In 1987, GSI 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 that responded to the survey reported they had added between five and 39 additional moorings or slips since 1982. Two marinas 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 that if they had the room and had 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.

Boating facilities close to Saco are also experiencing heavy use.

Scarborough Harbor is currently at capacity for moorings, with all of the approximately 60 taken. Evidence of demand for other facilities, such as launch ramps, is indicated by a 1987 GSI study which projected that Scarborough's local boat ownership is increasing at an annual rate of about 5 percent. Scarborough is currently planning to increase parking in the Pine Point area.

Use of Portland Harbor by boaters is more 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 an excellent access point to Portland Harbor for trailered boats. Portland has invested heavily in increasing the capacity of its ramp facility area on the Eastern Promenade. Like other transient facilities, the Portland and South Portland facilities are used heavily during peak periods.

Market Factors

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

If the 673 recreational boats represent one-fifth of the participants, then total participants would be 3,365 (5 X 673), or 21.2 percent of the estimated population of 15,889. The local participants-to-population ratio approximates the national ratio.

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, Saco's median family income was $18,236, above the York County figure of $17,715. In a state where recreational boating is experiencing rapid growth along the coast, Saco 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 caveat 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

Assessing future boating demand is an inexact science. Without the benefit of surveying boat use for several seasons in a row, it is difficult to pinpoint exact growth rates.

However, methodologies do exist for capturing the essence of the demand picture.

For the purposes of this general planning study, the consultants combined several methods for identifying the future impacts of boating in Saco:

1. Chronicling the historic and projected growth in boating facilities;

2. Projecting local boat ownership in general through use of models comparing population, boat ownership and boating participants;

3. Referring to past studies of demand in the region; and

4. Relying closely on the actual experience of the Saco and Biddeford harbormasters, and the Bureau of Marine Patrol.

To determine historic and projected growth in facilities, a survey was conducted of existing and potential boating facilities in both Saco and Biddeford. Each city was analyzed in order to give a complete picture of boating activity in the Saco River. If Saco alone was considered, the information would explain only part of the issue.

The following chart explains the results of the survey:

PAST, PRESENT AND PROJECTED USE OF BOATING FACILITIES RIVERWIDE

SACO FACILITY	1983	1988	1990	1993
Saco Yacht Club	102	89	99	129
Riverside Anchorage	122	122	122	122
Norwoods	22	22	38	38
Camp Ellis Pier[1]	40	85	85	85
Saco Island Marina[2]	-	-	157	157
TOTALS	286	318	501	531

NUMBER AND PERCENTAGE CHANGES:

83 - 88: + 32 BOATS, 11.2% TOTAL, 2.2% ANNUAL
88 - 90: + 183 BOATS, 57.5% TOTAL, 28.7% ANNUAL
88 - 93: + 213 BOATS, 67% TOTAL, 13.4% ANNUAL

BIDDEFORD FACILITY	1983	1988	1990	1993
Rumery's Boat Yard	38	38	38	38
Meeting House Eddy[3]	16	37	37	37
Lou's Outboard Shop	20	30	30	30
Biddeford Pool Yacht Club	5	5	5	5
TOTALS	79	110	110	110

NUMBER AND PERCENTAGE CHANGES:

83 - 88: + 31 BOATS, 39.2% TOTAL, 7.8% ANNUAL
88 - 90: No projected growth
88 - 93: No projected growth

OVERALL TOTALS - BOTH COMMUNITIES[4]:

83 - 88: + 63 BOATS, 17.3% TOTAL, 3.5% ANNUAL
88 - 90: + 183 BOATS, 42.7% TOTAL, 21.3% ANNUAL
88 - 93: + 213 BOATS, 49.8% TOTAL, 9.9% ANNUAL

[1] At maximum use under current conditions
[2] Proposed facility
[3] State plans to improve ramp, expand parking
[4] Does not include unofficially proposed projects, such as the Pappinias property.

In summary, the surveys indicate that since 1983, boating facilities (moorings and slips) have grown riverwide at a rate of 3.5 percent annually, or 17.3 percent for the entire period. More importantly, use of both Camp Ellis and Meeting House Eddy have more than doubled. Over the next two years, facilities are expected to grow by 42.7 percent, or 21.3 percent annually; over the next five years, the rates will be 49.8 percent for the period and 9.9 percent annually.

Over the next two to five years, Saco will experience the largest growth in facilities on the river; facilities will grow by 57.5 percent (28.7 percent annually). Over the next five years, facilities will grow by 67 percent (13.4 percent annually).

Like boating facilities in other communities, the Saco River facilities surveyed reported waiting lists. Most were in the 20-to-40 range, although Meeting House Eddy reports a waiting list of 190 people. In addition, the state is planning to improve the ramp and expand parking at Meeting House Eddy.

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 growth increases, both for the entire time period and the projected annual rate. As stated earlier, boat owners represent one-fifth of boating participants.

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.

The models were used to project boat ownership in Saco and in Biddeford, and in the two communities together. The Saco Planning Department provided the population estimates for Saco and the Southern Maine Regional Planning Commission provided the population estimates for Biddeford.

Summary information, remarks, conclusions and issues to be addressed are contained at the end of the chapter.

SACO

* The Current Ratio Rule: This projects ownership by estimating that the percent of boating participants in Saco will remain at 21.2 percent of the population.

Current Ratio Rule (21.2%)

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	15,889	673	3365			
1995	18,813	798	3988	125	18.6	2.6%

* 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	15,889	673	3365			
1995	18,813	833	4165	160	23.8%	3.4%

* The 35.5 Percent Rule: This projects ownership by the highest rate at which the ratio of participants to population is estimated to be nationally in the 1990s.

35.5% Rule

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	15,889	673	3365			
1995	18,813	1336	6679	663	98.5%	14.1%

The above models show that overall boat ownership in Saco is projected to increase at an annual rate of 2.6-to-14.1 percent over the next seven years.

BIDDEFORD

* The Current Ratio Rule: This projects ownership by estimating that the percent of boating participants in Biddeford will remain at 18.8 percent of the population.

Current Ratio Rule (18.8%)

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	19,800	744	3720			
1995	19,962	750	3752	14	1.9%	.27%

* 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	19,800	744	3720			
1995	19,962	921	4605	144	23.8%	3.4%

* The 35.5 Percent Rule: This projects ownership by the highest rate at which the ratio of participants to population is estimated to be nationally in the 1990s.

35.5% Rule

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	19,800	744	3720			
1995	19,962	1417	7086	673	90.4%	12.9%

The Biddeford model shows that overall boat ownership in that city is projected to increase at an annual rate of .27-to-12.9 percent over the next seven years. Because of Biddeford's relatively stagnant population growth compared to Saco, the lower end of the range between .27 percent and 3.4 percent is probably more accurate.

SACO/BIDDEFORD COMBINED

* The Current Ratio Rule: This projects ownership by estimating that the percent of boating participants in Saco/Biddeford will remain at approximately 20 percent of the population.

Current Ratio Rule (Approximately 20%)

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	35,689	1417	7085			
1995	38,775	1535	7740	131	.92%	.13%

* 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	35,689	1417	7085			
1995	38,775	1754	8770	337	23.8%	3.4%

* The 35.5 Percent Rule: This projects ownership by the highest rate at which the ratio of participants to population is estimated to be nationally in the 1990s.

35.5% Rule

Year	Pop.	Boats	Part.	# Inc.	Overall %	Annual %
1988	35,689	1417	7085			
1995	38,775	2753	13,765	1336	94.2%	13.4%

The model shows that when the two cities are combined, the annual rate of growth of boat ownership is .13-to-13.4 percent.

In summary, the aforementioned models indicate the following:

* Recreational boat ownership in Saco is projected to increase at an annual rate of 2.6-to-14.1 percent over the next seven years.

* Recreational boat ownership in Biddeford is projected to increase at an annual rate of .27-to-12.9 percent over the next seven years; and

* When the two cities are combined, the annual rate of growth of local recreational boat ownership is .13-to-13.4 percent.

In Saco's case, the low end of the range is considered an understatement of actual boating activity locally, according to the experience of members of the Coastal Access Committee. Interestingly, the high end of the range - 14.1 percent - approximates the city's projected annual growth rate for boating facilities - 13.4 percent. Furthermore, the projected annual growth rate for Saco/Biddeford combined is also 13.4 percent.

In Biddeford's case, the city's relatively stagnant population growth compared to Saco indicates that the lower end of the range (between .27 percent and 3.4 percent) is probably more accurate.

Another way of looking at boating growth is through the actual experience of the Bureau of Marine Patrol, a division of the Maine Department of Marine Resources, which helps enforce boating laws. Local patrol officials estimate that river use has nearly doubled over the last two-to-four years, an annual growth rate of 25-to-50 percent, a figure expected to increase over the next few years.

A key factor in the growth is that the river serves a population much greater than the neighboring cities of Saco and Biddeford. Boaters who use the river range from as far south as Massachusetts, inland through York and Cumberland Counties and into New Hampshire, and from neighboring coastal communities from York to Scarborough. In fact, the harbormaster reports that Saco residents control only about 25 percent of the 85 moorings off Camp Ellis.

The conclusion drawn here is that boating activity in the Saco River attributable to local boat ownership and use of local marina and mooring facilities will grow at an annual rate of approximately 14 percent over the next seven years. This estimate is based on an analysis of existing and projected facilities and boat ownership statistics as well as the local experience of members of the Coastal Access Committee.

However, riverwide use by recreational boats, including use of fixed as well as transient facilities, is expected to continue in the 25-to-50 percent annual growth range, according to the day-to-day experience of the marine patrol and harbormasters. Long-range predictions are always difficult, but for the next two years, the forecast approximates that of planned facility improvements.

Studies of boating growth in the southern Maine region tell a similar story. In 1983, a berthing study conducted by the Greater Portland Council of Governments projected annual increases in boating demand of up to 8 percent annually in the late 1980s for the area between Freeport and Scarborough, including Portland Harbor. Since then, Portland Harbor officials have cited a 20 percent annual growth in the last couple of years, lower than the Saco River estimates, but still in the high range.

Issues

Boating growth has raised a multitude of issues that need to be resolved, including:

1. Safety. As boating use increases, so do violations involving drunkenness, speeding, and illegal water skiing. Harbor regulations and training for the harbormaster must be improved so that river use occurs in an orderly fashion that promotes public safety. Recommendations for resolving management/enforcement issues are explained in the section "Harbor Management."

2. Environmental questions. Coastal Access Committee members have cited potential waste issues and erosion of the shoreline as important issues that must be addressed as boating growth increases. No data has been compiled about the impact of recreational boating on the river environment. The development of a research project addressing such issues would help the community strengthen its environmental controls.

3. While more facilities will encourage increased use of the river, most observers believe the river can accommodate more use if boating is managed properly. As the river gets developed privately by marina operators, the need increases for facilities available to the general public. Saco is moving forward with ramp improvements in the upper river associated with the Riverwalk project, but officials should continue to seek opportunities for ramp improvements or establishment of new ramps, marina development and parking expansion.

STRATEGIES FOR IMPROVING BOAT ACCESS

COMMERCIAL FACILITIES

RECREATIONAL FACILITIES

COMMERCIAL FACILITIES

Commercial fishing facilities in Saco include the Camp Ellis Pier, a derrick, two hoists, fuel from an old stationary truck and a boat ramp. For commercial use, the existing wood pile and timber deck pier at Camp Ellis is lightly constructed. For the present, it is probably adequate. However, it is recommended that as soon as some of the support piling begins to show serious need for replacement, the whole structure should be reconstructed using heavier timbers.

The new construction should utilize heavy timber for pile caps placed on top of the piles, and fastened with long drift pins instead of simply bolting timbers to the side of the piles. In general, the total structure should be rebuilt using more typical Maine coast commercial pier construction techniques. However, until the pier really needs total replacement, it is recommended that the life of the pier be extended as long as possible. To do this, it is recommended that a system of fender piles be driven to protect the existing structural piles which support the pier. The fender piles would be of green native oak and should be ten or twelve feet on center as a maximum. Clusters of several fender piles should be driven at each corner of the pier.

The dinghy floats on the east side of the pier are inadequate. Providing a ladder instead of a gangway for access does limit the number of sightseers and may even discourage vandalism, but it makes it harder for people to carry oars, buckets, outboard motors, life preservers and tools, etc. up to their vehicles for transfer to safe storage. In fact, difficulty in carrying equipment or possessions may prompt people to leave such things in small boats which might encourage thievery. A more effective approach is to construct high quality floats with a gangway that is protected by a lockable gate. Marinas in the Portland area have lockup gates which either use combination locks or magnetic credit card type plastic cards which are inserted into a slot to activate the unlocking mechanism. The plastic card seems to be the better of the two systems.

The sturdy icebreakers may be used as anchorage for any new floating commercial docks. A layout using this approach was investigated. The result would be a total of approximately 100 linear feet of float which extends out at an angle of about 50 degrees from the pier. This could be a fine sturdy dock with the tie-up space on one side for lobster boats or other smaller fishing vessels and good dinghy tie-up space on the other side. However, it is quite apparent that a float in this position could seriously interfere with boats approaching or leaving the existing

pier. (See Figure 1.) The hoists and lifting equipment on the pier are not found on all commercial piers in Maine and in some respects are unique. Consequently, it is recommended that before new structures are installed in such a manner as to interfere in any way with vessel access to the front of the pier, there must be a consensus of the users of the pier. The strong tidal currents at the face of the pier are known best by those who use the pier and it may well be that construction of a float that follows the front of the pier may be preferred. See Figure II for this second alternative.

The alternative in Figure II involves constructing a fenced access platform at the rear of the pier with a gangway leading down to a 16 x 20 foot float which lines up with the front of the fixed pier. Extending along this same alignment with the front of the pier would be four or more 6 x 16 foot floats. This would provide 80 feet or more of tie-up space for lobster boats on the front and ample room for dinghys to the rear. Anchorage of the floats would be with concrete filled steel piles. The piles would be epoxy coated and very similar to the icebreakers, except that they would not need to be as large in diameter.

With either alternative, it would be possible to place floats along the icebreakers that are parallel to the channel. These, of course, would have no connections to the pier or the shore under Alternative Two, so that it would be necessary to have a small boat to reach them. Boats could be moored to either side of the floats. Boats moored in this manner take much less harbor space than boats that swing in a circle around a mooring. If mooring space becomes extremely scarce, this may be a way to increase the capacity of the harbor. However, there does not seem to be sufficient need to turn to this type of facility at this time. Under Alternative One, in Figure I, it would be possible to extend the floats for a direct connection to the shore.

We do not believe that the proposed commercial docks attached to the icebreakers should be left in the water during the winter. We estimate that the construction cost for Alternate One with about 1,500 square feet of wooden dock, a gangway and fenced access area, would cost approximately $44,000.00. We estimate that the construction cost for Alternate Two with only about 700 square feet of wooden dock, piles, a gangway and fenced access area would cost just under $40,000.00. Mooring floats attached to the icebreakers would cost approximately $5,000.00 each.

There is also room for improvement on the pier itself. The present fuel storage tank consists of an old truck. Eventually,

the tank on the truck containing the fuel will corrode sufficiently to allow fuel to leak into the water. (There are no barriers or dikes to contain fuel leaks.) The existing truck/tank should be replaced either with a double-walled fiberglass tank or a simple wall tank in a containment structure. A minimum capacity of 2,000 gallons is suggested.

In addition, the Camp Ellis Pier is busy enough so that it would be quite appropriate to provide a small building with public restrooms connected to the new sewer. This building should also have an office for the harbormaster with both a shoreside telephone and ship-to-shore VHF radio equipment. A good communication system is a great help with day-to-day operations, but more importantly, in an emergency, it is irreplaceable.

Public restrooms are quite expensive because of the heavy construction to reduce vandalism problems, and must be quite large to be handicap accessible. Small building for restrooms and a harbormaster's office would be about 18 feet square, and will cost about $35,000.00 for an unheated seasonal building.

Fuel system (2,000 gallon - diesel only) is about $8,100.00 with double tank and pump. There might be some saving if the tank were elevated and fuel would flow by gravity.

SUMMARY

In summary:

1. The Camp Ellis Pier should be improved in the short-term by installing fender piles to protect the structure. In the long-term, the pier should be renovated using heavier timbers.

2. A new alignment of floats is needed along the icebreakers to give fishermen better tie-up space for needs.

3. A gangway accessed through a lockable gate should replace the existing ladder to the dinghy floats.

4. The fuel truck should be replaced with a tank.

5. Public restrooms and a harbormaster's office should be constructed.

RECREATIONAL FACILITIES

Overview

At the present time, the facilities at Camp Ellis are utilized in a variety of ways with all users competing for vehicle parking space at the municipal parking area, which begins at Bay Avenue and terminates at the Camp Ellis pier. The actual area available for parking is a little over 3/4 acre. Based on present standards, for parking space size and travel lanes, it is expected that the maximum number of vehicles that could park in that area is about 135 cars or pick up trucks. Larger vehicles, trailers and two vehicle combinations, etc. would all contribute to the reducing the number of parking spaces. Some additional capacity could be gained by tandem parking of two vehicles whose occupants are aboard the same boat. Tandem parking of commercial fishermen on the same boat or of passengers on party or sport fishing boats would be quite practical.

During the summer months, vehicles parked in the area belong to:

1. Commercial fishermen.
2. Recreational boaters with vessels moored in the harbor.
3. Recreational boaters with boats launched from trailers.
4. Recreational fishermen who are passengers on party and sport fishing boats.
5. Patrons of restaurants and local commercial establishments.
6. Sightseers.
7. Beach goers.

The remainder of this section addresses issues and solutions regarding parking, recreational boating and ramp use.

Parking Proposal

As long as the waterfront facilities remain as they are, and are not improved, there will be times when parking is a problem, but people will "make do." If any significant waterfront improvements are made, it is predicted that there will be more boaters who will wish to park their vehicles and there will not be enough room.

One solution comes immediately to the fore, i.e., all daytime parking at the waterfront should be limited to users of the city's marine facilities. A ruling such as this is guaranteed to upset non-maritime users. However, there is a definite need for additional waterfront facilities, and parking for non-maritime users does not have to have a water view. Another parking issue involves spaces used by tourists patronizing local tour and charter boats. Because parking is at a premium in the Camp Ellis area, the Coasta Access Committee feels that the city should monitor parking associated with tour boat use. If growth in the local tour boat industry further strains available parking facilities, the city should consider requiring off-site parking from the tour boat operators.

Even with a priority use policy for improving regulation of parking, the Camp Ellis pier will continue to be a problem area for parking. The city should investigate purchasing additional land in the area to better accommodate the various waterfront users.

Marina Proposal

Use of moorings at Camp Ellis is considered at a maximum, primarily because the nearest available spaces are too distant from shore. A recent inventory of Camp Ellis by the Maine Department of Transportation recommends a recreational boat marina in the Camp Ellis area to help alleviate competition with commercial fishermen for use of the Camp Ellis pier.

On the west side of the pier/parking area it would be quite practical to dredge and construct a floating 70 slip marina between the existing boat launch ramp and the end of the pier. The marina would extend westerly from the pier to a point within 50 feet of the existing 6 foot anchorage. For the most part, boats within this marina would range from 20 to 30 feet in length. See Figure II.

Because pleasure boat owners do not all use their boats at the same time and commercial lobstering is not permitted on Sundays during the summer, it is felt that only 42 marina parking spaces would be required (.6 spaces per recreational boat). The 35 commercial boats are estimated to need 53 spaces and the 50 recreational boats at moorings are estimated to need 30 spaces. This leaves 10 spaces for sport fishermen, but no spaces for boat trailers or non-waterfront parking.

Limiting daytime parking to marine-related uses and construction of a marina seems, at first glance, to be a rather arrogant plan with little regard for the Camp Ellis merchants, residents, and the sightseeing public. However, there are other factors that present the proposal in a more democratic light. The fact that the state government has contributed to pier construction and the federal government has provided funds for dredgings as well as for the icebreakers cannot be ignored. It is very clear that the City of Saco is not the only contributor to facilities at Camp Ellis.

Sources of funding for facilities is an important consideration, but the unique character of the Camp Ellis pier and its environment is the most significant reason for proceeding with a plan for a municipal marina at this location. The Maine Coast south of Portland is very different from Casco Bay and the coastline northeast to Canada. Not only are there very few good sites for marinas along the Southern Maine Coast, but because of the intense real estate development in this area, the shorefront land that might be used is just too high-priced for municipal involvement. There are no good sites that could be developed for a marina in Cape Elizabeth, Scarborough, or Old Orchard to the north and the few possible sites to the south in Kennebunk, Kennebunkport, Wells and York are financially out of reach. This leaves the Saco River and here, the only municipally owned site that is readily developable as a marina is at Camp Ellis. There are strong currents, but protection from storms is quite good. If storm protection were not good, the area could not be used by fishermen all year long. Northeast winter storms are not to be taken lightly and yet boats are moored here to be used whenever winter conditions permit fishing.

The proposed marina would not be developed for the affluent yacht owner with paid hands operating large palatial oceangoing vessels. Instead, it would serve the more predominant middle class Maine citizen. The slips would be 20-to-30 feet long to serve boats not readily trailerable without large towing vehicles and yet not so large that more than two people are required to operate them. Most slips would be provided with water and electricity. In fact, some slips would not even have any utilities, but would just be suitable for relatively small open boats without cabins. The newer commercial marinas here in Maine prefer to serve boats 40 feet and up because that is where the most profit lies. Providing slips for smaller vessels would fill a real need and serve many Mainers very well.

Construction of the marina will require dredging, but dredging at Camp Ellis is certainly not a new idea and there seems to have been little problem in the past with using the dredge spoils on shore. If at all possible, dredging for the marina should be done

at the same time that the Army Corps of Engineers are dredging the channel and anchorages. Doing the work at this time could save between ten and twenty thousand dollars of mobilization costs, but if the timing did not work out, an effort should be made to do the work whenever equipment was in the area to do other similar work for either public or private interests. Permitting for the dredging should be undertaken as soon as possible in order to take advantage of any opportunities of reducing mobilization costs.

The actual construction of the floating docks will be dependent upon whether they are to be removed from the water each fall. Traditionally, along the Maine Coast, floating docks have been taken out of the water in the fall. However, with the development of plastic foams for floatation, more and more docks are left in the water all year long. At Camp Ellis, where ice is a problem, strong consideration should be given to using concrete floats if the floats are to be left in the water all year. These are built using a foam core that is encased in Portland cement concrete and in some respects look like floating concrete sidewalks. They have been used in Alaska as well as in warmer climates, and have served quite well in Kittery and Portsmouth. They are relatively expensive at approximately $28 per square foot in 1988, but maintenance costs are much less than traditional wooden floats. Depending upon constuction, wooden floats cost between $18 and $24 per square foot if built by contractors. The lower priced wood floats which are removed from the water each fall would have close to a ten year life while the concrete floats would be expected to last more than 25 years with minimal maintenance.

Costs and Income

Cost for the proposed facilities will vary considerably depending upon the type of construction selected. It is estimated that a floating marina with docks that remain in the water all year long would cost just over $500,000.00 at 1988 prices. A marina that has its docks removed each fall would be less expensive at a cost of approximately $350,000.00. Maintenance on the year-round floats is estimated to be about $1,400.00 per year, while hauling and maintaining the seasonal floats is estimated to be $12,680.00 per year. The year-round concrete floats will have a service life of thirty or more years while the seasonal floats probably will have to be replaced every ten years. We would expect that at the end of ten years, there would be a salvage value of about $50,000.00 on the seasonal floats. Financing either system is a significant expense as well. After conferring with the Saco City Treasurer, Mr. Quartararo, on current rates and borrowing practices of the city, we have estimated that borrowing would be at 8% for a ten-year term on the seasonal floats and for a twenty-year term on the year-round floats. The year-round floats

would cost $50,187.00 per year for principal and interest for twenty years. While the seasonal floats would cost $50,958.00 per year for principal and interest over the first ten years, allowing for the $50,000.00 salvage value, the same floats would cost $43,678.00 for principal and interest per year over the next twenty years. A comparison of the two system costs are as follows:

COST	YEAR-ROUND FLOATS	SEASONAL FLOATS
Principal & Interest 8% 20 years @$50,187/yr. =	$ 1,003,740.00	
Principal & Interest 8% 10 years @$50,958/yr. =		$ 509,580.00
20 years @$43,678/yr. =		$ 873,560.00
Maintenance 30 years @$1,404/yr. =	$ 42,120.00	
Maintain, Haul & Launch 30 years @ $12,680/yr. =		$ 380,400.00
Sub-Total 30 yr. costs	$ 1,045,860.00	$ 1,763,540.00
Salvage		- 50,000.00
Total	$ 1,045,860.00	$ 1,713,540.00
Average Cost	$34,862.00/yr.	$57,118.00/yr.

Either system would require dredging for construction as well as maintenance dredging as time goes on. We estimate that the yearly cost for this, including interest at 8% would be $15,3000.00/year. In addition, there would be summer labor costs, utility costs and miscellaneous expenses totaling about $12,000.00 per year. A summary of all costs on an annual basis is as follows:

ANNUAL COSTS

COSTS	YEAR-ROUND FLOATS	SEASONAL FLOATS
Average annual cost construction Principal, Interest & Maintenance	$ 34,862.00*	$ 57,118.00
Dredgings	$ 15,300.00	$ 15,300.00
Labor, utilities, Misc.	$ 12,000.00	$ 12,000.00
TOTAL ANNUAL COSTS	$ 62,162.00	$ 84,418.00

The asterisk in the previous chart refers to a total cost spread over 30 years. However, principal and interest would be paid over only 20 years at the rate of $50,187.00 per year. Then for the first 20 years the annuala cost would be $77,487.00 per year and the next 10 years would be at only $28,704.00 per year.

We estimate that the income from either marina would be about $80,000.00 per year depending upon rates and occupancy rtes. When compared with the expenses, it is quite clear that the seasonal marina would average about a $4,418.00 loss each year while the year-round marina would make about $2,500.00 profit per year for the first 20 years and then would make over $51,000.00 per year for the next ten years.

Under the circumstances, it seems to make a great deal of sense to construct a year-round marina with concrete floats rather than one of wood construction. However, people with considerable local knowledge of the problems with ice and strong currents at the mouth of the Saco River are not convinnced that even concrete floats can withstand the adverse winter conditions. Therefore, since the marina will not be constructed immediately, it is suggested that the proposed interim dinghy floats be constructed of concrete and that they be left in place year-round to see how they withstand the conditions. We estimate that these floats plus two steel piles to anchor. These would cost about $21,000.00. These same floats would become a part of the marina at same later date.

Dredging and marina construction will not happen overnight. Therefore, in the short term it is recommended that additional dinghy tie-up space be provided. This new dinghy tie-up float should extend shoreward from the present float toward the launch ramp. If financially feasible, the float should be large enough and sturdy enough so that boats up to 10 feet in length can be hauled up onto the float for dry storage. This will avoid the problem of having the strong currents capsize and sweep shallow boats under the floats. The shoreward end of this new float may ground out at low tide so that it should be equipped with skids to protect the flotation materials. See Figure I. Two new 14′ x 24′ floats are suggested for the dinghies. These same floats could be incorporated in the proposed marina if and when it is built.

Ramp Proposals

It is quite clear that at low tide the existing boat launch ramp is in need of repairs, structural improvements, and dredging. Because of the parking constraints, we see no justification to spend money for anything but repairs to the existing launch ramp. It would be very practical to keep it in reasonable repair for

hauling and launching of boats stored in the parking lot in the winter as well as for boats transported to boat owners' houses during the off season. However, without an increase in the number of parking spaces, there is no justification for any major improvements to the ramp and launching facilities to serve boat owners who launch and retrieve boats on a daily basis.

On a longterm basis, we believe it would be more practical to investigate acquiring additional land in the North Street/Fore Street area and construct a new launch ramp leading to a dredged channel which would connect with the proposed marina or the existing 6 foot anchorage. Any new launch ramp should have a minimum of 16 double parking spaces (trailer plus tow vehicle) per launching lane and we would not recommend building any less than two launching lanes. To accommodate parking and ramp access lanes, etc. we believe that a new boat launch facility should have nearly an acre of land to justify the expense of constructing new facilities.

Until such a site can be found and facilities can be constructed, it is recommended that the ramp near the old public works garage be improved and also that users be directed toward the state-owned ramp in Biddeford. There, the state is planning to add 55 new double parking spaces and improve the ramp to provide two launching lanes with floats in between.

SUMMARY

In summary, the Camp Ellis area is at capacity for moorings and ramp use. No new moorings are planned. Additional ramp uses should be directed to other facilities. The state is doubling the size of its facility in Biddeford and Saco will be building a new ramp up the river in conjunction with the Riverfront Park project.

In the short-term at Camp Ellis, it is recommended that the city try to separate use of the pier by commercial and recreational uses. Some of the recommendations contained in the commercial facilities section will be helpful: providing a gate to restrict access to commercial boats; establishing fees and greater enforcement of parking and providing more dinghy float locations for commercial and recreational users.

In the long-term, the city may want to consider development of a marina west of the Camp Ellis Pier. Also, the city may want to consider acquiring land in the North Street/Fore Street area for a boat ramp and parking area.

-LEGEND-

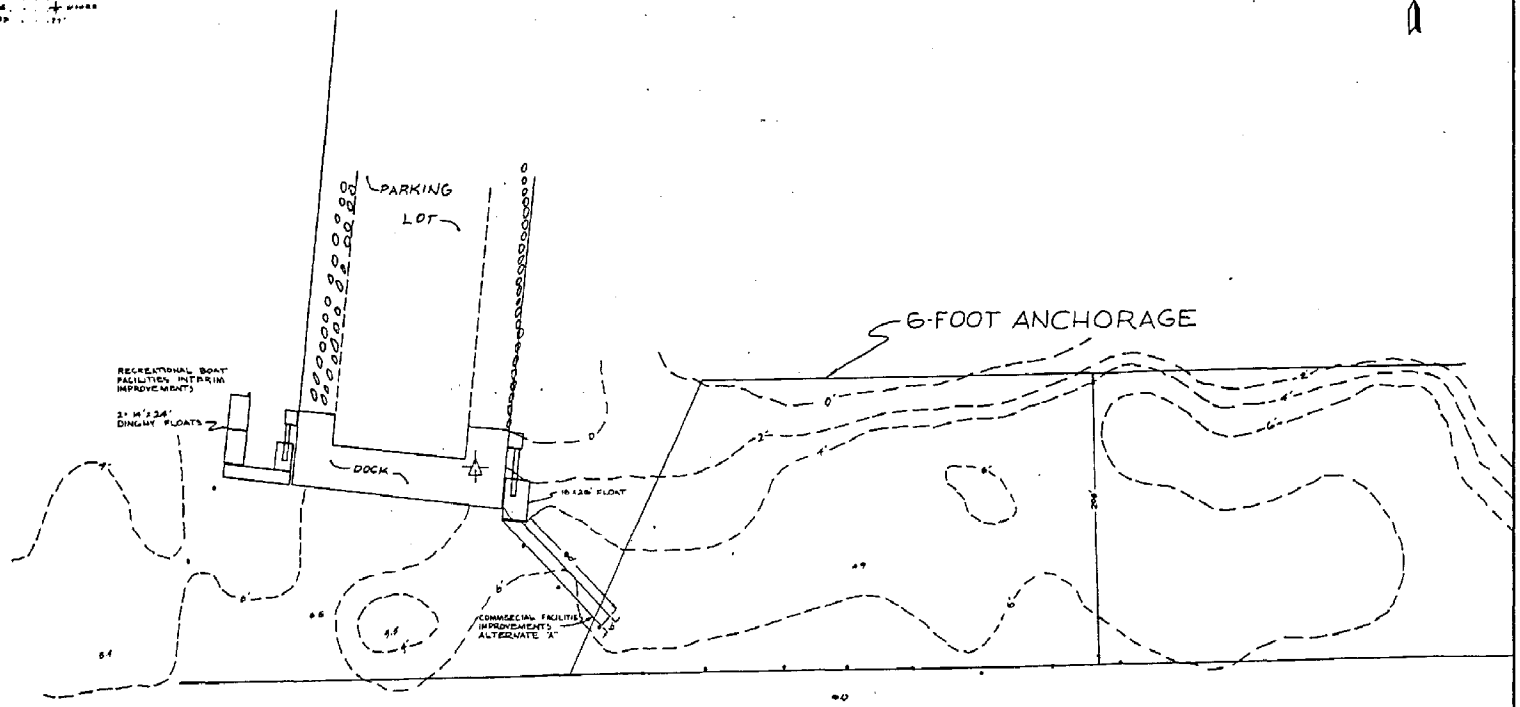
EXISTING CONTOURS . . . . . 0' - - -

ICE BREAKERS . . . . . ●

STONE REVETMENT . . . . . ▨▨▨▨

CONTROL POINTS . . . . . + MBR

SPOT ELEVATIONS . . . . . 11'



-NOTES-

- COMPILED FROM SACO RIVER CONDITION SURVEY, ARMY CORPS OF ENGINEERS NED-1140-2-1.
- SOUNDING ARE IN FEET AND ARE REFERRED TO THE PLANE OF MEAN LOW WATER.
- COORDINATES ARE ON LOCAL GRID SYSTEM.
- HYDROGRAPHY FROM SURVEYS OF SEPT 1988 & JAN. TO MAY 1982 BY AUTOMATED SYSTEM NO 3.
- FINANCIAL ASSISTANCE WAS PROVIDED BY MAINE'S COASTAL PROGRAM THROUGH FUNDING PROVIDED BY US DEPT OF COMMERCE, UNDER THE COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED.

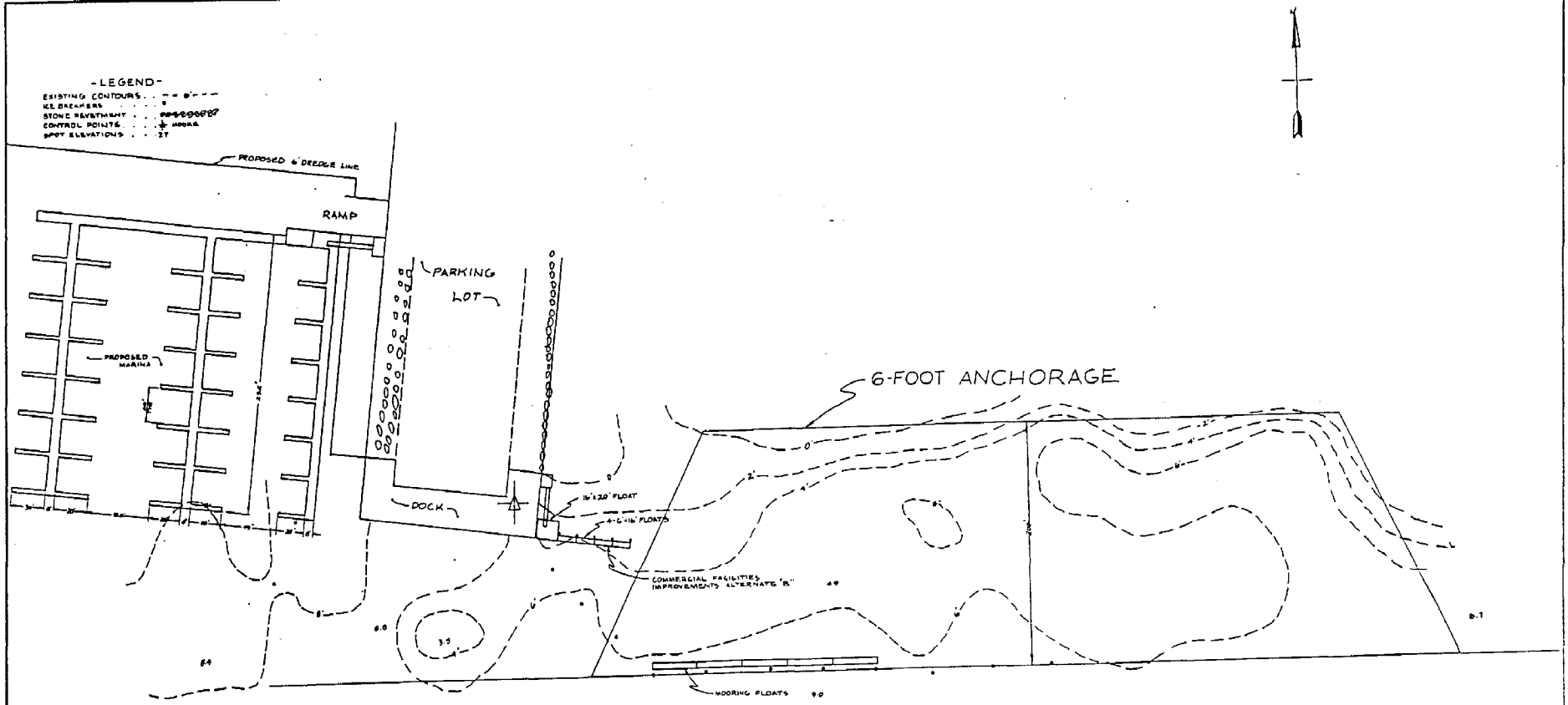
GRAPHIC SCALE

SCALE: 1"=40'

SACO HARBOR
STUDY- SACO, MAINE
FIGURE 1

TEC ASSOCIATES
100 Front Street South Portland Maine 04106

SCALE AS NOTED	DATE 11/01/88
JOB NO 88176	DRAWN BY T.D.L.
REV NO	DRAWG NO 1 OF 2



-NOTES-

- COMPILED FROM SACO RIVER CONDITION SURVEY, ARMY CORPS OF ENGINEERS "21140-2-1
- SOUNDING ARE IN FEET AND ARE REFERRED TO THE PLANE OF MEAN LOW WATER
- COORDINATES ARE ON LOCAL GRID SYSTEM
- HYDROGRAPHY FROM SURVEYS OF SEPT 1981 & JAN TO MAY 1982 BY AUTOMATED SYSTEM NO 5
- FINANCIAL ASSISTANCE WAS PROVIDED BY MAINE'S COASTAL PROGRAM THROUGH FUNDING BY U.S. DEPT OF COMMERCE, UNDER THE COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED.

GRAPHIC SCALE

SACO HARBOR
STUDY - SACO, MAINE
FIGURE 2

TEC ASSOCIATES
169 Front Street South Portland Maine 04106

SCALE 1"=40'	DATE 09/21/83
JOB NO 8414	DRAWN BY JDL
REV NO	DRWG NO 2 of 2

HARBOR MANAGEMENT

HARBOR MANAGEMENT

Overview

Both the Saco Harbormaster and the Maine Bureau of Marine Patrol have expressed the need for improved management of boating activity and enforcement of harbor regulations in the Saco River.

The issues stem from the increased use of the river by boaters in recent years. The river is viewed as having the capacity to accommodate boat traffic, but growth in recreational boating has brought many novice users to the area. The major issue involves safety. As boating use increases, so do violations involving drunkenness, speeding and illegal water skiing. Records covering the last four years show that the most common violations are: not enough life jackets, unregistered water craft, no running lights and speeding and illegal towing of skiers. Other violations have included littering, shooting ducks without a license and damaging fishing gear.

The situation has challenged the ability of existing enforcement personnel to keep up with boating activity. The Bureau of Marine Patrol, a division of the Maine Department of Marine Resources, is charged with enforcing fishery regulations. In recent years, the Bureau has had to spend more time on recreational boating issues, keeping personnel from their primary mission. The Saco Harbor Master is a part-time official and does not have the time to devote to increased management and enforcement activities. It is also important to note that the two-person marine patrol office that is responsible for Saco is also responsible for the area between Wells and Cape Elizabeth. Thus, there are many hours when there is no law enforcement presence on the Saco River. Despite the part-time presence, arrests have jumped from five in 1985 to 13 in 1988, while warnings have grown from one to 18 in the same time period. In total, overall incidents have increased from six in 1985 to 31 in 1988.

The Harbormaster and the Coastal Access Committee have discussed the situation at length with each other, the City Planner and the harbor planning project's consultants. In addition, the City Planner has also met with the Saco Police Chief regarding the situation.

Recommendations

It is recommended that the City take the following steps to improve harbor management and enforcement in the Saco River:

1. Saco's harbor ordinance should be updated. Since the time that the city's Chapter 14 Harbor and Waterfront, Article I River and Bay Regulations were written in 1963 and amended in 1971, state law has changed and public usage of this valuable resource has grown tremendously. Because of this, it is recommended that Article I be reexamined and brought up-to-date.

   Some of the things which should be considered during this reexamination include, but are not necessarily limited to:

   A. During 1987 the Legislature amended Chapter 38 of the State Statutes and a number of changes affecting waterfront regulations and usage were enacted. These changes included: appointments and compensations of harbormasters; arrest powers and authority of a harbormaster to carry a weapon; rules and enforcement of channel lines, mooring site locations, removal of moorings or moorings buoys by the harbormaster, and removal of vessels obstructing anchorages and channels by the harbormaster; establishment of waiting lists for mooring locations including a minimum of 10% of moorings for nonresidents; mooring fees; abandonment of watercraft; harbormaster liability; and definitions. These changes became effective April 1, 1988.

   B. The city may wish to include in its regulations additional definitions for: types of vessels, marine oriented terms, resident and nonresident, proof of residency and any other pertinent items.

   C. The city may wish to add or restrict the harbormaster's duties, including keeping of records and providing a mechanism for appeal if a citizen feels that a ruling by the harbormaster is unjust.

   D. The city may wish to establish minimum mooring standards, mooring fees, procedures for obtaining moorings and regulations regarding subletting of moorings.

   E. Penalties and fines may need to be revised.

2. Existing harbor management should be augmented by a special officer assigned by the Saco Police Department to the river area, including Camp Ellis and ramp areas. It

is suggested that the added law enforcement presence occur during the boating season on weekends and on two days during the week. A letter from the Saco Police Chief supporting this proposal is attached at the end of this section.

3. To pay for increased enforcement (as well as to increase funds for capital improvement projects) existing fees should be modified and new fees implemented.

   The Committee has discussed this issue at length, paying particular attention to the need to generate revenues while at the same time being fair and equitable to Camp Ellis area harbor users. The committee recommends that existing fees for commercial users not change, but that fees for recreational use, boat launching and parking be increased slightly. The committee further recommends that out-of-town users pay slightly more than Saco residents on certain fees, with the justification being that local residents currently support town facilities through a portion of their property taxes, and use by out-of-towners during the summer season is a major reason for increased management, enforcement and facility improvement needs.

   Saco currently charges a wharf fee which covers use of dinghy space for owners of watercraft moored in the Saco River off Camp Ellis.

   Recommendations for specific fees include:

   A. Resident commercial fishermen: $100/year, with parking included for one vehicle. The cost is unchanged from the existing fee.

   B. Non-resident commercial fishermen: $400/year, with parking included for one vehicle. The cost is unchanged from the existing fee.

   C. Resident recreational boaters: $50/year with parking included for one vehicle. The proposed fee is $10 more than the existing fee.

D. Non-resident recreational boaters: $150/year, with parking included for one vehicle. The proposed fee would double the existing fee.

Saco also charges a parking fee. Currently, the fee for transients is $1.50 a day, with seasonal resident parking allowed free with a sticker obtained from City Hall. The committee proposes to continue the free sticker system for residents but to charge transient motorists $1.00/hour with an upper limit of $4.00/day. Motorists with boat trailers would be charged for two spaces. The daily rate is roughly mid-range of what the charge is for municipal public parking at similar facilities in southern Maine.

Saco currently charges $3.00 for boat launching at Camp Ellis. The committee proposes to keep the existing fee, but to charge the new parking rate for vehicles associated with boat launching.

The City generates revenues of $10,000 - $15,000 annually from existing fees, which are set aside for maintenance and operation. During the last year, Saco used most of its revenue repairing damage to the pier's bracing caused by ice. However, the financial gain to Saco from fees is much less than potentially possible. There is approximately a 50% compliance on fee payments by boat owners, according to committee members. Thus, an increase in fees combined with improved collection of money (for instance, residents could be charged on their property tax bills and the proposed added police officer could help with fee collection on-site) would go a long way towards providing sufficient financial support of municipal harbor activities.

4. In addition to increasing fees and improving enforcement of payment, the City should consider earmarking boat excise tax revenue toward harbor efforts. During the last four years, Saco has collected an increasing amount of excise taxes from commercial and recreational boat registrants:

Year	Boat Excise Tax Collections
1984-85	$ 8,702.00
1985-86	$10,795.00
1986-87	$11,091.00
1987-88	$13,328.00

With increased compliance on payment of fees and the earmarking of boat excise tax revenue, the city would be able to collect an estimated $30,000-to-$40,000 annually that could be used for harbor infrastructure and management purposes.

5. Because the Saco River is accessed from both Saco and Biddeford, the communities should consider regional approaches to river planning, management and enforcement. One of the successes of the current study is that the Biddeford Harbormaster was an active member of the Saco Harbor Advisory Committee. Potential courses of action may include:

   a. Improved communication between the cities on their respective planning efforts; For instance, Saco is undertaking a river planning effort during the same time Biddeford is undergoing an update of its Comprehensive Plan, which will include shoreline areas;

   b. Joint harbor management involving cooperative arrangements with the respective harbormasters; or

   c. The formation of a river or harbor commission, with representation by both cities, which would provide function and oversight to a single, riverwide harbormaster.

DREDGING

DREDGING

Overview

The U.S. Army Corps of Engineers is the primary regulatory agency of the federal government regarding dredging and dredged material disposal in navigable waters of the United States.

The Corps' regulatory activities are threefold:

1) to prevent the unauthorized alteration or obstruction of a navigable waterway;

2) to protect water quality; and

3) to control the discharge of dredged materials into ocean waters.

As the lead federal agency, the Corps is not only responsible for the issuance of dredging permits; the Corps also coordinates the review of projects by other participating federal, state, and local agencies and provides for comments from the general public.

The U.S. Army Corps of Engineers has been active in the Saco River since 1935, attesting to the area's importance for commercial navigation. Some half-dozen separate Corps projects have deepened the channel, constructed jetties and a breakwater, developed anchorages and maneuvering basins and installed icebreakers. The Corps currently is awaiting funding for an approved maintenance dredging project.

Under current plans, the Army Corps of Engineers has authorized a maintenance dredge in the Camp Ellis area. The project, estimated to cost $500,000.00, involves restoring the navigational channel to eight feet deep and restoring three anchorages to six feet deep. An estimated 107,000 cubic yards will be dredged and then deposited on Ferry Beach and/or Hills Beach for beach nourishment.

The Corps plans to bid the dredge project soon, with the goal of completing the work by May 1, 1989.

Recommendations

If the city can increase existing revenues and develop new sources of revenues, it should consider establishing a dredging management program. The program could help the city in two ways:

1. By providing local matching funds during projects when the Corps requires local participation; and

2. By providing funds for dredging projects that do not include Corps participation. (Either as the full local cost or as a share of funds that involve other sources, such as the state.)

In short, dredging funding formulas are always changing, and there is no guarantee that the Corps will participate as extensively in small ports in the future. Funds for dredging come from only a few sources: the Corps, local communities and state assistance through the Department of Transportation.

Periodic dredging of the Saco River is important because successful use of the harbor involves accommodating commercial and recreational boat traffic. The river is a water highway; dredging helps assure safe passage.

Bottom sediments, whether silt, mud, or sand, are moved by tides, waves, riverine flow and storms. When sediments move, their destination is often the dredged channel. Keeping ahead of, not just keeping up with, this movement is the purpose of dredging master planning.

A review of the Saco River's dredging history helps illustrate the need for a dredging management program.

The River has been dredged five times in the last 53 years.

Year	Cubic Yards Removed
1935	88,000
1938	80,000
1939	63,000
1969	150,000
1978	93,000
1988	107,000*

* Approved for 1988-89

The historical information shows that in the last 20 years, the River has been scheduled for maintenance dredging approximately every 8-to-10 years. A longer time period appears to make dredging more difficult, as shown by the large volume of spoils dredged in 1969 after a 30-year lull in activity. With current costs for dredging estimated at $6-to-$10 a cubic yard, it is clear why dredging activities should be placed on a regular schedule.

There are two types of navigational dredging projects involving Corps participation: Maintenance projects and Improvement projects.

Maintenance projects are those authorized by Congress. In maintenance projects, the Corps pays for the dredging; the local community is responsible for locating, procuring and preparing the disposal site.

Improvement projects are those which occur outside Congressional authorization. In improvement projects, the local community is not only responsible for locating, procuring and preparing the disposal site, it must also share the cost of dredging with the Corps. Typically, the local share is between 20 percent and 50 percent, but it can be more. The amount of local participation is dependent upon the results of a cost/benefit analysis of the project. As a general rule, the level of commercial use in a harbor determines the required level of local participation; the higher the commercial use, the lower the amount of local participation in funding.

Also, because the Corps is a federal agency, all improvement projects must result in use by all members of the public, not just local citizens. It is legal for communities to charge fees with differentials for local and out-of-town residents, but the differential must be equitable and substantiated.

During the dredging permitting process, environmental considerations are taken very seriously. Because the potential exists for significant negative impacts, both the Corps and the Maine Department of Environmental Protection generally take conservative approaches to dredging.

A key criterion of state preference is that dredged material remain in the local sediment system, such as using the material for beach nourishment. Saco is meeting that preference with its current dredging plans.

POTENTIAL SOURCES OF FUNDING

POTENTIAL SOURCES OF FUNDING

1. DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT

The department administers the Waterfront Action Grant (WAG) Program, which provides funds to municipalities. Individual grants may not exceed $50,000.00, and a local cash match of 50% of the grant award is required. Eligible projects include:

* Waterfront land acquisition to provide public access for recreation and/or commercial fishing purposes;

* Construction projects to improve public access and increase shoreline recreation opportunities (pathways; landscaping; interpretive displays; waterfront park improvements such as benches, picnic areas, play areas and rest rooms; boat launch ramps; and access road and parking improvements.)

* Acquisition, rehabilitation and/or construction of public piers (acquiring a private pier for public use; adding ramps and floats to increase public use; adding facilities such as a pumping station for effluent to improve public use; constructing a new public pier; making an old public pier safe and useable; and final engineering leading to the construction or rehabilitation of a public pier.)

Since 1985, the WAG program has provided funding for 40 projects. Some examples include a waterfront park in Rockport; wharf rehabilitations in Waldoboro, Castine and Freeport, boat launching/parking facilities in Brooklin and Harrington; and the planned boat ramp in Saco as part of the Riverfront Park proposal.

The department also administers The Community Development Block Grant (CDBG) program. The CDBG program focuses on projects that primarily benefit low and moderate income people. Saco's community profile suggests it may be difficult to use this program, but it is worth investigating.

2. DEPARTMENT OF CONSERVATION, BUREAU OF PARKS AND RECREATIONAL

The Department administers state and federal funds for recreation-related projects, such as boat ramps, parking and dockage. The level of financial support depends upon the details of the project. Basic funding sources include:

* Land and Water Conservation (LAWCON) Fund - Since 1965, 130 state and local projects along the coast have received nearly $2 million in federal matching funds to develop existing publicly owned property. Waterfront parks and/or boat launching facilities have been developed in Bangor, Hampden, Augusta, Gardiner, Hallowell, Bath, Belfast, and South Portland. About 10 to 15 percent of the funds have gone to land acquisition. LAWCON funding also contributed to the purchase of Jewell Island and to the acquisition and park development at Reid and Popham Beaches.

* Boat Facilities Program - Paid for through a marine fuel tax, this program has helped development of nearly 200 public access sites, 50 of them on tidal waters.

3. MAINE DEPARTMENT OF TRANSPORTATION

The Maine Department of Transportation (MDOT) is interested in discussing Camp Ellis Pier improvements with Saco City Officials. The MDOT is developing a proposed bond issue program for small pier improvements, including assistance in paying for dredging projects.

4. MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

The DEP administers Section 205; water quality planning grants for projects determining the nature, course and extent of water pollution. The DEP gave out $150,000.00 in grants last year, with the highest one-town allotment being $24,500.00. Approximately $90,000.00 is available statewide. A local match of funds is not required, but may be helpful in the approval process. Scarborough recently used the grant program to determine non-point pollution sources entering Scarborough Harbor.

5. COASTAL ENTERPRISES INC.

Coastal Enterprises Inc. (CEI) is a non-profit economic development agency in Wiscasset. CEI has a working waterfront program in which it seeks to help fund partnerships involving local government and private businesses. CEI manages a publicly owned fish pier in Boothbay Harbor. The agency made loans to the Portland Fish Exchange and two Portland fishing-related businesses and is working with the Town of Vinalhaven and a processing cooperative to maintain and develop the Penobscot Fish and Cold Storage facility.

6. U.S. ARMY CORPS OF ENGINEERS

The Corps funds dredging projects, but requires a local match. For Congressionally authorized maintenance dredge projects, the Army Corps pays 100% of the cost of dredging, but the local government is responsible for locating, procuring and preparing the disposal site. For improvement projects (small-scale navigational dredging projects that occur outside of Congressional approval), the local government must share the cost of dredging as well as locate, procure and prepare the disposal site. Typically, the local share of dredging costs is between 20% and 50%, but it can be more.

7. ECONOMIC DEVELOPMENT ADMINISTRATION

This federal agency administers public works grants, which in the past have included commercial fishing piers. EDA prefers to work in conjunction with development plans involving state participation. However, EDA has far fewer resources than in the early 1980's, with the national budget for public works grants dropping from $600 million a year to just $120 million a year. The limited financial resources of the agency and the strong southern Maine economy may preclude Saco's use of this funding source at this time.

MARINE-BASED ZONING PROPOSAL

The possibility of marine oriented and residential zoning for the Camp Ellis area was first raised in the 1987 Comprehensive Land Use Plan. Such zoning would continue the current pattern at Camp Ellis of a mix of housing and marine and small-scale tourist related facilities.

A major concern to members of the Planning Board, City Council, as well as members of the public and the planning staff, has been the impact of the sewer on the Camp Ellis and beach areas. Concerns have been expressed that because of the numerous commercial uses and the multifamily uses permitted at Camp Ellis, and because of the higher densities allowed for multifamily and duplexes, developers will find it tempting to buy up single family homes and tear them down for large scale redevelopment. Such developments could drive out long time residents, and replace water dependent activities with condominiums and large-scale tourist facilities.

The density permitted with sewer in the B-1 district at Camp Ellis is quite high, particularly for two-family and multifamily. Single family lots are a reasonable 7,500 square feet with sewer and 20,000 square feet without sewer. However, for 2-family and multi-family only 5,000 sf is needed with sewer and 10,000 sf without. This is an unnecessary incentive to build multi-family units in this basically one-family neighborhood.

The Coastal Access Committee reviewed the current use lists and is proposing a new Marine and Residential District with uses limited to marine uses, small-scale residential, small scale tourism and service businesses. Multifamily and large scale business uses would be prohibited. Setbacks would also be adjusted downward to recognize the current pattern of building and to minimize non-conforming uses.

Lower Beach Rd. to Pond Ave.

The density issues in this R-2 district are exactly the same as in the B-1. Single family density is 7,500 with sewer, 20,000 without. Multi- and 2-family is 5,000 sf with sewer, double without. Again, a bonus is being given to multifamily in a single family neighborhood. The permitted and conditional use lists for the R-2 are not as inappropriate as in the B-1.

As with the B-1 district in the Camp Ellis area, we cannot just

change the use lists or density requirements because this zoning district is also used in four other parts of the city. A different zoning designation is needed but not a new one. The densities for residential use should be similar to those mentioned above for Camp Ellis. The R1-c district, which covers the rest of the beach, is very similar and has the advantage of already existing in an adjacent area. The Committee recommends that the Lower Beach Road to Pond Avenue be rezoned as R-1c.

Pond Ave. to Goosefare Brook

The committee sees no major problem with the existing R1-C designation for the remainder of the beach. Densities are 7,500 square feet with sewer, and 20,000 sf without. The R-1 use list appears to be fine for this residential area.

The proposed Marine and Residential District and the R-1c are described on the following two pages.

MARINE AND RESIDENTIAL DISTRICT

(Located in Camp Ellis, area bounded by Lower Beach Road, Camp Ellis Ave., and the water.)

Permitted Uses

1. Single family dwellings
2. Two family dwellings
3. Home occupations
4. Retail businesses not greater than 1750 square feet, excluding fast food
5. Eating places and eating and drinking places, excluding fast food
6. Churches
7. Schools, limited to instruction in environmental and marine related subjects
8. Essential services
9. Public parks and playgrounds
10. Quasi public uses
11. Municipal uses
12. Public utility buildings
13. Any use permitted in the Resource Protection District
14. Bed and breakfast establishments
15. Private clubs if marine oriented
16. Commercial fisheries and related sales of fresh products
17. Excursion boat terminals
18. Offices for the marine patrol, the harbormaster, and other marine enforcement and management personnel
19. Parking lots
20. Boat building and repair facilities, subject to site plan review
21. Marinas, piers, docks, boat houses and port facilities, subject to site plan review

Setbacks, 15 feet, front, side and rear. (Compare present 35 feet for front, 15 side and rear)

Minimum lot size, 7,500 per sewered unit. 20,000 square feet is unsewered. (Compare present, 7,500 sf, 5,000 sf if sewered)

Minimum street frontage, 50 feet (same as present).

410-1. R-1, LOW DENSITY DISTRICT

PERMITTED USES

1. Single family dwellings
2. Agriculture, excluding livestock
3. Public parks and playgrounds
4. Public and private schools, excluding commercial schools
5. Churches
6. Essential services
7. Accessory uses
8. Any use permitted in the Resource Protection District

CONDITIONAL USES

1. Two family dwellings
2. Cemeteries
3. Home occupations
4. Nonprofit recreational uses
5. Nursery schools
6. Day care centers
7. Nursing homes
8. Municipal uses not listed under permitted uses
9. Public utility buildings
10. Commercial greenhouses and nurseries
11. Kennels
12. Stables
13. Quasi-public uses
14. Water recreation including piers, docks, and boathouses related thereto
15. Community living uses
16. Professional offices located within 200 feet of Route 1 and which further comply with the standards of Section 713 of this Ordinance
17. Bed and breakfast establishments, in the R-1b District only

R-1c
7,500 per unit, single or 2-family
75 foot frontage
25 foot front setback
15 foot side and rear

(Compare present R-2, 5000 for 2f, frontage 75/100
Frontdetbacks 25/35
rear setbacks 15/20)