The Willard Beach System

Research Resource
&
Management Guide

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INTRODUCTION

This Willard Beach Resource and Maintenance Guide has been created for both city officials and residents of the neighborhood as well as other concerned citizens. Recommendations for recreational usability, long-term welfare of the beach and the surrounding communities are included in this summary.

It is our intention that this document be consulted as changes/improvements to the area are planned. This document will continue to be updated as more information is obtained or beach conditions change. It is the primary responsibility of the Willard Neighborhood Beach Committee to insure its relevance and communicate its intentions.

DISTRIBUTION LIST:

- The City of South Portland:
  - Town Council Members
  - City Manager - Jeff Jordan
  - Parks and Recreation Department - Dana Anderson 767-7651 and John Switzer 767-7670
  - Public Works Department - Steve Johnson 767-7635
  - Pollution Abatement Department - Pat Cloutier, David Thomes 767-7678
  - City Engineer - Dave Pineo 767-3383, Craig Worth 767-7645
  - Planning Department - Tex Haeuser 767-7602
  - Waterfront Development Director - Tom Meyers 767-5556
  - Code Enforcement - Pat Doucette 767-7603
  - South Portland Conservation Commission

- Nonprofit & Community Organizations
  - Willard Neighborhood Association - President
  - Willard Neighborhood Beach Committee - Chairperson
  - Friends of Casco Bay
  - South Portland Dog Owners Group
  - South Portland Land Trust
  - South Portland Public Library

- The State of Maine
  - State Planning Office - Maine Floodplain Management Program
  - State Planning Office - Maine Coastal Program
  - Southern Maine Regional Planning
  - Maine Geological Survey
  - Maine Department of Environmental Protection
II ABOUT THE WILLARD BEACH SYSTEM
Willard Beach is an important recreational resource and open space for the city of South Portland that is used daily by many people. We are fortunate to have such a public treasure, as there are only 70 miles of sandy beach in 4,500 miles of Maine coastline. Willard Beach is one of a few free public beaches south of the city of Portland.

Sea Level Rise: In the October, 1999 beach walk meeting, Joe Kelley (Geologist, USM) stated, “The biggest problem this beach and other beaches face is the rising of the ocean. The ocean has risen almost a foot in the tide gauge in Portland since 1912. And if you look at the slope of the beach here, it is gentle. A one foot vertical rise in the water means the shoreline moved a considerable distance landward.” (See Appendix 1)

Pollution: In the 1980’s, Casco Bay was considered one of the top ten most polluted bays in this country. Copies of the report, The Dirty History of Portland Harbor, are filed at the South Portland Library and may be obtained from the Friends of Casco Bay.

Since then, cities and citizens have worked to clean up Casco Bay and the ongoing activities of today (See Section III) will have a positive and long lasting effect on the Bay and on Willard Beach. It is important to consider “that every watershed eventually empties into the ocean, and each of us lives in a watershed. Each drop of rain that lands on each lawn is an empty vessel, ready to carry contaminants down through the watershed. Cleaner watersheds will continue to lead to a cleaner bay. The phone number for the Casco Bay Estuary Project is listed in Section XVI of this report.

Erosion: In 1982, The Army Corps of Engineers investigated beach erosion control needs for Willard Beach. The Corps recommended the rebuilding of the crib wharf jetty and the construction of two groins at the bathhouse and at the north end of the beach. It also recommended beach nourishment in the front beach area and called for back beach area dune restoration to be accomplished by dune fencing and dune grass plantings. The high cost and the uncertainty of the success of implementing all but the last recommendation (dunegrass planting) proved prohibitive. At this time, the science does not support their future implementation.

Recommendations
III SEWER & WATER LINES
1) Water Quality Alerts (Parks & Rec.):
   a) Post Signs at each beach entrance with the following information:
      i. General post-rain event advisory
      ii. Look for flags (yellow and red) above beach house for beach swimming advisories & closures
      iii. Watch for submerged hazards in swimming area
   
   b) Establish Flag system at the beach house
2) Pollution Abatement
   a) Research the feasibility of capturing the “first flush” to improve overall water quality after rains.
   b) Research feasibility, and if appropriate, develop a long-term plan to remove sewer pipes from under the beach.
   c) Beach committee volunteer will help to coordinate volunteer education efforts with appropriate municipal/state and private organizations.
   d) Recruit volunteers within the community to assist the city with NPDES Phase II Education (Note: c&d could be put together into one recommendation and specifically name the school board and other organizations to assist city)

IV DUNE MANAGEMENT
1) Beach committee will draw up plans for the placement of dune fencing, walkovers (if appropriate) and plantings and seek city approval of plans.
2) Beach committee will provide volunteers who will continue to work with the city to obtain approval, needed material, funding and support to do the following:
   a) Continue to plant dune grass and put up dune fencing where appropriate - It is specifically recommended to fence in a portion of the dune between Myrtle Avenue and Beach Street entrance and plant some dune grass. Also it is recommended to put in wood posts along either side of the recreational area by the bathhouse to delineate dune and recreational area.
   b) It is recommended to plant a greater variety of plants in the dunes for genetic diversity
   c) Review the possible use of dune walkovers where appropriate.

V HAZARD MITIGATION PLAN - SOUTH PORTLAND WATERFRONT DEVELOPMENT
1) Beach committee will continue to provide Tom Meyers, Director of Waterfront Development for the City of South Portland, with information necessary to complete the Hazard Mitigation Plan.
2) It is recommended that the Hazard Mitigation Plan include provisions for the rebuilding of the dunes after a natural disaster or flood. Include in these provisions would be criteria for dune replenishment, timing and sand and plant sources for dune restoration.

VI BEACH REPLACEMENT/NOURISHMENT
Beach committee will continue to research replenishment in the back beach area (dune area). There is no recommendation for sand replenishment on the beach face at this time.

VII MOORING INFORMATION - PORTLAND HARBORMASTER
Please consult section VII of this guide for current regulations and contact information.

VIII PUNTS
1) South Portland Parks & Recreation Department and the Willard Beach Committee shall establish punt storage areas (on or off the beach) clearly defined by signs. It is recommended
that two signs connected with Coast Guard chain for punt attachment border each area. City or volunteers shall install signs and chains.

2) The Willard Beach Committee will write a proposal to the Harbor Master to create and enforce a new regulation requiring the mooring number be placed on all punts stored at Willard Beach.

3) The Beach Committee and the City of South Portland Parks & Recreation Department will help alert the Harbor Master of Punts left in storage areas after November 1st or before April 1st.

IX ANIMAL INFORMATION
Please consult section IX of this guide for current regulations and contact information.

X POLICE & FIRE DEPARTMENT - BEACH RULES
Please consult section X of this guide for current regulations and contact information.

XI BEACH ENTRANCES
1) Beach committee will draw up plans for the reconfiguration of the beach entrances in order to retain sand, build dune and prevent storm surge from entering roadways. These plans would be reviewed and approved by the Parks and Recreation Department before implementation.

2) Beach committee will provide volunteers who will continue to work with the city to obtain needed material, funding and support to accomplish this reconfiguration.

3) The Beach Committee and the City of South Portland Parks & Recreation Department will work together to remove existing invasive plants and fill in with native vegetation where needed.

4) Two blocks of granite should be placed at the bottom of the Deake Street Entrances. One at the bottom of the ramp and the other at the bottom of the stairs. Alternatively, explore the option of removing concrete ramp.

XII SHORELINE REGULATIONS - CITY OF SOUTH PORTLAND CODE ENFORCEMENT
Please consult section XII of this guide for current regulations and contact information.

XIII COASTAL SAND DUNE REGULATIONS - MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
Please consult section XIII of this guide for current regulations and contact information.

XIV SOUTH PORTLAND FLOODPLAIN MANAGEMENT REGULATIONS
Please consult section XIV of this guide for current regulations and contact information.

XV FISH SHACKS
1) It is recommended that the City of South Portland Parks & Recreation Department will provide a mason and materials to fix the chimney on the biggest shack.

2) The Willard Neighborhood Association and the Beach Committee will continue to recruit volunteers to maintain and repair the shacks. Materials will continued to be provided by the City or donated.

XVI BATH HOUSE
1) The Willard Neighborhood Association and the Beach Committee will continue to recruit volunteers to maintain the paint & stain on the BathHouse. Materials will continued to be provided by the City or donated.
2) For lifeguard assignment recommendations, see Section 17.

3) It is recommended that a Portable Toilet be placed at the BathHouse during the months of May and September. This toilet could be attached in a way to prevent tipping.
XVII  CURRENT BEACH MAINTENANCE PRACTICES

1) The city to create budget line item to fund contract labor for the following beach maintenance items:
   a) Remove large and/or hazardous debris from Willard Beach after large storms. Currently, Steve Gray, a beach committee member, removes the heavier debris at the beach and puts it in piles for Public Works to pick up. This is recommended in anticipation of the future absence of Steve’s volunteer services.
   b) Rake seaweed:
      i. At the beginning of the month (June, July, and August) and in coordination with a full or new moon (see Section 18c for timing) and rake the seaweed into the water in the main bathing areas of the beach (from Beach Street to Willard Street). It is anticipated to recruit volunteers to rake any seaweed in July and August. It is recommended that the city contract labor to rake in early June. No raking will be required if there is no significant seaweed on the beach at any of these times.
      ii. In the fall, after the first significant October Storm, the beach committee will recruit volunteers to place seaweed and seed in the dune. This will provide much needed nutrients in the dunes. Invasive plants in the dunes will be removed at this time.

2) Assign regular beach cleaning duties to lifeguards. These should include raking around the beach house and major recreation areas as well as picking up trash along the length of the beach. At the beginning of the day, one lifeguard will go down the beach to pick up trash, and one lifeguard will rake the recreational area by the bathhouse and pick up debris.

3) Include the daily cleaning of the concession area as a stipulation of the contract for the snack bar.

XVIII  OTHER ISSUES & RESEARCH

Please consult section XVIII of this guide for details and contact information.

XIX  WHO TO CALL (PROVIDED BY THE FRIENDS OF CASCO BAY)

Regarding search and rescue, clam flats, dredging, coastal clean-up, education, oil spills, boat sewerage, oil recycling, fisheries, injured birds and wildlife, marine mammal strandings, red tide, water quality/pollution, speakers, Casco Bay groups, environmentally-friendly landscaping, pump out services
This Willard Beach report is meant to be a resource guide for both city officials and residents of the neighborhood as well as other concerned citizens. Positive recommendations for the welfare of the beach and continued recreational usability are included in the executive summary and are based on much research and discussion. This document will continue to be updated as more information is obtained or beach conditions change and is respectfully submitted by the Willard Neighborhood Beach Committee. This committee was formed in response to conflicts between the city and the Willard Neighborhood Association as to the role of the city in Willard Beach’s management and other issues regarding the beach. This report is submitted in compliance with the Resolution for Willard Beach presented to and voted in by City Council in December, 1999. We submitted this report for review to the following for suggestions and input:

- The Willard Neighborhood Association
- The Ferry Village Neighborhood Association
- The Loveitt’s Field Neighborhood Association
- The Knightville Neighborhood Association
- Danforth Cove Association
- Mary Cerullo, Managing Director of Programs, The Friends of Casco Bay
- Steve Dickson, Marine Geologist, The Maine Geological Survey
- Peter Slovinsky, Coastal Management Fellow, Maine Geological Survey
- Kathleen Leyden, Director of The Maine Coastal Program, Maine State Planning Office
- Sue Schaller, Coastal beach resource planner, the Southern Maine Regional Planning Commission
- Debbie Kimball, The South Portland Dog Owners Group
- Doug Burdick, The Maine Department of Environmental Protection
- The South Portland Conservation Commission and the South Portland Land Trust
- The City of South Portland Departments:
  - Police, Pollution Abatement, Parks and Recreation, Engineering, Planning, Code Enforcement, Waterfront Development, Public Works

This report is based on more than a year of research which includes the following: two beach walks with two different geologists (in 1999 and 2002), one beach walk (October, 2002) with a coastal beach resource planner, Summer 2002 State of Maine beaches conference information, a 1977 consulting geologist report of Willard Beach, conversations with various city departments, conversations with long time residents of the Willard neighborhood, and correspondence with the Maine Department of Environmental Protection and the Friends of Casco Bay. Input was also received from the State Planning Office’s Floodplain Management Program and the Maine Coastal Program and the Southern Maine Regional Planning Commission. Many thanks to all whom made this report possible.
A. BACKGROUND:
Willard Beach is an important recreational resource and open space for the city of South Portland that is used daily by many people. We are fortunate to have such a public treasure as there are only 70 miles of sandy beach in 4,500 miles of Maine coastline. Willard Beach is one of a few free public beaches south of the city of Portland.

Willard Beach was formerly called Gurry Cove in the 1870’s and the beach was lined with small fishing shanties. The beach is now named for the Willard family who settled the cove and became successful fishermen. In the late 1800’s and early 1900’s the fishing shanties were slowly replaced by summer cottages.

Willard Beach is a small, sand pocket neighborhood beach extending about 2,000 feet from Spring Point at Fort Preble, south to a rocky point known as Wharf Point or Fisherman’s Point. The Beach opens into Simonton Cove and is fronted by a low-tide terrace (sandy tidal flat) of varying width. Essentially, the beach is divided into two areas. The narrow beach face is the inter-tidal sloping portion of the beach. This area can be completely covered by water at high tide in some stretches of the beach. The disappearance of the beach face at high tide is enhanced by certain geological and atmospheric conditions (i.e. a full moon, spring high tides, storm events, a drop in atmospheric pressure, etc.). For instance, the sea level rises a foot (give or take) for every drop of an inch of atmospheric pressure.

The second section of the beach is the back beach area that runs from the beach face landward. The back beach area currently consists of some areas of sand but is mostly covered with areas of dune grass classified as frontal dune areas and back dune areas. The frontal dune area is primarily the area on the beach covered with dune grass (see aerial photo on next page) and the back dune area is the front line of private residential homes and city buildings (pump station and bath house) on the beach. In 1977, the back beach area was reported to have had little dune grass in a 1977 geologist report by Barry S. Timson. A current sand dune map is being prepared by the Maine Geological Survey and will be inserted in the Dune Management section of this document upon completion.

The January and February storms of 1978 did considerable damage to the Maine coastline and beaches. Willard Beach lost two of the five fish shacks at Fisherman’s Point. As a result of this storm, the state of Maine passed the Natural Resources Protection Act in 1983. This was in an effort to mitigate damages of similar intense storms. The Maine Department of Environmental Protection passed the Sand Rule Regulations in 1987 (Chapter 355) which are attached in Section XII of this report and are currently under review for changes. These sand dune rules promote sustainable development within sand dunes, dune growth and protection.

B. SEA LEVEL RISING
In the October, 1999 beach walk meeting, Joe Kelley (Geologist, USM) stated, “The biggest problem this beach and other beaches face is the rising of the ocean. The ocean has risen almost a foot in the tide gauge in Portland since 1912. And if you look at the slope of the beach here, it is gentle. A one foot vertical rise in the water means the shoreline moved a considerable distance landward.” Barry Timson’s (Consulting Geologist) 1977 Willard Beach report illustrates this landward migration in Figures 3 and 4 from 1864 through 1976. See Appendix 1 for this consulting report. Barry Timson has been located and the City of South Portland Planning Office is commissioning him to update the shoreline changes and include the change from 1976 to 2002. The actual distance of the landward movement of the ocean will be discussed when these figures are updated.
At the July, 2002 State of Maine Beaches Conference, Joe Kelley once again emphasized the impact of the sea level rising. The Wells National Estuarine Research Reserve (Wells, Maine) provided sea level rise information at the conference also. For instance, the Intergovernmental Panel on Climate Change (IPCC) predicts between a 6-36 inch rise in the sea level in the next 100 years (or .21 inches per year). The reason for the increase in the rate of sea level rise is attributed primarily to global warming and glacial melt. During the past 150 years, the amount of carbon dioxide in the atmosphere has doubled. Carbon dioxide traps radiant heat producing “the greenhouse effect”, which is linked to global warming. A sea level rise of 25 inches would flood about 250 square miles of dry land and the like amount of marshland in New England. Thousands of houses outside the current flood plain would be affected (source: IPCC). If we plan ahead, we may be able to save coastal ecosystems.

The affect of any sea level rise at Willard Beach is difficult to predict. We are checking with Barry Timson (author of a Willard Beach geology report in 1977 - See Appendix 1) to chart the change in the mean high water and low water marks since 1977. We would then be able to see the landward migration of the ocean since his last report (see Figures 3 and 4 in his report). It is a near certainty that the front beach area (and recreational area) at low and high tides will shrink in this next century and there is nothing we can do about it.

**C. History of Casco Bay Water Quality**

Casco Bay (which includes the water at Willard Beach) was found to be heavily polluted in the early 1980s. Scientists began looking at the sediments at the bottom of Casco Bay and found a wide and puzzling assortment of pollutants. The Casco Bay Estuary Project “commissioned environmental historian Edward Hawes to do some detective work, hoping that he could turn up some puzzle pieces from the watershed that feeds the Bay. The industry legacy he found was a surprise to almost anyone who thinks they know the Portland area.” (The Dirty History of Portland Harbor, Casco Bay Estuary Project.) Casco Bay was considered at that point one of the top ten most polluted bays in this country.

Copies of the report, Dirty History of Portland Harbor, are filed at the South Portland Library and may be obtained from the Friends of Casco Bay. The report is a summary of the wealth of information provided by Edward Hawes. The summary touches on the Casco Bay Watershed, small industries, Portland’s Industrial Revolution (1840-1900), the concentration of sewers and dumps, rail lines and accompanying industries starting in the 1840’s, shipbuilding, the petroleum age (1900-1970), and the Clean Water Act in the 1970s.

Residents remember swimming in the polluted waters as children. The Darlings of Willow Street remember the eelgrass being gray and the water so cloudy that you could not see the bottom. They, and others, have noticed an incredible transformation of water quality over the last twenty years. Important steps that the city of South Portland Pollution Abatement department have taken to reduce pollution at Willard Beach are noted in Section (III) of this report.

It is important to consider “that every watershed eventually empties into the ocean, and each of us lives in a watershed. Each drop of rain that lands on each lawn is an empty vessel, ready to carry contaminants down through the watershed. That drop may gather up pesticides from the roses, motor oil from the driveway, or pet waste from the sidewalk. While wastewater treatment plants can remove many pollutants from runoff that enters the sewers, storm water often overwhelms the system, allowing raw sewage and untreated runoff to divert straight into the Bay.” (The Dirty History of Portland Harbor, Casco Bay Estuary Project.)
The activities of today (See Section III) will have a positive and long lasting effect on the Bay and on Willard Beach. Cleaner watersheds will continue to lead to a cleaner bay. The phone number for the Casco Bay Estuary Project is listed in Section XVI of this report.

D. 1982 ARMY CORPS OF ENGINEERS SUMMARY

The Army Corps of Engineers was commissioned in 1982 by the city of South Portland to investigate beach erosion control needs for Willard Beach. After extensive research, the Army Corps basically recommended the rebuilding of the crib wharf jetty and the construction of two groins at the bathhouse and at the north end of the beach. A jetty is a shore perpendicular structure that is used to stabilize an inlet. Groins are shore perpendicular structures along a beach that is designed to trap sand at the beach (they are not associated with inlets). Jetties are typically larger. The plan also called for beach nourishment in the front beach area and mentioned that multiple year nourishment would be required. The last recommendation called for back beach area dune restoration accomplished by dune fencing and dune grass plantings.

The city of South Portland did not act on the jetty, groin, or beach nourishment recommendations because of a few reasons. According to correspondence in the 1982 Army Corp report, there was some disagreement between the geologist consulted (Barry Timson, author of the 1977 geological survey of Willard Beach) and the Army Corps as to the effectiveness of these Army Corps’ recommendations. The availability of Federal funds for beach nourishment programs (the federal government would have picked up 50% of the cost) was also discontinued at this time. The Army Corps’ least expensive recommended plan (one groin and a 50-foot wide sand berm) was estimated to cost $800,000. This does not include costs associated with adding more sand each year ($50,000 to $100,000 per year). The city could not cost justify such an expense since it was not clear that such measures would work (per Dana Anderson).

In 2002, there is currently no State funds and limited federal funding for such programs. The problem with beach nourishment plans is that there is no guarantee the sand will stay where it was placed. These plans also typically include periodic sand replenishment to replace sand that has been removed from the beach. Cities and towns may find that such sand replenishment is not cost justifiable. See the Beach Replenishment section of this report for more information.

The geologist and Army Corps did agree on the importance of dune restoration. It appears that the City implemented the dune restoration part of the plan for some of the beach. Dune fencing and signs stating “Stay of Dunes” were put up north of the bathhouse up to Myrtle Avenue. It is unclear if only residents and/or the city planted some dune grass behind the fencing.

Note: At the 2002 State of Maine beaches conference, examples of the ecological results of groin and jetty installations on the coast were shown visually and discussed. One such example was the jetty at Camp Ellis and the subsequent erosion of the shoreline and damage to the shoreline and houses there. Federal funds (over $1 million) were recently obtained to reconstruct the Camp Ellis jetty to try to mitigate future damage. Jetties and groins can cause an undesirable shift in sand. While sand may be gained in one area, sand supply and the subsequent shoreline profile can be adversely affected in other areas. In some states, groins previously constructed are now being removed due to undesirable effects.
A. Water Lines - Portland Water District.

LOCATION
According to the Portland Water District, there are no water lines that run under the frontal dune area of the beach. The closest line to the frontal dune (grass area) is the water line that runs on the waterside of the beach houses on the south side of Myrtle Avenue.

B. Sewer Lines - South Portland Pollution Abatement Department.

i. LOCATION, SIZES, AND AGES OF LINES
The city of South Portland Pollution Abatement Department (Dave Thomes, Collection Systems Manager) reports that sewer and storm drain lines run in many different areas of the beach (the beach face, frontal dune and back dune areas). The South Portland Engineering Department (Craig Worth) has provided an aerial shot of the sewer and storm drain layout at Willard Beach (see attached).

Storm drains carry run off water that has traveled from as far away as Cottage Road directly into pipes and are located at the end of Myrtle Avenue, Willow Street, and Willard Street to the water in Simonton Cove. These storm drains contain catch basins that act as traps to catch heavier small debris and sand but can not filter run off pollutants that are suspended or dissolved (i.e. oil from cars, pesticides, etc.). There are also private storm drains that extend from areas such as the beach path at the Simonton Cove condominiums and in the Southwest corner of the SMTC field. There are no catch basins for these storm drains. There is also a storm drain in the yard of a beachfront home (See Appendix 2 for tax map #226B) at the end of Myrtle Avenue. This drain ties into the drain at the end of Myrtle, which has two catch basins. Storm drains are variable in size with the smallest lines located at the top of the watershed and extend to the beach areas increasing in size to 36 inches in diameter.

The sewer drains indicated on the layout are categorized as the sanitary sewer lines and a sewer force main. The sanitary sewer lines drain by gravity down to the sewer pump station at the end of Willard Street. The sanitary sewer lines (16-20 inches in diameter) are at least 100 years old. The pump station then pumps the sewage through the sewer force main back across the beach (under the frontal dune) and up Myrtle Avenue to the point where gravity will take over and carry the sewage to the city’s sewage treatment plant.

The pump station and sewer force main were put in service in the 1970’s in response to the Clean Water Act of 1972. Before that, sewage went down the sanitary sewer lines directly into Simonton Cove. The reason the sewer force main pipe goes back down under the beach dunes to Myrtle Avenue and not straight up Willard Street is cost. The size of the sewer force main pipe (12 inches) matches up with the size of the pipes located up at SMTC. If the sewer force main were to be sent up Willard Street instead, new pipe would have to be laid all the way up Willard Street and down Preble Street to SMTC. The cost is significant to change the location of the sewer force main.

The storm drains, sanitary sewer drains and sewer force main are buried at various depths from showing above the beach surface to being below the sand by only eight feet.

ii. PIPE REPLACEMENT ISSUES.

If the sewer lines are repaired or replaced in the future, great care should be taken to replace sand and replant dune grass as it was before. This is not just a request by the neighborhood association but a requirement by the Maine DEP (Doug Burdick e-mail dated 5/15/02).
permit would be required by the DEP. The beach committee chairperson would also like to be informed of proposed work on the beach.

iii. Separation of Storm and Sewer Water
The city of South Portland successfully separated the sewer and storm water in 1999 in accordance with the EPA’s Clean Water Act. The Clean Water Act prohibits the discharge of untreated sewage within three miles of the coast. There have been no combined sewer overflows (CSOs) of sewage and storm water at Willard Beach in over two years.

There were three combined sewage overflow pipes (CSOs) located on or near Willard Beach. The CSO (#017) that runs south from the pump station out past Fisherman’s Point (at the end of Deake Street) was closed in September, 2002. If there is a power failure, the pump station generator will continue to run the pump station so that the sewage will continue to be pumped through the sewer force main to the treatment plant. If the generator fails, sewage that used to be discharged through the CSO now has the potential to back up the collection system into private homes. The Pollution Abatement department just installed a new generator (2002) which is tested weekly so hopefully this will not happen. The previous generator was 30 years old.

Per Pat Cloutier, Pollution Abatement Department, “there are two pump stations that are operated and maintained by the City’s Pollution Abatement department on the SMTC campus. They are located at the end of Fort Road (SMTC #1) near the Maritime Museum and right behind Hildreth Hall (SMTC #2). The one remaining CSO pipe is are located up at the North end of the beach by the pump station at SMTC #2. While SMTC holds the responsibility for the CSO on its discharge permit, the city will be looking into options available to eliminate this CSO. This CSO has been inactive for at least two years but steps must be taken to insure that there is available standby power to operate the station in the event of a power failure before the CSO is plugged. Joe Payne at the Friends of Casco Bay and the city are working on this issue.”

iv. Storm Water Runoff - Best Management Practices
There is current Federal and State legislation in effect that sharply focuses on proactive measures for the prevention of storm water pollutants (called best management practices). In the Fall of 2002, the City of South Portland Pollution Abatement Department signed an agreement in a cooperative effort with eleven other cities in Cumberland County to comply with this new legislation (Stormwater Phase II). The Pollution Abatement Department has been working with Joe Payne of the Friends of Casco Bay, the Casco Bay Estuary Project, and David Ladd of the Maine DEP. Public education and outreach on storm water impacts will be emphasized through literature, signs, etc. Other best management practice compliance areas include the following: Public involvement/participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations. More information about Best Management Practices can be found at http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm and copies are available upon request.

The Friends of Casco Bay (FOCB) has a BayScaper program and guide designed to educate the public on keys to environmentally friendly landscaping. The guide covers BayScaper practices in six steps from initial landscape design to proper maintenance and pest control. Residents within the Casco Bay watershed can ask the FOCB to come and present an excellent introduction to these six steps to garden clubs or neighborhood associations. Call or e-mail Mary Cerullo at 799-8574 or mcerullo@cascobay.org.
FYI: Winter road treatments (rock salt and sand) were researched to see if the runoff of any chemicals used in the treatments would be harmful to water quality at the beach. Steve Johnson (Director of South Portland Public Works Department) reported that road salt containing sodium chloride (which is salt) is used on the main traffic roads and that a sand mixture (with very little salt) is used on secondary streets. When temperatures get very cold, calcium chloride (another salt) is sprayed on the rock salt to insure that the mixture will melt the snow and ice on the roads. The combination of the two chlorides (sodium and calcium) produces a very salty runoff into the ocean. There is no indication that this is harmful to the ocean or aquatic life. The city standards match the Maine Department of Transportation standards with regard to material used in road treatments.

v. Beach Water Testing
Water samples at the beach are obtained on Monday and Wednesdays at two sites by the lifeguards from Memorial Day to Labor Day. The Pollution Abatement representative comes down to the beach to pick up the samples and then takes it back to their laboratory to test them. The test results taken on Monday, for example, are not known until Tuesday because it takes 24 hours to get the results. The test used is the fastest approved test available. The tests are looking for unacceptable levels of disease causing bacteria. These bacteria can cause a wide range of illnesses such as gastroenteritis, hepatitis, respiratory illness, skin rashes, pink eye, and ear, nose and throat problems.

High bacteria count is primarily attributed to storm water runoff after rain not sewage discharge. There has been no sewage discharged at the beach in over two years. Parents should be reminded that young children can adversely affect water quality, especially in a confined area like Willard Beach. Reminders of frequent bathroom visits and changing diapers in bathrooms (not on the beach) are valuable.

If the bacteria count is much higher at one site than the other or in excess of thresholds recommended by the Maine DEP and the U.S. DEP, a swimming advisory is issued by a sign at the bath house only. The sites are immediately re-tested and if the count remains high, the beach is closed to swimming. The closing notice is posted in one or two beach entrances (on the beach) for the public to see. The beach was closed one time in 2002 (June 12) and advisories issued on June 27, July 9, 11, 25, 29 and August 22 (see Appendix 6 for the 2002 summer test results).

The State’s Coastal Swim Beach Initiative is being developed by state agencies and local constituents (i.e. the Casco Bay Estuary Project). The program will streamline water quality testing and reporting for state recreational areas.

Recommendations regarding alerting the public on advisories and closures are noted in the Executive Summary.
A. BACKGROUND
Dunes provide vital protection for upland areas from storm events. Dunes that are vegetated with native species are, in general, heartier and better stabilized, and able to withstand higher wind and flood events. At Willard Beach, there are competing ecological and recreational viewpoints and needs with regard to dune grass. This is a very common conflict as noted by talking with other representatives of other beaches at the Maine Beaches Conference (at Thornton Academy, July, 2002). While the dune grass is a critical part of the health of the beach, some residents are concerned that the dune grass will take over the recreational areas of the beach. The beach committee strives to reach compromises between these two viewpoints and needs.

Barry Timson mentions in his 1977 beach study (See Appendix 1 page 4) that “a turn of the century photograph (The Portland Shopper’s Wise Guide, 1975) of Willard Beach reveals extensive vegetated dunes on the present back beach area, indicating sufficient winds for dune formation”. It is uncertain as to the demise of these dunes. Barry mentions in his 1977 report that there was very little dune vegetation present at that time. Note: The photo in the 1975 Portland Shopper’s Wise Guide article on the history of South Portland (by resident Rosella Loveitt) is available for review at the South Portland Library in a folder containing articles and pictures of South Portland historical places.

For a period of time [checking with Public Works as to dates], the City of South Portland Public Works Department was driving front loader equipment on to the beach in the Spring and pulling sand back down from the back beach area to the front beach area. This was done to maintain a large sand recreational area for the residents and greatly inhibited the natural growth of dunes and dune grass. This practice was stopped over 15 years ago either because of budgetary constraints and/or because of the Natural Resources Protection Act of 1983 (See Section II part a.). There were also Sand Dune Regulations passed in 1987 by the Maine Department of Environmental Protection that would have prohibited this type of “maintenance” on the beach.

Dune grass is absolutely essential to the viability of Willard Beach. Dune grass stabilizes and retains the sand in the back beach area and mitigates the erosive effects of storm events. Dune grass roots grow 10-15 feet below the sand surface and spread out over large areas to send up new shoots. Current geological belief indicates that there is no significant erosion problem. Willard Beach does not have a real source of sand (i.e. a river inlet). Therefore, it is very important to retain the sand we currently have in all areas of the beach. The dunes also provide some vital storm protection for the residential and city buildings on the beach as well as homes at the same elevation that are not directly on the beach.

The shape of the dune is constantly changing due to the dynamics of new growth and storm actions. Dune grass will not grow in salt water so the grass will only grow seaward to the high tide mark.

B. DUNE GRASS PLANTING
There were areas identified by Joe Kelley where dune grass needed to be planted (October 1999 beach walk with Joe Kelley, now the Professor of Geology at USM). These areas were also indicated on the Spring Point Shore way Improvements Plan (Mitchell and Associates, Feb. 2000 - Section X of this report). In the Spring of 2002, the city of South Portland Parks and Recreation Department purchased 3,500 sprigs of dune grass that was planted by neighborhood volunteers in the areas indicated. One of the areas planted was in front of the sewer pump house at the end of Willard Street. More dune grass was planted just South of the bathhouse at the Willow Street beach entrance. The dune grass planted is doing well. The beach committee will continue to monitor the health of the dune grass.
During her Willard Beach visit on October 31, 2002, Sue Schaller (Southern Maine Regional Planning Commission), a coastal resource planner, suggested that more species of proper dune vegetation be introduced to the dunes. This would provide better genetic diversity and reduce the chance of a disease affecting every plant in the dune. The four other plants suggested were beach pea, seaside golden rod, rosa rugosa, and beach heather. These use of these plants should be considered in future plantings in the dunes. See the dune vegetation restoration discussion in part f. of this section. Also see Sue Schaller’s summary (Appendix 5) on the October 31, 2002 Willard Beach site visit included in this section for more detail.

Sue Schaller has also had success in planting dune grass seed. She suggests taking the seed in the Fall and spreading it on bare spots in the dune (or putting an inch under the sand) and covering it with 3 or 4 inches of seaweed. Volunteers at different beaches in Southern Maine are participating in dune restoration and are making great progress.

C. DUNE GRASS REMOVAL
Steve Dickson (Marine Geologist, Maine Geological Survey) and Pete Slovinsky (Fellow with the Maine Geological Survey) walked the beach in May, 2002 and reported that it appeared that the dunes are currently a good size and were in good condition. The beach committee will walk the beach in the Spring of 2003 (and each Spring) to determine if there is any new dune grass growth to be removed to avoid further encroachment into the recreational area of the beach. One idea is to put small wooden markers along the area to define the line of allowable dune grass growth.

The beach committee would like to work with the Parks and Recreation Department to remove any dune grass identified. The DEP is willing to let the city and neighborhood work this out and trusts the judgment of both (per Doug Burdick e-mail dated May 15, 2002).

The best way to remove the dune grass may be to use a machine in the Parks and Recreation Department called the Rotodarian. This machine is primarily used for soil rejuvenation and leveling for the ball fields. The beach use should in no way hurt this machine and it should accomplish the dune grass removal quite efficiently. The grass would only be removed about six inches below the sand surface so the grass may grow back since the roots are well below six inches under the sand surface.

D. DUNE FENCING / DUNE WALKOVERS
Dune fencing will continue to be used in areas where the dune grass is not yet established or in areas where protection is needed from pedestrian or pet traffic. The few dogs and people that occasionally walk into the dune should not affect the overall healthiness of the dune grass. The beach committee will continue to monitor the use of dune fencing. For aesthetic reasons, future dune fencing used should be a natural color (gray).

Sue Schaller strongly emphasized that dune fencing should not be placed on the waterside of the dune. The natural accretion of sand and seaweed (a dune grass nutrient) would be impeded. If there is a need to keep out traffic on the water side of the dune, half of the slats of the fence could be removed so that water, sand and seaweed can wash through (See Appendix 5 page 5 for Sue’s comments on fencing).

Permanent dune walkovers may need to be added to one or more of the beach entrances to allow for dune grass to grow underneath the walkover. Temporary dune walkovers are installed on the sand and are used to maintain a pathway through the dune grass. The Willard Street entrance, for instance, faces directly northeast and sand is blown off the beach and may benefit from one of these types of walkovers. Access for city vehicles and emergency vehicles will be considered. The beach committee plans to meet with the Parks and Recreation Department to discuss any possible changes to the Willow and Willard Street entrances.
A DEP permit is required for a permanent boardwalk and it may have to be handicap accessible. No DEP permit is required for a temporary boardwalk that rests on the dune surface. A temporary boardwalk would be installed in the Spring and removed in the Fall.

E. **DUNE GRASS DIE-OUT**
Information regarding this issue was obtained at the 2002 Maine Beaches Conference and is attached in Appendix 7 in this report.

F. **COASTAL RESOURCE PLANNER - DUNE VEGETATION RESTORATION EFFORTS**
Attached in Appendix 8 of this report.

G. **SAND DUNE MAP (2002) - MAINE GEOLOGICAL SURVEY (MGS)**
The sand dunes at Willard Beach have been officially mapped for the first time in the Fall of 2002. Preliminary information is included in Appendix 9 of this report.

SEE APPENDIX 5 for Sue Schaller’s (Southern Maine Planning Commission - Coastal beach resource planner) comments regarding Willard Beach. Sue visited the beach on October 31, 2002 at the request of the beach committee.
Tom Meyers, South Portland Director of Waterfront Development, is currently working on the Hazard Mitigation Plan for the City of South Portland. A hazard mitigation plan identifies all development at risk for a natural disaster (i.e. flooding, earthquakes, high winds, tornadoes, and forest fires). The plan then looks at what regulations are in place and determines a priority plan. The city has to have a plan registered with the Federal Emergency Management Agency (FEMA) before November, 2004 to be eligible for FEMA funds in the event of a natural disaster. Any part of the plan that pertains to Willard Beach will be included in this report when available.

One of the issues to be addressed in the plan is the what would be the city’s response when a very large storm surge would wash a good portion of the dune away. At that point, the residential area and city buildings (the Willard Street sewer pump station and bathhouse) in the back dune area as well as residential homes behind the back dune area would be at risk. Also, the various sewer lines that are buried underneath the beach and dunes (See Section III a. in this report) would be exposed. If we were to get a second storm or a series of storms of that magnitude, there would be no dune left for protection. The dune would not have the chance to rebuild itself. The key question is whether the dune would be rebuilt by the city, in what time period, and from what source (i.e. dredged sand, taking sand from the front beach area, or purchasing sand from another source).

Per Steve Dickson (Maine Geological Survey - e-mail dated 5/14/02), “Some of the most damaging storms on the U.S. east coast have been during times of high spring tides (perigean or proxigean tides) when the sea is already elevated and then has the storm surge and swells added to it. Consequently, it is often a matter of the storm coinciding with extremely high tides that leads to property damage or very severe dune erosion. Alternatively, some large storms can pass by with the peak surge occurring at low tide and no property damage. Slowly moving storms, like the December 1992 northeaster, can cause flooding and beach erosion repeatedly for 6 to 8 high tide cycles, if the storm center stalls in the Gulf of Maine. The 1991 Halloween (Perfect) Storm retrograded and caused large surf and surge along the Maine coast.”

Steve Dickson also mentioned that often some of the greatest damage comes from a series of storms and that certain areas on the beach (i.e. the bathhouse) may be more at risk because of lower elevations of the beach. It appears that the storm surges reach higher near the bathhouse (by looking at the seaweed line) because of the lack of dunes and a lower sand elevation. This may be true in some of the other areas of the beach where dunes are absent. Attached is Steve’s e-mail dated May 14, 2002 (Appendix 10) for reference and additional information on flooding.
A. BACKGROUND
We asked Steve Dickson (Marine Geologist, Maine Geological Survey) in May, 2002 about the feasibility or benefits of a beach nourishment plan (periodic sand additions to the beach by the city) for Willard Beach. His reply was that it appears that it would not be cost justifiable because it would not significantly benefit the beach. Steve said that a yard of sand is $10 and that if we ordered 100,000 cubic yards ($1 million dollars worth) that there would be under a foot of sand added to the beach. Much of that sand would probably either go out with the tide or blow into the dunes. Beach nourishment plans have not had a good track record of working well in Maine.

Some nourishment plans have been very successful for their intended purpose in other areas (outside of Maine). There are limited Federal funds and currently no State funds for these plans. Peter Slovinsky (Fellow for the Maine Geological Survey and South Portland resident) mentioned that beach nourishment might be cost justifiable if our beach was a tourist attraction that brought in millions of dollars to the city. But this is not the case with Willard Beach, nor many other Maine beaches.

The problem with beach nourishment is that there is no way to guarantee that the sand will stay in the area of the beach that it was placed. Beach nourishment programs typically include periodic deposits of additional sand to replace sand that has been removed from the beach or moved from the place originally placed. There are case studies available for review on the internet for Wells Beach, Camp Ellis, and Ogunquit beaches (http://wwweos.duke.edu./Research/psds/maine.htm). Wells and Ogunquit beach nourishment plans have been somewhat successful while Camp Ellis has had poor results.

Steve Dickson stated that the biggest help to maintaining the sand on the beach was to manage the dunes. There is a finite amount of sand on the beach and the dunes are responsible for holding it on the beach in the case of a big storm event.

Dredged sand can be used for beach nourishment projects and has been used at the beaches in Saco, Wells and Kennebunk. It has to have a very low percentage of “fines” which is silt and clay (perhaps less than 5%) in order to be used for beach nourishment. The Portland Harbor dredging material would not be suitable because it is almost all mud and because it may be contaminated. Dredged sand should be tested for pollutants which can be expensive (maybe $10,000). The Scarborough River dredged sand is a good consistency for Willard Beach replenishment needs. The Scarborough town planner, Joe Zipnuski, would be the person to consult (883-4301). Sue Schaller, beach resource planner with the Southern Maine Regional Planning Commission said (on a Willard Beach walk on 10/31/02) that there is a long list of groups that also want the dredged sand from the Scarborough River inlet. So it may be difficult to obtain.

Peter Slovinsky (NOAA Coastal Fellow, Maine Geological Survey) stated that “it was important to mention that very little beach quality sand exists along the Maine coastline. What does exist is usually provided by a river source (i.e. Scarborough river inlet) or reworked glacial materials, and is confined with littoral cells. Maine is not sand rich near the shore.” The Saco Public Works department has estimates on sand costs and suppliers. The sand that would be used on their beach would be the same sand suitable for replenishment at Willard Beach. We will include a summary sand costs and suppliers once it is obtained.

Kathleen Leyden (287-3144) at the State Planning Office Maine Coastal Program could be helpful in finding sources of dredged sand for Willard Beach. She is also looking into developing beach nourishment programs for the State. The beach committee will update this section if State funding becomes available.
The city of Saco purchases beach sand periodically and the sand at their beach (Ferry Beach and Camp Ellis) is similar to the sand that would be used at Willard Beach for a replenishment program. Some of their beach sand suppliers include the following: Shaw Brothers, Gorham, 1-800-834-4282 and Dayton Sand and Gravel, Dayton, Maine, 499-2306 (great quality, but may be more expensive), and Commercial Paving in Scarborough, 883-3325.

B. EROSION DISCUSSION
The 1977 geological survey by Barry Timson (Appendix 1 attached) mentioned that Willard Beach “has been eroding over the past 125 years. The beach is presently receding at an average annual rate of about .65 to 1.0 feet, but may experience erosion of up to 5.5 feet in any given year”. In May 2002, Steve Dickson mentioned that that report may have some +/− errors with it: Steve said, “In any case, the fact that the beach appears healthy now suggests to me that there is not an erosion rate of 1 foot per year since 1977 or there would be unhealthy dunes, more evidence of chronic erosion with dune scarps, and a shoreline that would be closer to houses than it is.”

The continual shift of sand in the front beach area causes various storm drains on the beach to be sometimes covered with sand and sometimes visible. Additionally, there appears to be a shift of sand over the last twenty years from the front beach area to the back beach area because of winds and various storm events. The front beach area can regain sand as some storms can actually dump sand on the beach (per conversation with Steve Dickson). This can occur with particular wind and wave action. Conversely, there are “bad” storms that will take sand off the front beach area (and perhaps the back beach area).

The beach committee has been participating in a beach profile study since May 2001. Volunteers at other beaches south of Willard Beach (Wells, Ferry, Scarborough beaches, etc.) are also participating in beach profile monitoring. The study includes measuring certain profiles on the beach every full moon. The purpose of the data is to see the effects of certain geological events on different Maine sand beaches. The data is sent to Joe Kelley (Professor of Geology, The University of Maine) and compiled. Our first year data has been sent and entered. We will include the printed data in this report once it is received. The beach profile group intends to finish out the second year and then determine if the data is yielding useful information. New volunteers may need to be recruited.
Requests for a mooring at Willard Beach must be made through the Portland Harbormaster. The address, phone, fax, and e-mail address of the current harbormaster (Eric Pearce) are as follows:

2 Portland Pier, Marine Trade Center Suite 213  
Portland, Maine 04101  
**Phone** (207) 772-8121  
**Fax** (207) 772-2367  
**E-mail**: pwmharbormaster@gwi.net

An example of the mooring application, rules, authorized mooring inspectors’ list, and other information are included in Appendix 16 of the report.

There may be a waiting list for a mooring and the harbormaster has to wait for all renewals to be processed before new mooring applications are considered and processed.

If a new mooring number and location is assigned, the new mooring is required to be inspected after it is placed and that inspection certificate filed with the harbormaster. Moorings are required to be inspected every two years by an authorized mooring inspector. The completed inspection certificate must be sent to the harbormaster.

Moorings must be used. If there is no boat on the mooring for a period of three consecutive months, the harbormaster will alert the mooring owner and cancel the mooring.

Boat owners are given a complete copy of rules when registering the mooring and boat. These rules include getting punts off the beach and boats out of the water before November 1.
A. STORAGE LOCATIONS
There are currently three designated punt areas on the northern end of the beach: the Beach Street beach entrance, one area just north of that one, and one at the bottom of the stairs by the SMTC cafeteria. There are also six punts located on the very north end of the beach around the bend. These locations appear to be adequate for moored boat owners but are not clearly marked or defined.

B. PUNT RULES
City of South Portland Parks and Recreation Department and Portland Harbormaster.

Eric Pearce is the new harbormaster since July, 2002 (phone 772-8121). Eric will be taking punts off the beach by December 1 and giving the punts to a mooring service call Diver Down Underwater Service (828-0444). Diver Down will hold the punts for a period of time and then sell unclaimed punts. Punts have not been regularly taken off Willard Beach for a period of time and Eric’s goal is to enforce the punt rules.

The following is a proposed punt rule to be presented by letter to the Harbormaster:

Proposed Rule #1
The mooring number associated with each punt should be placed on each punt. The owner of the punt could then be easily identified in case the punt is washed out to sea or if the punt is left on the beach in an undesignated area or after November 1.

The harbormaster thought this was a good idea and wants to receive a written proposal from the beach committee requesting this change so he can review it and possibly add it to the punt rules. He will then notify the Portland and South Portland city councils if there is a change in the punt rules. Boaters are given information regarding punt rules when they register their boat each year.

We will address the following proposed rules and their enforcement with the Parks and Recreation Department:

Proposed Rule #2
In each designated punt area, the city should put an anchoring device so punt owners could secure punts in each area instead of using trees. For instance, old Coast Guard chain could be spread between and attached to the signs that will designate each area.

Proposed Rule #3
Signs must be put in all the designated punt storage areas stating that punts are allowed on the beach in those areas only from April 1 through November 1. All punts on the beach after November 1 (or before April 1) will be removed from the beach area by the Portland Harbormaster. The beach committee and the Parks and Recreation Department will work together to alert the harbormaster of violations.

There are two reasons for the punt numbers and the date restriction. The winter storms swells can reach well into the punt areas. Punts lost out to sea are a navigational hazard. Abandoned punts will be readily identified and removed from the beach after owners are attempted to be reached.
C. **Beached Boat Procedures**
(Rules of the Harbor Commission - per Dick Ingalls e-mail dated 12/12/02).

The Harbor Master suggested calling his office (772-8121) and the Coast Guard Marine Safety (780-3251) with the registration number or any information of any boat beached. Parks and Recreation (Bill Cary 767-7651) should also be contacted. If the identity of the beached or abandoned boat is known, that boat owner will be notified in accordance with Harbor Commission Rules and be given the opportunity to claim his property. After the prescribed period of time and hearing, the Harbor Master may sell or cause the vessel to be removed or destroyed. Beached boats can become a hazard to navigation, members of the Coast Guard and the Harbor Commission and personnel are put in harm’s way to rescue the vessel. Rules of the Harbor Commission may be obtained at their offices in the Marine Trades Building, Suite 213, on the Fish Pier, Commercial Street, Portland, Maine.
A. **Dog Owner Rules**
Dogs must be registered annually at City Hall and are allowed on the beach from October 1 through April 30 at any time of the day. Dogs must be leashed unless under voice command. This does not mean running loose at the other end of the beach. It means under immediate control. Dogs are not allowed on the beach from 9:00 a.m. to 9:00 p.m. from May 1 through September 30. Dogs should be kept away from bird eggs and at least 100 yards from seabirds and marine mammals. Dogs also must be kept out of the dunes.

The beach committee will work with the South Portland Dog Owners Group (SPDOG) to iron out friction and problems or complaints regarding dogs, dog owners and dog waste. The SPDOG will continue to do a Spring clean up of dog waste. This group does a good job policing dog owners to adhere to these rules. The South Portland Animal Control Officer (Stanley Brown) can be reached at 799-5512 or 599-5511 if there are complaints.

There are dog bag stations (for removal of dog waste by owners) available at the beach entrances at Deake Street, Willard Street, Willow Street (bath house), Myrtle Avenue, and Beach Street. This is to encourage dog waste pickup on the beach, which is required by the City. There are trash cans at each of these locations for the disposal of dog waste and other beach litter.

B. **Mammal Strandings**
(Taken from the Friends of Casco Bay Guide.)

When marine mammals come ashore and become helpless it is called a stranding. It usually indicates that they are ill, weak, or lost. It is illegal to touch a stranded animal. Contact the Northeast Marine Animal Lifeline at 851-6625 or the New England Aquarium at (617) 973-5247. You can also call the South Portland Animal Control Officer mentioned in the previous paragraph.
A. POLICE DEPARTMENT:
Per 10/22/02 conversation with Lt. Mark Clark, SP Patrol Commander (markcl@spsd.org):

The beach is closed from 9 p.m. to 6 a.m. every day of the year. Individuals are allowed to pass through and cross the beach but not to loiter or remain on the beach after hours. See the Animal Information section of the report (part a) for rules regarding dogs.

If there is a noise disturbance, loitering, or vandalism noticed, please call the police at 799-5511. The police need a complaint filed in order to make an arrest, so please identify yourself, give your phone number, and say that you are willing to register a complaint. The police CAN NOT be a complainant.

The dispatcher will take the call and prioritize it with other calls he/she is working with at that time. The officers will be sent to respond to true emergencies first (i.e. domestic violence, theft) before they are sent down to the beach for a noise disturbance or loitering call. There are four officers and one supervisor on for the night shift covering the four patrol areas of the city. After 11 p.m., all officers are required to have a backup officer with them on a call. Response time for calls for the beach may vary depending on concurrent calls on that night.

While, there is no public intoxication law in South Portland, there are public drinking statutes. Obviously, minors can not possess alcohol. Also, it is against City ordinance to possess any alcohol, at any age, on Willard Beach (Parks & Recreation, 18-7). The issue is that the police can not make an arrest/summons unless they see the alcohol in the hand (or very close) to be able to prosecute. When possible, the police will take the names of juveniles and the registrations of any vehicle present and call the parents. If a driver (adult) is visibly intoxicated, the police will tell them they are not allowed to drive. If you see an intoxicated person get into their car and start to drive away, you need to call the police again (799-5511) and tell them a description of the car, the operator, and where it is headed. If the police find the car, they can stop it and deal with the situation.

Twenty-three years ago, when Lt. Clark first started as a police officer for South Portland, there were 54 police officers. Today, there are 51 in the department. The cost to add another officer on the night shift in the summer would be at least $25,000 to $30,000.

B. FIRE DEPARTMENT
Per phone conversation with the South Portland fire department (11/15/02):

There are no fires allowed on Willard Beach. The fire department instructs people to call 911 if there is a fire on the beach. The fire department and police department will respond and investigate the incident.
GENERAL INFORMATION AND PLANT MAINTENANCE.
There are five beach entrances (not including the two stair entrances at SMTC) at Willard Beach; Deake Street, Willard Street, Willow Street (bath house and beach parking lot), Myrtle Avenue, and Beach Street. Attached is the Spring Point Shoreway Improvement Plan, which shows the current conditions and plants at these entrances. The Town Council approved $50,000 ($25,000 in both 2002 and 2003) to be used for improvement of these entrances. The plan called for basically ripping out what plants were at the entrances (primarily rosa rugosa) and replanting all of the entrances.

The Willard Neighborhood Association and the Beach Committee proposed to simply get rid of any invasive plants in those entrances and add to what exists at those entrances with native beach plants. In April of 2002, volunteers spent more than 80 hours ripping out invasive plants and the bath house and at the end of Willard Street, planting 3,500 sprigs of dune grass (in areas both indicated by geologists and the Spring Point Shoreway Improvements Plan), and planting beach plum, northern bayberry and rosa rugosa at the end of Willard Street and at the bath house. All of the plantings appear to be doing well. These plantings were done with the approval and advice of the Parks and Recreation Department (John Switzer, Mary Lou Fathke, and Sara Neuts). The Spring 2002 plants and dune grass cost less than $2,000.

The beach entrances will be an ongoing project. In the Spring of 2003, it is hoped to address the other half of the Willard Street entrance and the issue of sand blowing off the beach there. Also, some improvements (fencing, planting) will be discussed at all the entrances. Every effort will be made to have volunteers do the plantings again. See Appendix 5 for a discussion of dunes and dune habitat management. The use of dune walkovers is discussed in the Dune Management section part d.

The maintenance of the Willow Street entrance (the bath house trash and sand sweeping) will also be addressed in the Bath House section of this report.

Attached is the Spring Point Shoreway Improvements Plan for reference. The Beach Street entrance indicated in that plan was plowed over in October, 2002 to extend a paper street to a new lot created from the subdivision of Tax Map lot #216. A block (15 feet by 20 feet) of rosa rugosa was ripped out at that entrance. John Switzer (Parks and Recreation) reported that the Beach Street entrance will be replanted by the developer.
The enforcement of these shoreline regulations (see attached) is the responsibility of the Code Enforcement Department. In Section 27-250 of the Article, the purpose of the article is

- “to further the maintenance of safe and healthful conditions;
- to prevent and control water pollution; to protect fish spawning grounds,
- aquatic life, bird and other wildlife habitat;
- to protect buildings and lands from flooding and accelerated erosion;
- to protect archaeological and historic resources;
- to protect commercial fishing and maritime industries;
- to protect freshwater and coastal wetlands; to control building sites, placement of buildings and land uses;
- to conserve shore cover, and visual as well as actual points of access to inland and coastal waters; to conserve natural beauty and open space;
- to anticipate and respond to the impacts of development in shoreland areas; and
- to protect and enhance the enjoyable quality of existing shoreland areas as places where people and nature can both exist in productive harmony.”

Any persons doing changes to or development in the shoreland area of Willard Beach must comply with these regulations.

A change in these regulations may be initiated by the City of South Portland Code Enforcement Department or the Maine Department of Environmental Protection. There have been no changes in the past few years. It is the property owner’s responsibility to keep updated on any changes because property owners are not officially notified.

See Appendix 11 for the Shoreline Zoning Regulations.
The purpose of the sand dune regulations (Chapter 355) is to protect and promote the growth of sand dunes on Maine’s beaches. Those properties that are in any part of the dune area (i.e. frontal dune or back dune) must comply with these regulations in addition to the Shoreline Regulations outlined in Section XI and Appendix 11 of this report. See the sand dune map in Appendix 9 for the properties (both city and residential) that are affected by these rules.

Chapter 355 “clarifies the criteria for obtaining a permit under Maine’s Natural Resources Protection Act (NRPA) for an activity proposed within areas defined as coastal sand dune systems. It outlines standards that a proposed activity must satisfy in order to be permitted under this chapter. This chapter also lists activities exempted from authorization under this chapter. A list of permit application requirements and a sample application form are provided at the end of this document.” (Maine DEP)

The current sand dune regulations are under discussion for amendments. The proposed changes are attached as well as the current sand dune regulations. The final revised sand dune regulations will be attached when they become available. See Appendix 12 for current sand dune regulations and proposed amendments to those regulations.

The beach committee and the code enforcement office will jointly write a letter to Jeff Madore at the Maine DEP Bureau of Land and Water Quality to specifically clarify if the buildings on the front row of the beach can be rebuilt in the event of greater than 50% storm damage of the building assessed value and under what restrictions, if any. Currently, any buildings on the front row of the beach are considered in the back dune area of the Willard beach. Because these buildings are in an A2 Flood Zone (See FIRM in Appendix 2 of this report) and not a V Zone, there is some discussion that these sand dune rules apply at Willard Beach.

The area delineated in the Flood Insurance Rate Map (FIRM) as the 100 year floodplain denotes an area where a flood has a 1% chance of being equaled or exceeded in any given year. It does not mean that the flood will only happen once every 100 years but rather it is a statistical representation. It can and has happened more than once a year as we saw in 1978. (See the South Portland Floodplain Management section of this report for more information.) If the National Flood Insurance Program (NFIP) was to change the rating from a A2 Zone, the sand dune rules may apply differently. The response letter from Jeff Madore will be put in this report.
These are additional regulations that must be complied with if there is any development in the 100-year floodplain. These are a different set of regulations than shoreline regulations and are attached.

Sue Baker (CFM, State Planning Office, Floodplain Management Program) states that “the area delineated in the Flood Insurance Rate Map (FIRM) as the 100-year floodplain denotes an area where a flood has a 1% chance of being equaled or exceeded in any given year. It does not mean that the flood will only happen once every 100 years but rather it is a statistical representation. It can and has happened more than once in the same year or even within the same month as we saw in 1978. Also, Zone A2 and VE are both areas that will be inundated in a 100-year flood. A “V” Zone is also called a velocity zone and is an area that has wind and wave action figured into the height of the flood will reach. Hence, we only find velocity zones on the coast.”

See Appendix 13 for the Floodplain Management Regulations.
Fisherman’s Point (Wharf Point) is on the south end of Simonton Cove and Willard Beach. In a May 26, 1999 article by Katherine Collins in the American Journal she writes, “In July 1907, the point was deeded over to the city of South Portland as one of the city’s first parks. The deed included all of the real estate on the shore at Wharf Point and back to Simonton Cove. The cove and Willard Beach was an area dedicated to fishing almost from the time of the first settlers in what was then known as Falmouth. A group of Scottish and Irish settlers that first arrived in 1718 included William and Andrew Simonton, who built a fishing wharf and warehouse in the cove which was eventually named for them.”

On Fisherman’s Point, there remained five fishing shacks until the February storm of 1978. That storm was the second of two major storm events that winter (the first was in January). Two of the shacks (the two closest to Deake Street) were washed away in those storms. The shacks were used at that time to store fishing gear of local fisherman. The three remaining shacks hold much significant historical value to the area and should be maintained and preserved. Richard Holt, long time resident and fisherman, has been instrumental in maintaining these shacks along with the Willard Neighborhood Association. Richard Holt said that some of the timber in the shack is over 200 years old and that the shacks predate the city itself.

In the spring and fall of 2002, the roof of the largest shack was replaced and one of the sides of that shack was re-shingled. The shingles on two other sides were stained and re-nailed. Materials were provided by the City of South Portland Parks and Recreation Department. The labor on the shacks was provided solely by volunteers including Richard Holt. We hope to re-shingle and re-paper the water side of the big shack and one of the smaller shacks in the spring of 2003.

The Willard Neighborhood Association and the South Portland Volunteer Network appreciates the supply of materials from the city of South Portland and would hope that this will continue in the future.
The age and history of the current bath house will be included in this report when obtained. Chick Wilder (9/3/25-2/3/94) was the head lifeguard at Willard Beach for 35 years and made Willard Beach a place for recreation and communities. He organized activities for the kids and taught them how to swim. Chick, helped to keep the beach clean, and is missed by many residents who grew up here and remember him well. His contribution to this beach will not be forgotten.

A. MAINTENANCE
The bathroom and lifeguard rooms are maintained by the lifeguards during the season (see Lifeguard section below). The concession stand is owned by the city and leased out to the operator.

The exterior building and deck of the bath house was painted by neighborhood volunteers in April of 2001 as part of Earth Day. Seventeen adults and children donated time and the total materials cost to the city was $900. On Earth Day 2002, volunteers did touch up painting to remove graffiti and put another coat of stain on the deck. Theresa Wiper (767-1160) has stain and paint stored at her house for future touch-ups.

B. LIFEGUARD DUTIES
Written by Bill Cary of the Parks and Recreation Department.

The Parks and Recreation Department employ lifeguards during the summer months of June, July and August to provide health and safety services for the public at Willard Beach. All lifeguards must have lifeguard and first aid certification from Red Cross or some other water safety organization. All lifeguards are seasonal, temporary employees. There has been a well-documented and publicized shortage of qualified lifeguards in Maine for the past few summers. Speculation is that many people are unwilling to commit to the many hours of training necessary to become and remain certified. The Parks and Recreation Department has been able to offer lifeguards combined hours at the Swimming Pool and Willard Beach which has allowed us to be more competitive in attracting qualified applicants (usually college students) who are trying to maximize their summer earning opportunities. All Swimming Pool and Willard Beach lifeguard activities are managed by the Aquatic Program Coordinator, Tim Gato, who can be reached at the Community Center (767-7650 and tgato@spsd.org). Two of the people on the lifeguard staff are head lifeguards and are responsible for supervising all lifeguard activities during the eight-hour work shift at the beach. Staffing levels require a minimum of two lifeguards (including the head lifeguard) on duty at all times and a maximum of four lifeguards (including the head lifeguard) scheduled on busy weekend days in July and August. Some lifeguards are scheduled for half shifts (four hours) during the middle part of the day (11:00 AM to 3:00 PM) to provide extra coverage when the attendance level is at a peak during a normal summer day.

The primary responsibility of the lifeguard staff is to provide public safety and an enjoyable experience to the Willard Beach users between the hours of 9:00 AM and 4:00 PM. This involves surveillance of the waterfront from the guard stands located at two locations on the beach. Willard Beach is considered to be a safe and family friendly with very little surf as compared to other beaches in the area. This results in many small children playing in or near the water and the possibility of an accident at any time. The lifeguard staff is also responsible for responding to accidents and performing first aid. Most of the incidents are scrapes and cuts but occasionally something more serious happens which requires a rescue call. The lifeguard staff is responsible for enforcing Willard Beach rules and regulations involving a variety of issues including consumption of alcohol, dogs, small boats and flotation devices. The lifeguard staff collect water samples for testing by the Pollution Abatement Department and inform the public about any resulting water quality issues by putting up the appropriate signage.
The secondary responsibility of the lifeguard staff is to open and close the bathhouse and keep it maintained for the public. The bathhouse is cleaned and disinfected in the morning before opening. At the end of the day before closing, all receptacle trash is collected and stored in the bathhouse for Park employees to collect and dispose of. The other routine maintenance task that the lifeguards are expected to perform is to check the beach each day for any broken glass or other debris that could create a safety concern or health risk for the public. Occasionally they have to deal with dead animals or fish that wash up on the beach and must be disposed of.

C. BATHROOM FACILITIES
Off season availability to the public. Currently, there are none.

D. SWIMMING FLOAT
Residents fondly remember a swimming float at Willard Beach and the fun they had with it. Bill Cary, Parks and Recreation Department, mentioned “that the last float was in operation in the early 1990’s. It fell into disrepair and the replacement cost at the time was in the $5,000 range. The float generally required much labor time to put it in and take it out and seemed to need repairs at the end of every season. It also created some real public safety concerns in terms of children falling off and becoming trapped under the float. We had one lifeguard assigned to monitor the float. I don’t think we have enough lifeguard staff to do that today and monitor the rest of the beach from the guard stands. The float was also an attractive nuisance at night as it was a place for teenagers to swim out and hang out away from the beach.” Maintenance and safety concerns are reasons the float is no longer used.

Dick Ingalls, the Chairman of the Board of Harbor Commissioners, stated in an e-mail dated November 18, 2002, that “they had no record of a swimming float at Willard Beach. Were there to be one, it would be in the domain of the Harbor Master and require a seasonal permit. Were it to be a permanent float it would require MDEP approval also.”
CURRENT EFFORTS

A. PUBLIC WORKS DEPARTMENT:

Large and small debris is piled at a designated spot at SMTC and at each beach entrance after volunteer clean ups. Public works makes regular trips to SMTC for debris pickups. Public works is contacted if debris is placed at the beach entrances for pickup.

B. PARKS AND RECREATION DEPARTMENT:

Lifeguards walk down the beach before 9 am for 20 minutes and pick up trash. Workers empty the trash cans at the beach entrances and the greenbelt walkway paths. Some beach entrance plant maintenance is done. Lifeguards clean the bathrooms at the bath house. Materials are supplied to volunteers for fish shack repair and for painting/staining the bath house. Plants and dune grass are provided to volunteers for improvements to the beach entrance and in dune restoration efforts.

C. VOLUNTEER AND BEACH COMMITTEE EFFORTS:

1. Volunteers do a beach clean up on Earth Day in the Spring and a beach clean up as part of Coast Week in the Fall. Other clean ups are conducted as needed (i.e. after big storm events).
2. Volunteers painted and continue to maintain the outside paint/stain maintenance of the bath house.
3. Volunteers make necessary repairs and improvements for the fish shacks.
4. Volunteers work on the beach entrances to remove invasive plants and add new native plants.
5. Volunteers planted dune grass and placed dune fencing in designated approved areas.
6. The beach committee will continue to attend beach conferences and DEP hearings that relate beach rules and dune rules. Information obtained at these meetings will be communicated to the appropriate city officials.
7. The beach committee will continue to update this report (the beach resource guide) and provide well-researched recommendations to the city with regard to beach maintenance.
8. Steve Gray, a beach committee member and Willard Neighborhood resident, removes very heavy debris from the beach often and stacks it for Public Works to pick up.
A. Wharf Jetty
Captain William Simonton, an early settler, apparently constructed a crib wharf off Wharf Point at the beginning of the 1800’s to land trade goods procured from the West Indies (Loveitt, 1977 and taken from Barry Timson’s report. See Appendix 1). The wharf jetty has been in various states of repair since then. Barry Timson noted in his 1977 report “that none of the navigation charts prior to the 1940’s indicate the wharf pier in Simonton Cove. The pier may have been upgraded substantially during or immediately after the war years. It has fallen into disrepair since that time.

WHAT EFFECT DOES THE WHARF JETTY HAVE ON THE BEACH AND SHOULD IT BE REPAIRED?

Barry Timson was hired by the City of South Portland in 1977 to find out the answer to this and other questions. See Appendix 1 for the full report. Barry reported that “the pier jetty structure at Wharf Point appears to have no net effect on the stability of any portion of Willard Beach. Removal of this structure should be based on considerations other than its effects on beach erosion.” Barry analyzed historical shoreline position changes and waves to make this determination.

Steve Dickson (marine geologist, Maine Geological Survey), Joe Kelley (Professor of Marine Geology - University of Maine), and Sue Schaller (Coastal Resource Planner - Southern Maine Regional Planning Commission) concur with the above. The reconstruction of the jetty, while extremely cost prohibitive to build and maintain, may actually have a negative environmental impact on the beach (i.e. an undesirable shift in sand). A jetty would cost millions of dollars to build and maintain.

B. Beach Cleaner

IS THE USE OF A MOTORIZED BEACH CLEANER RECOMMENDED BY GEOLOGISTS AND COASTAL RESOURCE PLANNERS? WHAT ALTERNATIVES DO WE HAVE?

A motorized beach cleaner was not endorsed by Steve Dickson, Pete Slovinsky or Sue Schaller, because it would remove sand as well as debris from the beach. Since Willard Beach has no real source of incoming sand, this is an undesirable incidental result.

Here are a few reasons why a beach rake was requested and some possible solutions.

1. The beach cleaner could be used to trim back dune grass that is growing into the recreational areas of the beach. This could be accomplished by using the rotodarian machine as indicated in the DUNE MANAGEMENT section c. on dune grass removal.

2. The beach cleaner would pick up trash on the beach. We can continue to organize clean up efforts as needed through the South Portland Volunteer Network. Lifeguards also help pick up trash. Beach rakes found in the bath house have been altered by putting wire mesh on the end. Regular raking with these hand rakes by the lifeguards around the concession stand area should help with smaller litter items (i.e. cigarette butts). These rakes could also be used by volunteers during scheduled clean ups (i.e. Earth Day or Coastal Clean Up).

3. The beach cleaner would remove seaweed. While seaweed is an important nutrient, it’s removal in the summer months is desirable for aesthetic reasons. Seaweed can also become a breeding ground for bacteria. This bacteria may contribute in part to high bacteria counts and beach swimming advisories and closures after rains. We are recommending that the seaweed be raked at least three times a summer; the beginning of the season and at least once a month during the season. See the following section for how to rake the seaweed.
C. SEAWEED INFORMATION AND REMOVAL TECHNIQUES.

WHEN AND HOW SHOULD SEAWEED BE RAKED?

Seaweed may be raked in the summer for the reasons noted in the previous paragraph. According to Sarah Neuts in Parks and Recreation, Chick Wilder, the lifeguard at Willard Beach for 35 years, raked the seaweed down to the water. This method is also endorsed by the geologists and the coastal resource planner because this way the sand stays on the beach.

There are better times of the month to rake to increase the chance of the seaweed staying off the beach. The best time of the month is after a full or new moon and right after high tide. Ideal conditions would include an offshore wind. Seaweed can be raked into a small wheel barrel and dumped into the water. Volunteers raked a section of the beach in front of the bath house last summer to test this technique. Most of the seaweed stayed off the beach.

When groups are scheduled to rake, great care should be taken to do it at the above times to achieve the best results.

D. SEAWALL CONSTRUCTION.

WHAT ARE THE EFFECTS OF SEAWALLS ON BEACH EROSION AND ARE SEAWALLS STILL ALLOWED TO BE CONSTRUCTED?

A seawall is defined in the DEP sand dune regulations as a vertical wall, or other sloped barrier that separates land from water areas, commonly constructed out of rocks, wood, concrete or other similar materials, generally built for the purpose of protecting structures or property from shoreline erosion caused by wave or current action. A seawall is considered a permanent structure.

Seawall construction on the beach is not recommended and generally no longer allowed because these structures actually aid in the erosion process. Wave action is accelerated and more sand is dug out with each wave. Dunes are a better erosion defense because the wave sinks into the dune and the wave action is slowed.

The proposed DEP sand dune regulations state that there will be no new seawall construction and no existing seawall may be expanded or replaced except as provided under Chapter 305, Permit By Rule (See Section 5F of the Amendment - Section XII.

E. COAST GUARD PHONE NUMBER.

WHO DO YOU CALL WHEN YOU SEE AN OIL SLICK OR OTHER POSSIBLE POLLUTION SPILLS? See the following section for more phone numbers.

Coast Guard Numbers:
Search and Rescue Emergencies .................................................................................. 799-1680
Reporting Oil and Hazardous Spills .............................................................................. (800)424-8802 or  
............................................................................................................................ (800)482-0777
Referral List for Frequently Asked Questions
Provided by
FRIENDS OF CASCO BAY
As of 9/02

XIX. Who To Call

Search & Rescue--Coast Guard
Emergencies Only ................................................................. 799-1680

Clam Flat Questions
Department of Marine Resources
Laura Livingston ................................................................. 624-6550
MER Assessment Corp
Chris Heinig ................................................................. 729-4245, 798-7935
Dana Wallace ............................................................... 725-4557

Dredging
Dredge Commission
Charles Poole ................................................................. 772-8160

Environmental Protection Agency
Craig Vogt ........................................................................ (202) 260-1952
U.S. Army Corps of Engineers .............................................. (617) 647-8237

Lobster Relocation Project
Chris Heinig ......................................................................... 729-4245, 798-7935

Coastal Clean-up
Maine Coastal Program ......................................................... 287-5305
Theresa Torrent-Ellis, Coordinator ...................................... 287-2351

Education
Gulf of Maine Aquarium
School Programs, Teacher Workshops - Justine Glynn .................. 772-2321

AmeriCorps Environmental Education Circuit rider
Free watershed programs - Betty McInnes, Soil & Water Cons. District .... 839-7839 x 5

Chewonki Foundation .......................................................... 882-7323

Ocean Adventure
Phil Averill ........................................................................... 563-2318 or 1-800-696-0550

Mr. & Mrs. Fish
Deb and Jeff Sandler .......................................................... 799-6234

NE Dolphin Outreach Project
Nan Hauser ........................................................................ 729-1534

Maine Audubon Society
Carol Le Mere .................................................................. 781-2330 x. 215

Portland Water District ......................................................... 871-7804

Maine Coastal Program
Theresa Torrent-Ellis, Outreach/Education Coordinator ............... 287-2351

Boat tours, whale watching, historical tours
Olde Port Mariner Fleet
Dan Libby ............................................................................ 800-437-3270, 775-0727

Odyssey, Indian II
Capt. Bill Frappier .................................................................. 774-6498

General questions about the ocean
XIX. Who To Call Continued

Department of Marine Resources
Elaine Jones, Education Director .............................................................. 624-6550
Gulf of Maine Aquarium ............................................................................ 772-2321

Oil & Other Hazardous Spill Emergencies
Coast Guard ................................................................................................. 1-800-424-8802
Dept. of Environmental Protection .............................................................. 1-800-482-0777

Reporting Sewage Discharges from boats
Bureau of Marine Patrol, DMR ................................................................. 633-9595
Dept. of Environmental Protection
Pam Parker .................................................................................................. 287-7905

Oil Recycling Information
Dept. of Environmental Protection ............................................................. 1-800-452-1942

Fisheries
Dept. of Marine Fisheries ........................................................................... 633-9500
National Marine Fisheries Service .............................................................. 780-3322

Injured Birds and Wildlife
Dept of Inland Fisheries & Wildlife
Public Information Office .......................................................................... 287-8000
Center for Wildlife ...................................................................................... 361-1400
Inland Fish & Wildlife
Rich Dressler ............................................................................................... 941-4467
John Kenney ................................................................................................. 941-4448
Stone Ledge Veterinarian Hospital, Westbrook
Dr. Bernie Wall, (Will treat injured gulls) .................................................... 797-4292
Sparks’ Ark
David Sparks, (charges a small fee) .............................................................. 892-8905
Avian Haven, Unity ...................................................................................... 382-6761

South Portland Animal Control
Stanley Brown, SP Police ........................................................................... 799-5512
LeeAnne Donovan ......................................................................................... 657-3393
Phil Bozenhard .............................................................................................. 657-2345x110

Marine Mammal Stranding
Northeast Marine Animal Lifeline ............................................................... 773-7377
"http://stranding.org" .................................................................................. (tollfree: 851-6625 (don't dial 207)
New England Aquarium Hotline ................................................................. (617) 973-5247

Red Tide Hotline
Maine Department of Marine Resources
Updates On PSP Openings/Closures ......................................................... 1-800-232-4733

Water Quality Or Other Pollution Questions
Friends of Casco Bay
Peter Milholland ........................................................................................... 799-8574
Department of Environmental Protection
Southern Maine Office: Steve Flanery, John Woodard, Cheryl Bernard Oil ....... 822-6300
Lee Doggett .................................................................................................... 287-3901
XIX. Who To Call Continued

Pam Parker (Pump out) ................................................................. 287-7905
Stuart Rose (Swimming areas) .................................................... 822-6300
Matt Height (Discharges to surface water other than oil) ................ 822-6321
Portland Water District (Dispatch) ........................................... 774-5961 x. 3073
Individual town code enforcement officer .................................. (call Town Hall)

Speakers
Coast Guard Sea Partners
(marine debris, marine laws, pollution prevention) ......................... 780-3251
Maine Coastal Program
Theresa Torrent-Ellis ....................................................................... 287-5300
ME/NH Sea Grant College Program
Speakers’ List .................................................................................. 581-1440
US Fish & Wildlife Service
Lois Winter, Gulf of Maine Project .................................................. 781-8364
Maine Island Trails Association (MITA)
Leanne Dech ..................................................................................... 761-8225

Other Casco Bay Groups
Casco Bay Estuary Project
Karen Young, Beverly Bayley-Smith .............................................. 780-4820
Casco Bay Island Development Association
Winter Number ................................................................................. 772-3616
Summer Number ............................................................................. 766-2448
Waterfront Alliance ........................................................................ 774-1419
Maine Island Trails Association (MITA) ........................................... 761-8225
Portland Trails ................................................................................. 775-2411
Presumpscot River Watch
Helen Chabot ................................................................................... 882-6356
Friends of Presumpscot River
Dusti Faucher ................................................................................... 892-8381
Friends of the Royal River
John MacKinnon, Pres. .................................................................... 829-4730
Dan Emery ......................................................................................... 846-0989
Portland Harbor Master, Marine Trade Center .............................. 772-8121
Ocean Conservancy
Susan Farady .................................................................................... 767-0144
Cumberland County Soil & Water Conservation District
Wendy Garland ................................................................................... 839-7839

Environmentally-friendly Landscaping
University of Maine Cooperative Extension, Dick Brzozowski .......... 780-4205, 1-800-287-1471
University of Maine Pest Management Office ................................. 1-800-287-0279
Maine Board of Pesticides Control .................................................. 287-2731
Maine Organic Farmers & Gardeners Association ........................... 622-3118
**Pumpout Services**
FOCB Pumpout boat (Josh Madeira) ......................................................... 776-0136
Spring Point Marina, South Portland .................................................. 767-3213
Handy Boat, Falmouth ........................................................................ 781-5110
Yankee Marina, Yarmouth ................................................................ 846-4326
Town of Falmouth Pumpout Boat ...................................................... 781-2300
Brewers Marine, South Freeport ....................................................... 865-3181
Strout's Point Wharf Company, Freeport ......................................... 865-3899
Paul's Marina, Brunswick ................................................................. 729-3067
New Meadows Marina, Brunswick ................................................... 443-6277
Dolphin Marina, Harpswell ............................................................... 833-5343
Land-based: Associated Septic ......................................................... 799-1980
Sea Coast Ocean Services ............................................................... 774-2111
Many thanks to those below for all their help and valuable information:

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<thead>
<tr>
<th><strong>Maine Geological Survey</strong>&lt;br&gt;22 State House Station&lt;br&gt;Augusta, Maine 04333-0022&lt;br&gt;(207) 287-2801</th>
<th><strong>Contacts:</strong> Steve Dickson - Marine Geologist&lt;br&gt;<a href="mailto:stephen.m.dickson@state.me.us">stephen.m.dickson@state.me.us</a>&lt;br&gt;(207)287-7174&lt;br&gt;sand dune regulations, beach profiling&lt;br&gt;Pete Slovinsky - (coastal management fellow NOAA - MGS)&lt;br&gt;(207)287-7173</th>
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<tr>
<td><strong>Southern Maine Regional Planning</strong>&lt;br&gt;21 Bradeen Street, Suite 304&lt;br&gt;Springvale, Maine 04083&lt;br&gt;(207) 324-2952&lt;br&gt;www.smrpc.maine.org</td>
<td><strong>Contact:</strong> Sue Schaller - Coastal Resource Planner&lt;br&gt;<a href="mailto:sschaller@server.eddmaine.org">sschaller@server.eddmaine.org</a>&lt;br&gt;beach management planning</td>
</tr>
<tr>
<td><strong>Maine State Planning Office</strong>&lt;br&gt;Maine Coastal Program&lt;br&gt;38 State House Station&lt;br&gt;Augusta, Maine 04333-0038&lt;br&gt;(207)287-3144&lt;br&gt;www.state.me.us/mcp</td>
<td><strong>Contact:</strong> Kathleen Leyden - Director&lt;br&gt;<a href="mailto:Kathleen.leyden@state.me.us">Kathleen.leyden@state.me.us</a>&lt;br&gt;sand dune regulations, Camp Ellis project, beach nourishment and management, coastal erosion</td>
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<td><strong>Maine State Planning Office</strong>&lt;br&gt;Maine Floodplain Management Program&lt;br&gt;184 State Street&lt;br&gt;38 State House Station&lt;br&gt;Augusta, Maine 04333-0038&lt;br&gt;(207)287-8063, (800)662-4545&lt;br&gt;www.state.me.us/spo/floodplain.htm</td>
<td><strong>Contact:</strong> Lou Sidell&lt;br&gt;<a href="mailto:lou.sidell@state.me.us">lou.sidell@state.me.us</a>&lt;br&gt;Nationally certified floodplain manager&lt;br&gt;Duties: Floodplain coordinator, issues re: development in the floodplain, flood mitigation, flood insurance information</td>
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<tr>
<td><strong>University of Maine</strong>&lt;br&gt;Bryand Global Science Center&lt;br&gt;Orono, ME 04469-5790&lt;br&gt;(207) 581-2162</td>
<td><strong>Contact:</strong> Joe Kelley - Professor of Marine Geology&lt;br&gt;<a href="mailto:jkelley@maine.edu">jkelley@maine.edu</a>&lt;br&gt;Beach Profile Study, former State Marine Geologist&lt;br&gt;Department of Geological Sciences&lt;br&gt;<strong>Work includes:</strong> measurement of sea-level change and the response of the shorelines to that change, as well as seafloor habitat mapping. Also involved in coastal zone management issues in Maine including beach development and erosion.</td>
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<tr>
<td><strong>Maine Department of Environmental Protection</strong>&lt;br&gt;Bureau of Land &amp; Water Quality&lt;br&gt;312 Canco Road&lt;br&gt;Portland, Maine 04103&lt;br&gt;822-6300</td>
<td><strong>Contact:</strong> Ask for on call person for Land and Water Quality&lt;br&gt;Will review projects within Maine’s coastal sand dune system.</td>
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<tr>
<td><strong>Maine Department of Environmental Protection</strong>&lt;br&gt;Bureau of Land and Water Quality&lt;br&gt;#17 State House Station</td>
<td>Augusta, Maine 04333-0017&lt;br&gt;(207)287-7688</td>
</tr>
</tbody>
</table>
Contact: Jeff Madore  
(207)287-7848  
In charge of Sand Dune Regulations

Cumberland County Emergency Management Agency  
Hazard Mitigation  
22 High Street  
Windham, Maine 04062  
(207)892-6785

Contact: George Flaherty

Friends of Casco Bay  
2 Fort Road  
South Portland, Maine 04106  
(207)799-8574  
Founded in 1989, FOCB is a marine stewardship organization with a mission to improve and protect the environmental health of Casco Bay.

Contact: Kristen Whiting-Grant  
Southern Maine Extension Associate  
Beach profiling, beaches conference, dune die-out

Maine Sea Grant  
5715 Coburn Hall  
University of Maine  
Orono, Maine 04469-5715  
www.seagrant.umaine.edu  
(207)646-1555 ext. 115

Contact: John Faherty - Chair  
Coastal stewardship organization, beach clean-ups  
Peter Slovinsky, Volunteer Coordinator

Northern New England Surfrider Chapter  
P.O. Box 525  
Cape Neddick, Maine 03902  
www.surfrider.org  
www.nnesurfriderchapter.org  
(207)752-0429

Contact: Nick Bennett - Scientist  
consulted on road salt questions

Natural Resources Council of Maine  
Augusta, ME  04330  
622-3101

City of South Portland Departments:

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<thead>
<tr>
<th>Department</th>
<th>Name</th>
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<th>Email</th>
</tr>
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<tr>
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