2008
Town of Long Island
COMPREHENSIVE PLAN

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1.1 Introduction

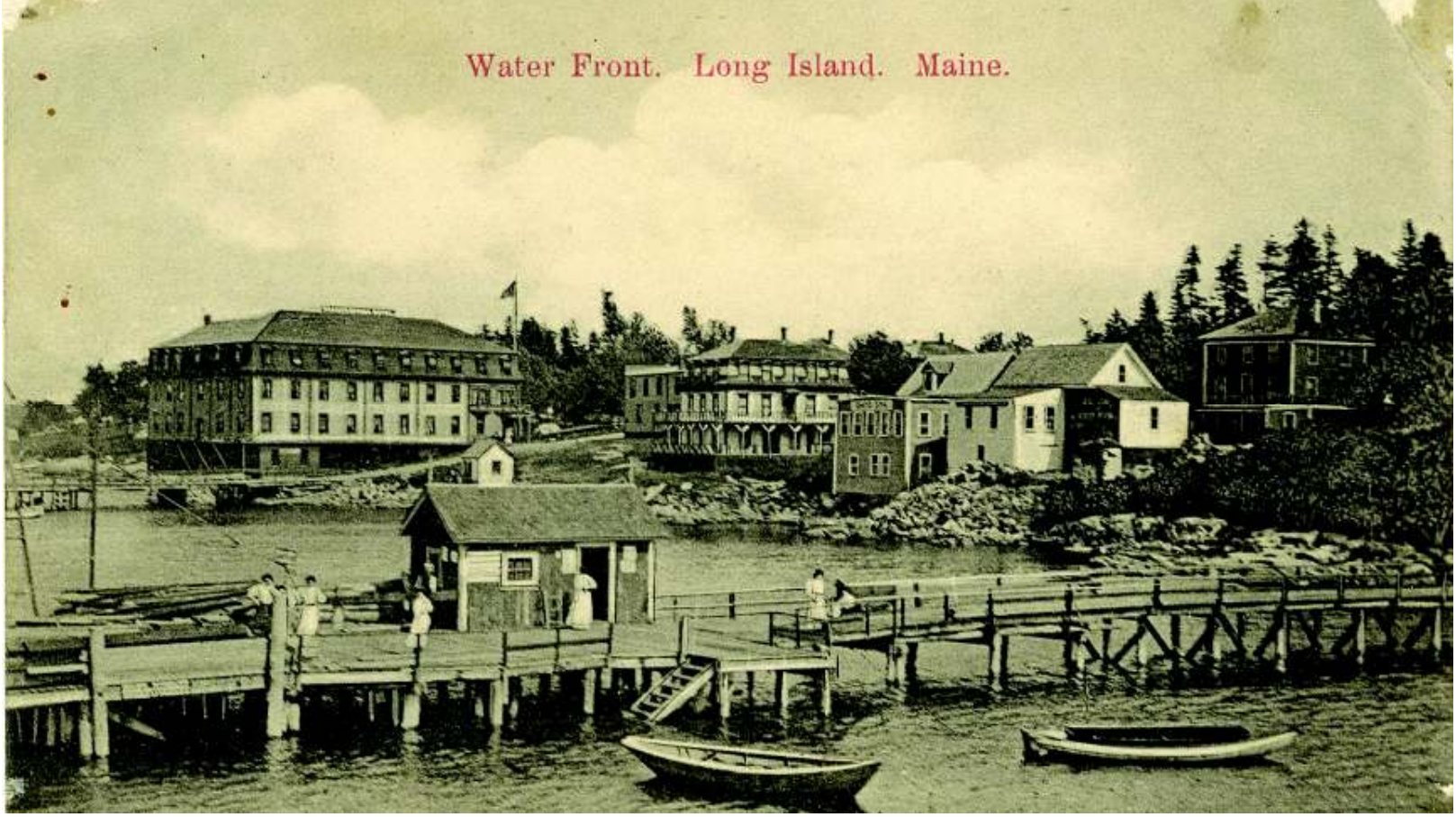
Existing Comprehensive Plan Approved in 1995

The original Town of Long Island Comprehensive Plan, a planning document used to guide land use policies was completed in 1995, was approved (found "consistent" with the state Growth Management Act (30-A M.R.S.A., CHAPTER 187) and the SPO "Rule".) and highly complemented, by the State Planning Office and adopted by the Town of Long Island Town Meeting in May of 1995.

In 2006 Comprehensive Plan Committee was Established to Revise Existing Plan

In July of 2006 the Town of Long Island Planning Board made the decision to revise the Town of Long Island Comprehensive Plan. A new Comprehensive Planning Committee of 11 volunteers was set up in the summer of 2006 by the Long Island Planning Board to review and revise the Comprehensive Plan. The Committee included one of our Selectmen, two Planning Board members, long-time and new year-round residents, and two summer residents.

The production of this revision to our Comprehensive Plan has been an entirely volunteer effort. The Comprehensive Planning Committee has met regularly, usually twice a month, since July 2006, and starting in 2008 we have met weekly. There is a good deal of work done by members in preparation for each meeting, so this has been quite an effort. The committee was given no budget for their work; there is no "staff" of town employees to help; but the Selectmen agreed to pay $300 to the Greater Portland Council of Governments for services relating to the production and analysis of a survey and have paid printing and mailing costs for that survey and some recurring printing expenses related to the committee's work. This is very typical of the way many very important activities are carried out in the Town of Long Island. In many ways these frugal habits and extensive volunteer activity help to create the wonderful sense of community that defines the Town of Long Island. We are very grateful to our able and committed volunteers.



1.2 A History of Long Island

Over time, Long Island has shown many faces to the world: a remote self-sufficient fishing and farming community in the 1700s and 1800s; a summer playground for Portlanders in the late 1800s until World War I; site of a major Navy installation during World War II and into the 1950s; and the proposed site of a super tanker port in the 1960s and early 1970s. Today Long Island is a community of 900 people struggling to remain viable in the economic uncertainties of the 21st Century. About two hundred of those 900 people live year round on the island. Long Island is now one of 14 islands in Maine still supporting a year-round community. At the turn of the century, Maine had 300 such island communities.

Long Ago

Clam shell heaps still contain bones of a species of giant beaver long since extinct, so we know they were among our early inhabitants. There is archaeological evidence that the Red Paint people were on Long Island (known as Smith's Island long ago), and we know that Native Americans were on our shores. Some lived here year-round, others only in the warm months.

John Smith, that intrepid explorer and speculator, recorded a visit to Long Island on a map dated 1600 in the British Museum. Quite clearly the French visited the island, perhaps under duress, for they named the harbor facing seaside, Havre de Grace.

The first European settler was John Sears from Boston in 1640. Very little is known of his goals, his activities, or the results.

The Eighteenth Century

Between 1703 and 1706, the ownership of the island passed to a John Smith of Boston, and the island was named Smith Island. He had planned to settle, but whether it was the climate, the remoteness, or conflict with a native population that prevented it, history does not show.

Col. Ezekiel Cushing, in the 1730s, purchased Long Island from John Smith for 1,200 Pounds. It was a cash deal not involving a trade or mainland land swap (which is an inaccurate story which has been often repeated on the island). Although he did not live here, he established his brother, Ignatius, and family on the island, beginning a permanent settlement. In his will, Ezekiel divided the island among his many sons and daughters. Many of today's residents (year-round and seasonal) are direct descendants of these Cushings.

The Nineteenth Century

The first census ever taken on Long Island showed 146 residents, the largest population in the bay in 1830. By 1880, that number had grown to 252, with Peaks Island having 370. Early records contain names that are still with us: Bickford, Cushing, Doughty, Dyer, Gomez, Griffin, Horr, Johnson, Littlejohn, MacVane, Rich, Wallace, Woodbury. In their day the island was, of necessity, self-sustaining. The arable fields and pastures and wells and abandoned cellar holes can still be found in the thickets of alder and raspberry, and old stone walls mark off property lines and livestock enclosures. It is not now altogether comforting to remember that in the early days a fisherman did not have to steam two days off shore for a catch. The contiguous waters were swarming with fish and lobster.

Traditionally, farming and fishing have been the mainstay of the year-round population. At one time, every able-bodied male from 8-80 followed the call of the sea. In the 1800s the Doughty family, a common island name today, was recognized expert in the sword-fishing industry. In 1908, out of a year-round population of 260 adults, over 70 men were listed as fishermen.

Turn of the Century Development

Long Island suffered a limited real estate boom during the late 1890s and early 1900s. Large sections of the island were subdivided into very small lots with many streets and avenues laid out with geometric precision. Many of the lots on the west end and east end and along stretches of the north side were built on. The size of these lots, all non-conforming according to present standards, have contributed to some of the contamination problems which are described in the ground water section of this report.

Originally visitors sailed to the island. The excursion was risky. There were several known incidents of families lost and drowned in sudden squalls. In 1864, however, regular steamboat service was begun, and the island changed forever. By the turn of the century, Long Island had three large hotels accommodating 300-400 people, and several smaller guesthouses and rooming houses. These hotels provided two dances weekly, bowling alleys, and fine restaurants. The business district claimed three grocery stores, an ice cream parlor and confectionery, a fish market, a barbershop, and a poolroom. There were three wharves for passengers and one for freight alone. Portland built the first city street on the island in 1897. A boardwalk, four feet wide, lined with gas lamps, bordered the street from the business district and continued for two miles toward the east end of the island.

During this period around the turn of the century, the islands were being touted as health resorts and idyllic retreats. Large steamers from Boston and New York brought vacationers in droves. Large summer hotels were a big attraction; there were dozens of boarding houses; and most families had a room or two to accommodate the influx of visitors, many from Canada.

At this time Long Island's real claim to fame was its summer clambakes. People came by the hundreds to eat clams, lobster, corn, potatoes, eggs, bread, and pickles, cooked outside over fires that consumed cords of firewood. They were served outside in big fields or in the pavilion built for that purpose. The most famous was the celebration of Portland's Centennial when over 2000 people ate 500 bushels of clams cooked over 16 cords of firewood!

Cow Island

The military came to Cow Island in 1901. It was known as Fort Lyon. It was established as a support for Fort McKinley, 300 yards across the water on Great Diamond Island. Fort Lyon featured a wharf, a powerhouse and two gun batteries. The first, completed in 1907, Battery Bayard was mounted with three guns that could fire 6-inch diameter shells eight miles. The second, completed in 1909, Battery Abbot mounted three guns that could fire 3-inch shells five miles. These two batteries were among 25 batteries with 73 guns and mortars in the five Portland Harbor forts: Williams, McKinley, Preble, Levet and Lyon.

The forts were built out of fear that Portland Harbor could be invaded by an enemy fleet that might have taken over Saint John, New Brunswick or Halifax, Nova Scotia as a base of operations. Each battery had a specific role and field of fire in the coordinated system of forts defending the harbor. Battery Bayard's primary role was to help defend Hussy Sound. Battery Abbot had a dual role of helping guard Hussy Sound, as well as the back channel between the islands and the Falmouth mainland.

Fort Lyon was manned for a short time during World War I. It was active again in World War II when 100 men were stationed there. An artillery regiment of the Maine National Guard was charged with defending against patrol boats, and the island was equipped with a massive searchlight.

When the harbor forts were deactivated after World War II, the guns were cut up for scrap. The surviving elements help to show how coastal forts were built from the 1890s through World War II. Cow Island is now privately owned by Rippleffect, a non-profit organization that operates an outdoor adventure camping experience for youngsters, and the island is protected by a conservation easement held by Maine Coast Heritage Trust.

Fires and a Decline

Long Island's prosperity was dealt a cruel blow on the eve of World War I when fire broke out late on June 29, 1914 in the newly restored and luxuriously-decorated Granite Spring Hotel. There were no human casualties, but on the following morning gusty winds fanned the fire and

destroyed the hotel, Ponce's wharf, and most of the adjacent business district. The bakeshop, the barbershop, popcorn stand, fish market, restaurant, and boarding house were burned to the ground just as the summer season was starting. The Granite Spring Hotel was never rebuilt, and only a much smaller array of stores arose from the ashes. Another hotel, the Dirigo House, was demolished in the early 1940s to make way for the Navy refueling depot for the North Atlantic fleet. But the halcyon days for the islands was ended in the twenties with the coming of the automobile, and only now are these islands moving back towards prosperity, brought on ironically by the automobile itself. They are once again places where one can "get away".

World War II Navy Refueling Depot

The most dramatic change to Long Island was the building of the Navy Refueling Depot to supply the North Atlantic destroyer fleet during World War II. Islanders' property was taken by eminent domain, and the construction process involved destroying nearly 90 homes and cottages, although a few were removed and relocated to other island sites. Part of the center of the island was blasted for the underground oil storage tanks with the stone riprap being deposited along the northwestern shore. In all the military took about one third of the 900-acre island. The reinforced concrete tanks were poured in place and equipped with all of the machinery that could pump them empty of fuel. To dock the huge warships, wharves were built; and the generator building, fire station, administration and barracks buildings were constructed.

From this invasion the island has never completely recovered. Like the immense German gun emplacements along the Normandy shore, the tanks are in place, and concrete with age cures to a hardness surpassing rock.

These two facts of our history–the many small lots created by the land speculators of the late 19th century and the existence of the Navy Oil Depot–are the loci of most of our land use problems, as the rest of the report will make clear.

In February 1969 the whole facility was sold to King Resources a Denver corporation. They intended to build a super tanker depot by using the Stepping Stones, small rock ledges off the north easterly shore of the island which are adjacent to deep water in Luckse Sound, and transshipping the oil across the island to the tanks, thence across the bay to a refinery projected for an inland site. During the acquisition of the tank farm and pumping facility agents for King bought up all the land, even small parcels, that were offered for sale and often at prices that no one even dreamed of. A small group mounted a powerful protest to what was feared would be the future destruction of their island environment and lifestyle. Although there was some oil storage use of the property between 1974 and 1981 under the ownership of King Resources, delays in the approval process for their elaborate expansion plans moved them into a time of changing world oil economies, and the King Resources Corporation eventually failed, filed for bankruptcy and the subsequent reorganization was renamed Phoenix Resources.

It is important to add here that during the period of King Resources' ambitious plans, the City of Portland's interests were almost entirely behind King Resources which some felt demonstrated their indifference to the welfare of the island. Lingering sentiments from this short

but intense period of conflict were part of the fabric of the relations between Long Island and Portland.

Recent Real Estate Development

In the late 1980s Phoenix divested itself of large and small parcels of its land holdings (separate from the tank farm) by selling them to Northland Corporation, a Newton Massachusetts based real estate developer. A large tract on the southwest end of the island known as Jerry Point (formerly Mount Hunger) was subdivided into large lots, and three houses were built. Large lots were also sold on the back shore, and many interior parcels of land were sold to abutters and other local property owners. Two separate tracts of land were donated by Northland to the Long Island Civic Association to be used for recreation purposes by the people of the island. One is the very beautiful double horseshoe Fowler's Beach, with its swampy backland, which is located on the western end of the island facing Peaks Island, and the second is a nine-acre interior parcel that is used as the island baseball field.

Incorporation of the Town of Long Island

In June of 1991 the City of Portland published a new property revaluation reflecting the real estate boom of the 1980s that had disproportionately affected island real estate values. This resulted in island property tax increases that doubled and tripled property owner's tax bills. While the level of municipal services was dramatically different between the island and the mainland, investigation showed that while something like a village corporation might bring more local control to the island, establishing a village corporation could not result in a lowering of taxes. Some island residents publicly worried that they could not afford to stay on the island, and Long Island's existence as a year round island community seemed threatened.

The Long Island Civic Association set up an ad hoc committee to look at what could be done. After evaluating other options (including doing nothing) the Town of Long Island Research Committee, under the leadership of Mark Greene, focused on the concept of incorporating as a separate island town with a town meeting form of government. There was wide participation from residents and property owners, both year-round and seasonal, in the massive work of this committee.

In addition to extracting details from the City of Portland's budget to gain an understanding of the costs of municipal services on Long Island, the research group looked to the functioning of other similarly sized towns throughout Maine, and particularly studied other island towns. These communities were seen to be meeting their own needs with economy and effectiveness and with much lower tax rates. Long Island grew to appreciate how much was already being done on our island by committed community members who had, for example, developed an exemplary volunteer fire department, trained Emergency Medical Technician volunteers, and created our own island library.

"An Act to Allow Certain Islands to Separate from Portland" was filed with the 115th Maine Legislature in the fall of 1991. Originally including other Portland islands, its sponsor. Rep. Anne Rand, eventually decided that only Long Island was ready to vote whether to become a town.

Preparing for the legislative process involved nearly every member of the community. Meetings filled island calendars, and mileage climbed on mainland cars traveling to Augusta where a constant vigil was maintained to monitor the bill's progress until it passed and was signed by the governor on April 3, 1992.

People on the island continued to work and plan and research how to make a small town viable and whether to do so would be in the best interest of one of the few remaining year round Maine island communities. Negotiations and the arbitration process defined the details of the separation from the City of Portland, and every aspect of what this step would mean for Long Island was discussed over and over again. While straw polls had repeatedly indicated strong support for creating an independent town, not everybody on the island was in favor of taking this step, and debate was lively. Finally, on November 3, 1992 residents voted 129 to 44 in favor of incorporating a new Town of Long Island.

Three selectmen and three school committee members were elected at the first town meeting and set to work at once to develop the structures and budget which would, with the approval of the town meeting, allow the town to begin functioning on July 1, 1993. Volunteers started out paying for the expenses of the town by designing and selling t-shirts and accepting donations. After incorporation, property owners voluntarily prepaid more than $50,000 in taxes to give the town working capital before property taxes came due in September.

Accomplishments Since Incorporation as the Town of Long Island

Fourteen years later the budget is on target; the school is exceeding its already high standards; roads are well and thoroughly plowed; the solid waste transfer station is a source of pride, no longer embarrassment; the Sheriff's Department's police coverage is an improvement; the volunteer fire department and EMT service are vigorous and strong: we have a fine new emergency rescue boat and the float has stayed in the water beside the wharf giving any-tide winter access to the Island for the first time in memory. Things are going well in the Town of Long Island.

Mariner's Wharf In the late 1990s Mariner's Wharf was constructed by the State in a new location to replace the aging Ponce's Landing as the main gateway to Long Island. The new location is adjacent to town owned land that was developed for parking. The design of the wharf was significantly influenced by a Long Island committee whose members included fishermen with lifelong knowledge of islanders' needs, safety issues specific to the way we use our wharf, and of the winds and tides in that area. Mariner's has proved a very functional asset. There are now three floats (two seasonal and one year round) attached to this wharf, and these provide safe dock space for our emergency boat, our Harbormaster's boat and off-loading and 2 hour tie up opportunities for private boats as well.

Ponce's Landing Converted to Working Waterfront Resource The old ferry wharf, Ponce's Landing, was turned over to the town when the new Mariner's Wharf was built. It is used as a public landing with pedestrian access and by a number of commercial lobstermen who pay a fee to the town to use it to load and unload their traps. The voters at the 2007 Town Meeting approved the sale of a "protective covenant" to the State to ensure in perpetuity the continued access to this facility for commercial fishing. The easement to be purchased from the Town by the State should provide funding to restore this premier working waterfront facility.

Long Island Learning Center With private donations and grant money, many many fundraisers, and only about $30,000 in tax money, a new Learning Center has been constructed

adjoining the school. This beautiful new building provides our community with a new library, art gallery, computer center, small meeting room and a performance space. The school building, too, has been improved and its exterior refurbished, and we have replaced the children's playground. The whole complex is a source of great island pride.

Community Center One of the old military buildings near Mariner's Wharf has been converted into a Community Center housing the Historical Society's exhibit space, a very popular pottery where classes of all ages continue to produce very beautiful ceramic products, and a large multi-function space where meetings, lectures, and gala dances are held and which our Recreation Department makes lively with their many programs and activities for our young people.

Any Tide Boat Ramp The barge landing site, which we call Boston Sand and Gravel, has been upgraded to make it accessible at any tide, something which has surpassing importance to the smooth functioning of an island community.

Cemetery Expansion The New Hill Cemetery has been expanded, and there are plans for further improvements.

Safety Fencing New sturdy wooden fences were installed at the edge of the fresh water pond, replacing the deteriorating World War II era chain link fencing, and similar new fencing was installed on the roadway next to town hall.

Conservation Land at Wreck Cove An 11.5 acre property owned by the Town on the south shore of Long Island, is now protected with a conservation easement deeded to Oceanside Conservation Trust of Casco Bay assuring that it will be a forever wild section of our island and available for passive recreational use by our citizens.

Cleaning and Closure of the Tank Farm Only After Long Island separated from the City of Portland and became an independent town did Northland step in to purchase the former tank farm property from Phoenix Resources. Northland worked with the people of the community to design a site plan for a subdivision of house lots around the perimeter, marshaled the efforts to finalize the closure of the tank farm itself, and then set aside the 117-acre core of the tank farm as conservation land. Bringing to a close nearly forty years of concern about its destiny and only after the remnants of its use as an oil storage facility were cleaned up to the satisfaction of the Department of Environmental Protection, the former Long Island Naval Fuel Tank Farm is now owned by Long Island Community Land Operating Co., LLC. This property is also protected from development by a conservation easement held by the Long Island Civic Association with the DEP as a backup holder.

Brownfields Grant The town is using federal Brownfields grant money to clean the Naval Generator building and making plans to utilize it in the future.

Conclusion

That we are an island subject to dangerous oceans and winds and uncertain crossings is something we have lived with from the beginning. And those may be the factors, which account for a long and well-established character trait in the islanders: we are suspicious of development as progress. Long Islanders accept limitations. The lure of big prosperity doesn't catch many fish

on this island. We are modestly circumstanced and want to stay that way. But we are fiercely independent, willing and very able to take on the responsibilities of governing ourselves, providing our own services, and protecting this very small place which we care so much about.

2.1 Vision Statement

The Town of Long Island is a small island community, one of only fourteen year-round island communities in the state. We are small both in population and physical size, there being approximately 216 year-round residents living on an island of about 740 acres. We are located in Casco Bay, a short ferry ride from Maine's largest city but a long distance in time from that city. When you step off the ferry on Long Island you travel back in time to the way small communities in Southern Maine used to be 50 years ago. We still wave to everybody we meet on the road, whether we know them or not, and, like small towns everywhere, we pretty much know everybody in town, and, yes, their business, too. We like it that way, and our vision for the future is that we can retain our small town character.

Long Island has a tremendous amount of community spirit. Seasonal and year round residents cooperatively invest large amounts of time, energy and emotion in keeping this a viable community for our children and grandchildren to enjoy. This was demonstrated and strengthened when the community created the Town of Long Island in 1993 by seceding from the City of Portland. Our vision for the future is that we will be able to nurture and sustain our wonderful community spirit.

Long Islanders care deeply about each other and about our personal and family ties to this place. We recognize that a sustainable year round community must have young families, and we want to provide opportunities, including housing and education, which make it possible for young families to locate and remain here and to support those who already live here. We envision more small-scale businesses and cottage industries to sustain the current population while maintaining our rural character. Our vision is a thriving community of all age groups.

In spite of the rapid growth experienced by other small towns in Southern Maine in the past few years we have seen moderate growth. Knowing that we cannot entirely prevent growth, our vision is that that we can manage our growth and that it will remain moderate, consisting of a mix of seasonal and year-round residents and that any development will not put at risk our fragile island and it's surrounding marine environment.

Seasonal residents are an important part of our community, and have been since the late 1800s. We recognize this, and it is our vision that we will continue to welcome seasonal residents and encourage them to take part in the life of the community.

Our community appreciates the natural beauty and rural seclusion of our island. Long Island has made impressive strides in conservation of valuable natural resources since the last Comprehensive Plan that was done in 1996. We are very proud of the amount of land within the Town of Long Island that has been permanently protected by conservation easements and/or protective ownership. Cow Island and College Island, the Wreck Cove property, and the Conservation land in the Area are all properties that have now been protected. When added to the state owned islands of Little Chebeague and Vaill and the already preserved Fowler's Beach property there can be few other towns which have achieved as much land conservation as we have. 30% of the land area in the Town of Long Island is conserved. Long Island is also very fortunate to have a great deal of public access to our shoreland including beaches and roads, boat access and barge landing capability on Long Island and public access to our other islands including Cow, College, Vaill and Little Chebeague. It is our vision for the future that we will be able to maintain these natural resources, open spaces, and public access for future generations to enjoy.

Our lobster and fishing industries have traditionally been the backbone of the town's economy, and we want to do what we can to support their success in the face of considerable outside challenges to those industries. Concern for the marine environment on which this industry depends makes continued improvement of septic systems, and elimination of all types of other discharges, point (direct) and non-point (indirect), a top priority. The town now owns Ponce's Landing, the former ferry dock, and maintains, and hopes to improve, it as a resource for use by our fishermen and the public. It is our vision that lobstering and the marine economy will continue to sustain our community, and that we can work together to insure that our fishermen continue to have access to the water.

Long Island residents and land owners recognize that the protection of our groundwater supply is critical for our future. It is the only source of fresh water on the island, is limited in quantity and subject to degradation by failing and improperly maintained subsurface waste disposal systems and contamination by other sources. Our ground water is the major limiting factor that must be taken into consideration when contemplating the future of Long Island. We must preserve both its quality and its quantity. To do otherwise puts the health of our citizens at unacceptable risk, and will have profound economic impacts for our community. It is our hope and vision that we will work together to implement programs and ordinances so that we can monitor and protect this valuable resource.

It is boats and the ferry service that link Long Island to the larger world, because our roads do not. Although we might like to see more frequent passenger ferry service, there is little interest in making it easier to get cars on and off the island. This community must maintain on our island a staging area for barges, a launching area for boats and wharf and dock space accessible at any tide, in any season and hopefully in any weather. Similar facilities must be available on the mainland. So, too, must there be island and mainland parking to accommodate islanders' coming and going. Our island roads are well maintained for slow vehicular speed with the safety of pedestrians and bicyclists in mind. The increasing numbers of vehicles make our roads less safe, and we are becoming more pleased with vehicles like the slow and quiet golf carts which travel lightly on our island. We are not anticipating the need for new transportation infrastructure, but our vision is that we will be able to maintain these island, water, and mainland transportation resources.

While it is felt that our current zoning generally provides good safeguards for managing growth, we will need to review, refine and focus our zoning ordinances to allow only appropriate growth. Subdivision of land at the beginning of the 20th Century created many small lots, all non-conforming by present standards, and they are an exacerbating factor in today's groundwater and marine water quality problems. Our vision is that any development can be managed so as not to degrade our water resources.

Finally, our vision is that we will be able to adapt to the changes coming to the coast of Maine so that in the future we will continue to be much as we are now, a wonderful place to live, work and vacation with a strong and welcoming sense of community, a community that can work together to meet challenges and solve problems.

This is our vision, and the following sections of the Comprehensive Plan outline in much more detail the basis for our thoughts, the policies we have developed to lead us to the realization of this vision, and the strategies we have planned to carry out those policies.

2.2 Public Participation Summary

Notices of Meetings and Agendas

The Comprehensive Planning Committee has met regularly, usually twice a month, since July 2006, and starting in 2008 we have met weekly. Meetings have been held on Wednesday nights at 7 p.m., but were moved to 6 p.m. for a time in the spring of 2006 when there was a concern that folks from off-island would not be able to get a ferry back to the mainland after the later meeting. That concern has gone away with a change in the ferry schedule that now gives us a late boat off the island.

Notices of all meetings and agendas have been posted both at the town hall and at the bulletin board in the ferry waiting shed. These are the public notice locations for the town and are well read by all who are using the ferry landing to come and go from the island. Notices of meetings and agendas have also been posted on the town website: townoflongisland.us. Progress has been regularly reported in articles in the *LongIslander*, a bi-monthly island newsletter published by the Long Island Civic Association. This newsletter is received by most, but not all, island residents and property owners and is widely read.

Public is Welcome

Anyone interested in the future of the Town of Long Island has been encouraged to attend the meetings of the Comprehensive Planning Committee. Guests were allowed to speak at meetings and present their views on any items being discussed. Copies of meeting agendas were posted on the town and library web sites. Anyone unable to attend a scheduled meeting and wishing to comment on any meeting agenda item has been encouraged to send comments via U.S. mail to

Planning Board Secretary
Comprehensive Planning Committee
Town of Long Island
PO Box 263
Long Island ME 04050

or via e-mail to planningboard.secretary@townoflongisland.us

Attendance at meetings has not been high, but early on there were members of the public who came to ask questions to find out what the committee was doing and share their concerns. This has "petered out" as the committee's work has continued, and particularly as we have proceeded with the drafting and revision process we have not had non-committee members attending. However, during the drafting process committee members have approached community members who have known interests in specific areas being worked on for their opinions and input. We are such a small community with so many who volunteer their time for community efforts that their areas of interest are quite well known, and we take advantage of their talents and expertise. The committee has solicited their comments and criticisms and made changes resulting from their input.

Minutes and Drafts Posted on the Town Website

The Comprehensive Planning Committee minutes and notes are available on the Town web site: townoflongisland.us where drafts of sections of the new plan have been posted as they were developed. One resident recently wrote, "I have LOVED being able to read the minutes, etc. on the website!"

Survey Sent to All Residents and Property Owners

The committee produced a survey based on the original 1995 comprehensive plan survey but with additions to reflect the attitudes and needs relating to some current issues. New questions addressed multi-family housing and affordable housing and whether and where such development might be located on Long Island. Caroline Paras, the Economic and Community Planner with the Greater Portland Council of Governments offered consultation of the development of the survey. After being reviewed and approved by both the Selectmen and the Planning Board, the survey was mailed to all residents and property owners of the Town of Long Island, one survey per household. The packet included a cover letter, the survey, a stamped return envelope and the mailing envelope. The cover letter made a note to the effect that if there are separate opinions within a household about a given question these opinions were to be noted on the original survey. We did not accept photocopies of surveys, only originals. The surveys were returned to Town Hall.

As expected, the rate of response to the Comprehensive Plan 2006 Survey was outstanding. Of the 420 surveys sent to Long Island households, 247 were returned. - That's 59% of the total, very impressive when 20% is considered by the Council of Governments to be an excellent return rate. Caroline Paras of COG did the statistical analysis of the survey responses. Those survey responses were reported to the Long Island community in detail in the October 2006 issue of the *LongIslander*. The results of the survey were compared with the 1994-95 responses to determine how the community's opinions may have changed. These survey comparisons were printed in the *LongIslander* December 2006 issue.

Public Meeting with Representative from the State Planning Office

Ruta Dzenis, AICP, Senior Planner with the State Planning Office Land Use Team, met with community members at a public meeting on Saturday, March 24, 2007. This meeting had been publicized with posters on the island, and 20 people attended. Ms. Dzenis gave a power point

presentation and explained the State Planning Office's role in the Comprehensive Planning process and answered questions from the audience.

Public Meeting with Steve Walker from Beginning with Habitat Program

There was a public meeting featuring a Beginning with Habitat presentation by Steve Walker of the Maine Department of Inland Fisheries and Wildlife on Saturday, June 16, 2007 at the Community Center. Walker gave a power point presentation describing the Beginning with Habitat Program and reviewed his materials specific to the critical natural areas on Long Island. This meeting was publicized by posters on the island and an announcement in the *LongIslander* newsletter. There were 23 people in attendance.

Notice of Public Hearing

The Notice of Public Hearing will be published in the *Portland Press Herald* and posted on the island at Town Hall and Mariner's Landing. The date, time and place of the Public Hearing will be announced on the town website and in the nearest issue of the *LongIslander* newsletter.

Copies of the Plan Available

The final document will be available in print at Town Hall for review as well as on the town website. Both the Library and Town Hall will have colored printed copies (there are colored maps) available to look at, and black and white copies will be available at Town Hall. Individuals may request a black and white copy of the Comprehensive Plan to be mailed to them by contacting Chris McDuffie 207-829-3231 or cmcduffie@earthlink.net XPress Copy at 144 Fore St. in Portland will have an electronic file where anyone can go in and have a color copy made (paid for by the person but at the town's reduced copy rate.)

Public Hearing

There will be a Public Hearing scheduled prior to the town meeting vote.

Town Meeting Vote

The final Plan will be brought before the voters at a Town meeting.

2.3 Regional Coordination Program

By virtue of its location in Casco Bay the Town of Long Island shares land boundaries only with the Town of Chebeague, and that shared boundary is only on Little Chebeague Island which is parkland owned in its entirety by the State of Maine. We share water boundaries with the towns of Falmouth, Chebeague Island and the City of Portland. None of our roads connect to another

community. Each island's groundwater aquifer is discrete to itself, so we must take our own care to protect it. Our electrical power comes by underwater cable from either Peaks Island or Chebeague Island, and the two alternative sources can be an advantage in a storm event when power is cut from one of the two. We have no shared sewers, water systems or other interconnections which are typical of adjoining towns on the mainland, but that does not mean that we are not interdependent with our neighbors in other ways.

Casco Bay Island Transit District

Our ferry service is a quasi-municipal entity owned and operated by the residents of the six Casco Bay islands, which it serves. It is governed by a board of twelve directors - ten elected from the islands, one appointed by the City of Portland, and one appointed by the Commissioner of the Maine Department of Transportation. We have one member elected from Long Island, and one of the at-large board members is currently a Long Islander. Our community takes an active interest in the governing decisions of this board and participates in their regular meetings and those public meetings held on islands.

Infrastructure Links to Portland

The City of Portland is our mainland base, and it is from this point that most of our mainland commerce flows. The Casco Bay Island Transit District with its ferries that depart from the Portland owned Maine State Pier is the primary transportation connection, offering passenger, freight and tide-dependent car ferry service between Long Island and Portland. From Maine State Pier there is public bus transportation, which connects to the Portland Jetport, the Amtrak train station and regional bus stations.

The boat ramp at the East End Beach in Portland is the mainland staging area for a private barge service which transports vehicles, all manner of public works and construction materials, and sometimes whole houses to our landing facility called "Boston Sand and Gravel" on Long Island. This East End ramp is also a boat launch area used to launch smaller boats coming to the island. The floats maintained by the City of Portland at Maine State Pier are used by the water taxi services and private boaters as mainland access, and the inner float is the transfer location for our emergency medical vessel. Ambulances meet the patients at this facility to transfer them to a hospital.

Mainland parking is also a requirement of island living, and the availability of parking resources and their affordability are a concern for island residents and visitors as the Portland waterfront experiences a development boom.

All these facilities are as critical to our lives on Long Island as they are to the residents of the other Casco Bay islands. The one facility, which is currently expected to see major change, is the Maine State Pier. The Town of Long Island will monitor with caution the re-development plans for Maine State Pier to see that our interests are not compromised.

School Department Links to Portland

The Town of Long Island has a municipal school with our own superintendent. Our island school serves our students from pre-kindergarten through the 5th grade, but our middle and high school students must commute to the mainland where they are tuition students. We have a contract that allows our students to attend King Middle School and then Portland High School. The town will pay the state allowed amount of tuition for students to attend other public schools or non-parochial private schools, but the Portland schools are the most convenient.

Off Island Waste Disposal

Our solid waste is collected and sorted, separating the recyclables from the waste, at our Transfer Station on Long Island. From here it is shipped by barge to the mainland and currently goes to MERC in Biddeford although this arrangement is being reconsidered. Our recycled materials currently go to Ecomaine (formerly RWS), and the town is considering consolidating both services with Ecomaine. Pumped septic waste usually goes to the Portland Water District's treatment facility, though once in a great while (depending on the pumping company), it is taken to another facility.

Coordination with Surrounding Communities

Our Fire and Rescue services have a long history of cooperation with our neighbor departments, and we have verbal mutual aid agreements with the towns of Falmouth, Cumberland, Freeport, Chebeague Island, and the City of Portland to assist with their emergencies as they do with ours. These communities are in the process of drafting written agreements to conform to the National Incident Management System (NIMS). Everybody benefits from this back-up resource, and the many shared efforts have built mutual respect, and a strong cooperative relationship has developed over the years.

Cumberland and Chebeague Island and Long Island have long shared fire, rescue and EMT training classes and resources. We have a particularly strong relationship with Chebeague Island. As two independent island towns we share similar circumstances. Although our roads do not connect, our public works departments do coordinate such things as shared barge trips when that makes financial sense. This is expected only to expand as the new Town of Chebeague Island develops.

County Services

Long Island relies on the County Sheriff's Department for our local policing and for back-up when that is necessary. The Town hires a full time deputy for on-island presence during the summer months and provides that officer with island housing when s/he is living here. There is an on-island deputy who is available to supplement the services of the full time deputy and can respond when emergencies arise in the off-season. Our 911 emergency communications dispatch system is with Cumberland County Regional 911 Dispatch. We are sharing our radio frequency with the Town of Chebeague Island Fire and Rescue, which makes sense because we depend on each other to help.

The Maine Islands Coalition

The Maine Islands Coalition was formed in March of 2004 as a collaboration of year-round islands represented by elected or appointed representatives from all 15 of these communities. The focus of the Coalition is to advocate for the economic and environmental sustainability of year-round islands. Quarterly meetings in Rockland cover a range of topics from affordable housing, transportation, working waterfront to school issues, normally with a contingent of legislators present.

Island Institute Resources

The Island Institute has been a friend to Long Island for many years. It has facilitated important links with other island communities with whom we have much in common. It is always educational to share information with other islanders, but often hard to make those connections

when so much is involved in working out transportation and coordinating ferry schedules of folks from other off shore islands. The Island Institute has provided the organization and the setting for many productive meetings about such things as taxes, affordable housing, and working waterfront issues. The Institute has offered many opportunities to meet and learn from other islanders and to come together to address similar island problems. Our school has benefited from its many island school initiatives, scholarship programs and networking opportunities. We have informal sharing of staff development opportunities and student enrichment activities with other island schools primarily fostered through the Island School Initiative of the Island Institute. The Island Fellows Program has provided Long Island with the services of three very capable Fellows whose industry and expertise has benefited our school, our library, and our municipal government.

Regional Support Organizations

The Town of Long Island is a member and makes frequent use of the services of the Greater Portland Council of Governments, Southern Maine Emergency Medical Services, and the Maine Municipal Association.

2.4 Plan Implementation

Each strategy has identified who is responsible for carrying out the policies of this Plan. Attached at the end of this document is a Plan Implementation Appendix, which prioritizes how implementation strategies will be carried out including identifying the responsible party and the anticipated timeline for each strategy. The Planning Board will appoint someone each year to review the progress made by the responsible entity for each strategy and produce an annual report to the Planning Board (perhaps a report can be included in the Town Report) of what has been done to implement each strategy.

2.5 Evaluation Measures

The Planning Board will reconvene a Comprehensive Plan Committee every five years following the adoption of this Plan. This committee will review and evaluate any significant changes in the community including population increases or declines and whether development has occurred primarily in the designated growth areas. The reconvened Comprehensive Plan Committee will assess progress toward achieving the goals of the Plan including the degree to which future land use plan strategies have been implemented, and they will identify any goals not met. This committee will submit a five-year report that will include recommendations either toward achieving the unmet goals of the Comprehensive Plan or for modifications of the Plan.

2.6 Future Land Use Plan

Analysis of Growth Potential

As noted in the Development Projections and Constraints section of the Existing Land Use chapter of this plan most, if not all growth is expected to be as the result of the construction of both single and multi-family residences. The primary concern with this type of growth is to insure that it does not exceed the ability of the land to support subsurface waste disposal in order to maintain the water quality of our only source of water on the island, namely private wells. As noted in a portion of the Gerber Groundwater Management Study that will be quoted in the Water Resources chapter, the maximum residential density that can be supported on Long Island and still maintain water quality is one residential dwelling unit per acre.

The distribution of the total area of land currently devoted to residential use or potentially developable for residential use is given in the following table.

Zone	# of Existing Residential Parcels	Average Size of Developed Residential Parcel (sq.ft.)	# of Potential Residential Parcels	Average Size of Potential Residential Parcel (sq.ft.)
IR1	170	62,900	183	44,400
IR2	174	17,700	22	21,450
IB	7	17,700	1	48,500
Totals	351		206	

This table does not take into account the possibility of the subdivision of existing parcels into new parcels that would increase the number of potential residential parcels. Our current land use ordinance requires new parcels to be 60,000 sq.ft. or larger. Under the assumption that all existing privately owned parcels 120,000 sq.ft. or larger, both currently developed and undeveloped, would be divided to the maximum extent possible, the number of potential parcels that could be used for residential development would be as follows:

Zone	# of Potential Residential Parcels	Average Size of Potential Residential Parcel (sq.ft.)
IR1	270	44,100
IR2	23	20,500
IB	8	42,300
Totals	301	

There being 43,560 sq.ft. in an acre and the maximum carrying capacity of the land being one residential dwelling unit per acre, it is clear from this analysis that the growth zones in town could be located in the current IB, IR2 and IR1 zones. (These zones and the types and intensities of uses permitted in each zone are described more fully in the Long Island Current Land Use section, which is found on pages 101-110.) Furthermore, it is also clear that development of the undersized lots in the already densely developed IR2 zone should be discouraged.

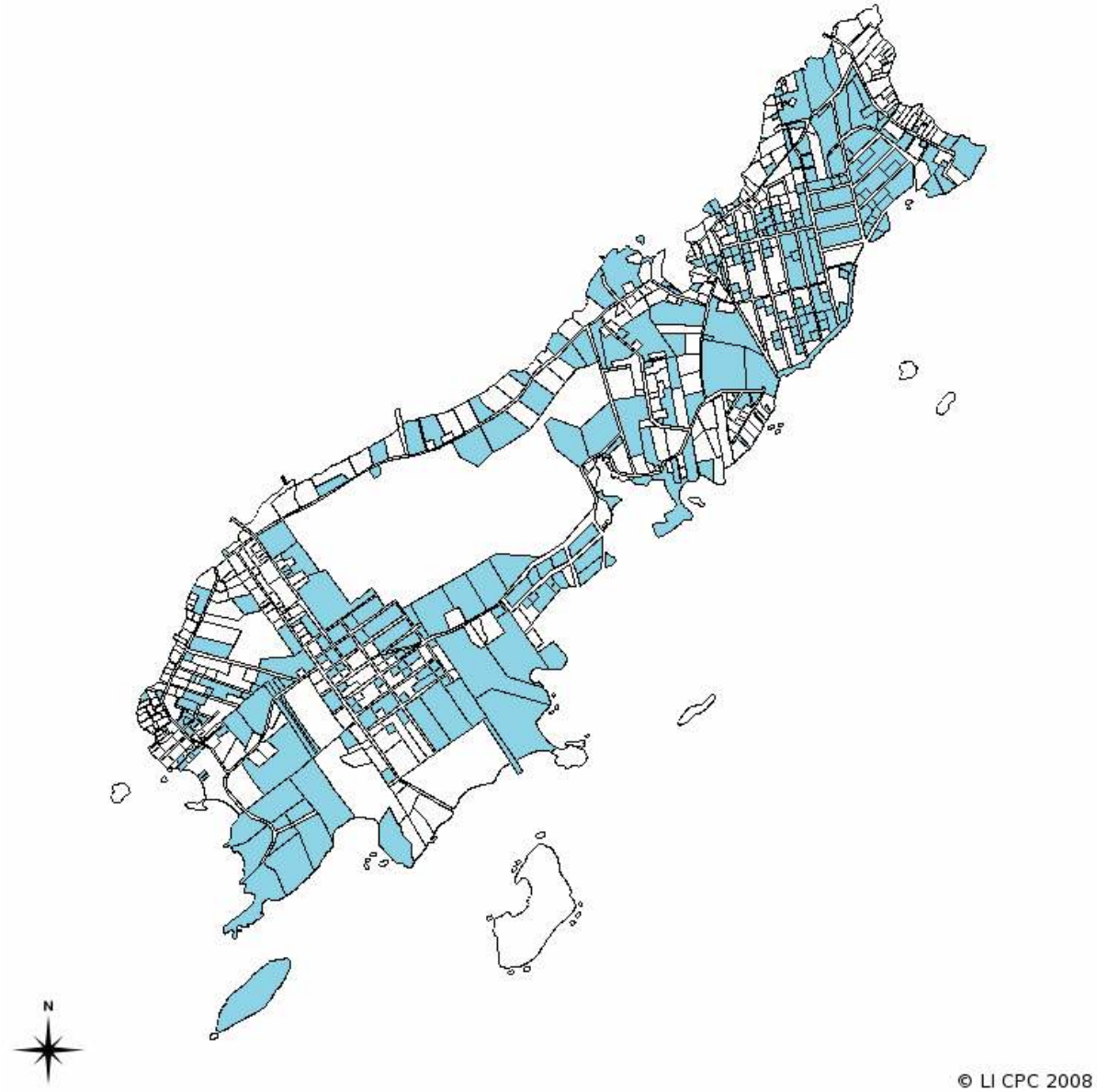
Designation of Growth Area

Having previously restricted our consideration to where the growth zones on the island can be located to our IR1, IR2 and IB zones, let's look at where growth has naturally occurred in the past ten years and where undeveloped privately owned parcels needed for future growth exist.

The map below shows where growth has occurred on the island in the last ten years. With the exception of several large parcels along Island and Fern Avenues on the north and south sides of the 'Area', growth has been scattered rather randomly throughout the island. The cluster of recently developed larger parcels all lie in the Northland Subdivision that came on the market in 1996.

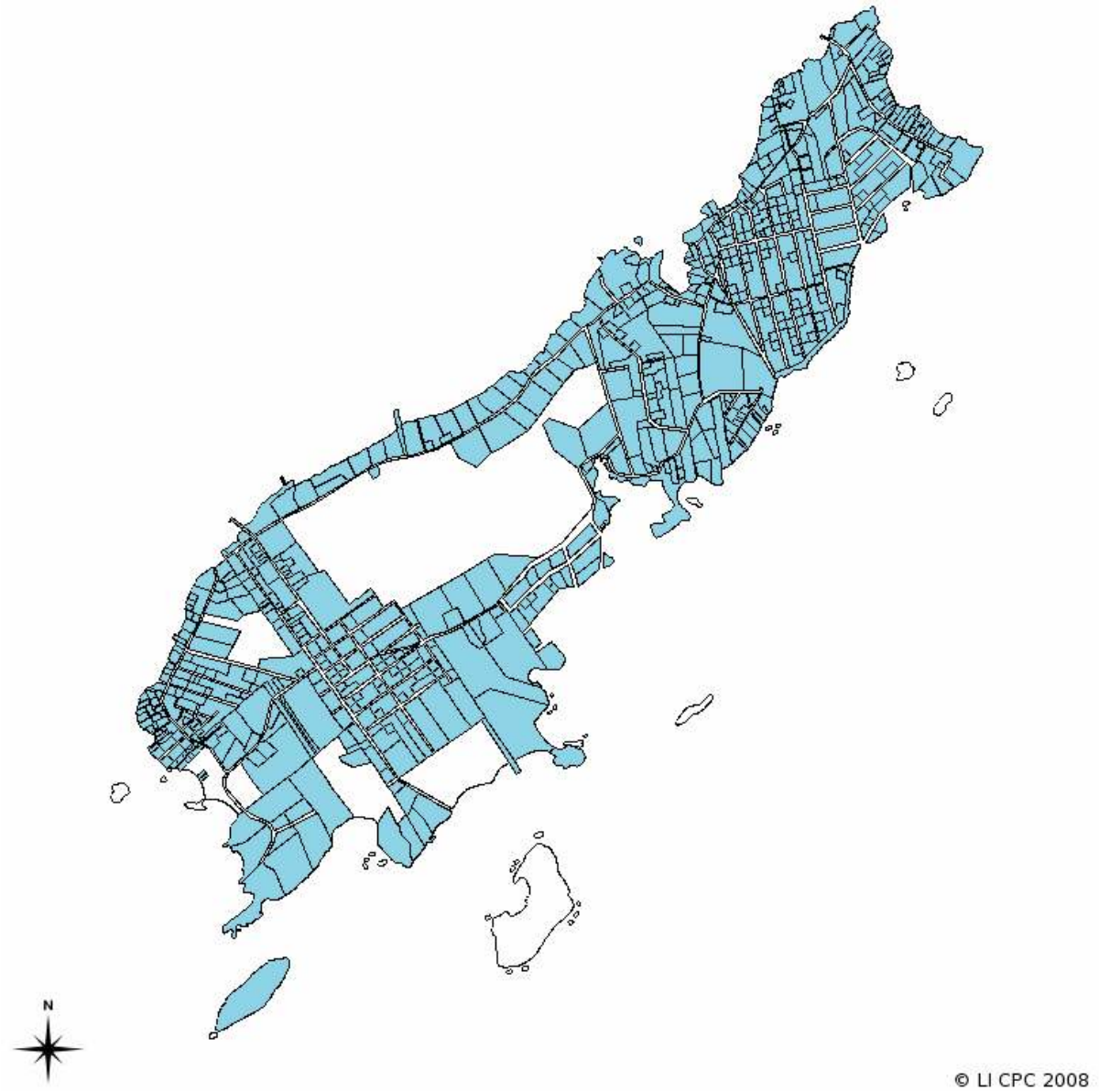
1997-2006 Development Map

The map below shows the potentially (assuming all other criteria can be met) developable parcels on the island in the IR1, IR2 and IB zones where we define a developable parcel to be a privately owned parcel that is either undeveloped or a developed parcel that can be subdivided.



Potentially Developable Parcels in IB, IR1and IR2 Zones

Using the information contained in these maps, we designate the entire IB, IR1 and IR2 zones to be the growth area on the island.



Growth Area Map

Designation of Rural Area

Using the traditional definition of "rural" it is clear that the only sections of Long Island that could remotely be considered rural are the several large parcels that comprise the Recreation and Open Space (R-OS) zone. Chief among these is the so called "Area". This single parcel, the site of the fuel storage tanks of the WWII Naval Fuel Depot, contains approximately 117 acres of woods, fields and a small man made fresh water pond. It is owned by the Long Island Community Land Operation Company, LLC and is covered by a conservation easement held by the Long Island Civic Association. Development of any kind is prohibited on this parcel by the conservation easement. In addition to this there are several other parcels in the R-OS zone owned by the town, the State of Maine or the Long Island Civic Association. Several of these parcels are covered by conservation easements and, in any event, residential development is prohibited on them. We therefore designate the R-OS zone as our Rural Area.

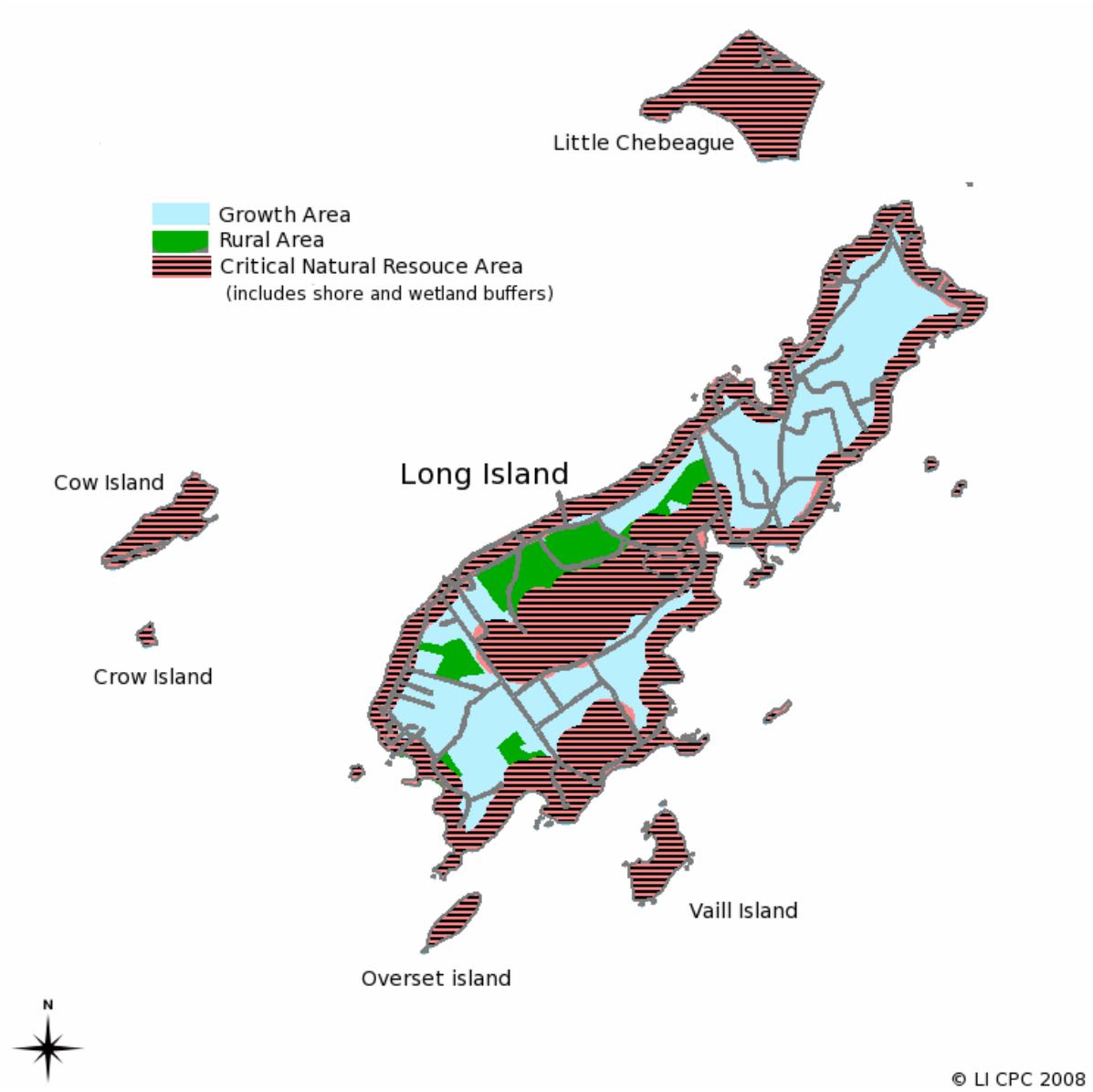
Critical Resource Area

We currently have a Resource Protection (RP) zone defined in our land use ordinances. In addition to the parcels currently comprising the RP zone we add the land within within the shoreland zone, the wetland buffers and the portion of Little Chebeague Island lying in the Town of Long Island and designate this to be our Critical Resource Area.

Transitional Area

At this time we see no need to designate a Transitional Area.

Future Land Use Map



Future Land Use Map

Analysis and Key Issues

The island is small and generally most undeveloped parcels in the designated growth area are either on a town road or have a short right of way to a town road via a paper road. Transportation infrastructure is not a limiting factor in our growth area. Town services in the form of trash disposal, recreation programs and schooling do not limit the amount of growth we expect in the next ten years. We have excess capacity in our school, and the increase in tax value will generate the additional tax monies needed to provide for the added expense of other town services.

At this point we do not feel that any regulatory or non-regulatory approaches or investment polices are required to implement the Future Land Use Plan. There are currently no municipal capital investments directed toward the growth area. This may change in the future, and we are requiring that growth be carefully monitored.

Land Use Policies

1. While it is felt that our current zoning provides good safeguards for managing growth, it is the policy of the Town of Long Island to review, refine and focus our zoning ordinances to allow appropriate growth.

2. It is the policy of the town of Long Island to vigorously enforce our codes and ordinances.

3. It is the policy of the Town of Long Island to carefully consider subsurface waste disposal issues related to both existing and future development.

4. It is the policy of the Town of Long Island to carefully monitor residential growth.

5. It is the policy of the Town of Long Island to continue to protect critical resource areas from the impacts of development.

Land Use Strategies

1. The Planning Board will be responsible for implementing the Future Land Use Plan. Each year it shall be required to report to the community the type and location of growth that has occurred in the preceding year. This report shall also be used to make recommendations regarding any changes that may need to be made to local ordinances and permitting processes to address growth related problems.

2. The Code Enforcement Officer (CEO) shall be supported in his or her efforts to vigorously enforce our codes and ordinances.

3. The Planning Board shall develop an inventory of all sub-surface waste water systems and shall propose an ordinance that will insure the proper functioning of these systems.

4. The Selectmen will actively encourage the abandonment of paper streets to allow the merger of adjacent lots in common ownership.

5. Periodically (at least every five years) the Planning Board will evaluate implementation of the Comprehensive Plan.

6. The Planning Board and CEO are responsible for protecting critical resource areas from the impact of development.

3.1 Population and Demographics

The following are locally generated figures, done in the fall of 2006, after doing a windshield survey and confirming with various lists from the Town of Long Island, and with others in the community who have detailed knowledge of who stays on the island year round. Our community is small enough that population statistics are common knowledge, and residents can be counted relatively easily. This information has community endorsement.

Total winter population in fall of 2006: 216

Our population as of the last Comprehensive Plan was 180. Our population in 2006 was 216 people. This is an increase of 36 people in twelve years, an average of 3 new people per year, but as a percentage of our small population that amounts to a 20% increase.

Age Breakdown	Last Plan (Fall 1994)	Fall 2006
Preschool	10 (6% of '94 total)	6 (3% of '06 total)
5-17	33 (18% of '94 total)	34 (16% of '06 total)
18-44	56 (31% of '94 total)	45 (21% of '06 total)
45-64	45 (25% of '94 total)	92 (43% of '06 total)
65+	36 (20% of '94 total)	39 (18% of '06 total)

Note that the percentages in the above table have been rounded to the nearest whole number.

From these figures we can observe that the numbers of young people on Long Island are declining, particularly the very young and the 18 to 44 year olds, while the number of older adults (45-64 years old) has more than doubled in the most recent twelve year period. Although the number of folks 65 and older has increased by 3, as a percentage of the total year round population that is a slight decline.

Vital Statistics

During the thirteen-year period from 1994 to 2006 there were 21 births, 28 deaths and 53 marriages in the Town of Long Island.

Tenure of year round households

In the Fall of 2006 54 households (56% of the total) were the same households which had been in residence in the Fall of 1994 - in other words the same family had lived in the same house since 1994 - and 43 (44%) were new households since the Fall of 1994. New households would include those formed by marriage, divorce or new arrivals. This is very comparable to the average tenure reported in the previous Comprehensive Plan when 54% of the households had been in residence for at least 10 years, and 46% had existed for less than 10 years.

Household occupancy

	Last Plan (Fall 1994)	Fall 2006
Single	26	27
Double occupancy	31	44
3 or more occupants	23	26
Total households	80	97

Average number of persons per year round household: 2.25 persons

Seasonal Population

There is a large seasonal population, which must be acknowledged on Long Island. It is difficult to estimate their numbers because occupancy of seasonal residences varies widely depending on family habits, vacation schedules, numbers of visiting relatives and guests and particularly the weather. The State Planning Office suggests estimating seasonal residents based on 2-4 persons per housing unit. This would give a range of 540-1080 seasonal residents in addition to the year round population of 216. As reported in the housing segment of this report, the proportion of winter houses to seasonal houses remains about 1 to 3, even as both numbers slowly increase.

On Long Island, particularly in summer, there are also numbers of "day trippers" some of whom are visitors to island households, but many come simply to enjoy the island and its beaches. Their presence is noticed most on the beaches, but they are also an important customer base for our stores and gift shop.

Population Projection

There being no circumstances identified to cause us to expect a change, it is projected that our population will continue to grow at a slow steady space of about 3 persons per year. Perhaps more than many towns Long Island values its multi-aged population, and there is a good deal of interaction across the age spectrum. School functions attract a wide audience. Most of our public activities welcome all ages, and our seniors seem to enjoy our youngsters as our children bask in their attention. We want to be sure that our aging population has the services to live comfortably on Long Island.

The ability to make a living in the Town of Long Island is fundamental to the continued existence of our year round community, a fact which we do not take lightly. Philip Conkling of the Island Institute cites the grim statistic that of more than 300 year round Maine island communities in existence at the turn of the century, only 14 remain today. The defining criterion

for year round community status is an island school, because the lack of a school reflects lack of children. With no school, few families with children find it possible to stay on an island; the population cannot renew itself, and the year round community dies out. It becomes a summer island. As Conkling's figures point out, year round Maine islands are an endangered species.

Attracting and keeping young people on Long Island must be a priority if we are to survive - for the simple reason that we need them. Youthful vigor and abilities are required here more than in most communities because ours is a more demanding setting. Our volunteer fire department and emergency rescue operations require the strengths of youthful members. Our town must provide the kinds of services that will support the needs of young families. The well-known quality of our school is a source of pride among residents and property owners and reflects the level of community support it has traditionally enjoyed. Our school is valued because it's excellence holds families here and attracts more, but families must have the wherewithal to support the decision to live here.

Population Policy

1. Inasmuch as the citizens of Long Island have expressed desire for minimum growth, it shall be the policy of the Town of Long Island to neither actively discourage nor actively encourage population growth with the exception that the town shall attempt to provide services which make it possible and desirable for young families to locate and remain here and to sustain those who already live here.

Population Policy Implementation Strategy

1. The Planning Board will periodically review population levels and composition so that the Town can respond as necessary to either increasing or declining population trends.

2. The town will continue its current commitment to the quality of our school and community services.

3. The town's Year Round Housing Committee will continue its efforts to create year round affordable housing on Long Island.

3.2 Economy

Long Island is just one of fourteen remaining islands in the state of Maine that support a year round community. Employment that gives predictable and secure year round income to families and other households is one of Long Island's biggest challenges. The mainstay of the community has always been fishing. The lobster fishing industry is currently the town's largest employer with 49 people directly involved in the industry. The Town of Long Island itself employs approximately 13 people. Many more residents work for the local construction company, the two stores, the boatyard and the U.S. Post Office. Others are self-employed and combine several part time jobs to make a living. Historically, Long Islanders have made their livings in the same way and the only really new job opportunities in the past 15 years have been at the boatyard, the year round store, the Bed & Breakfast and for the Town of Long Island itself.

Constraints of the Island Setting

The Town of Long Island is a rural isolated island. We are 4.5 miles out from Portland, Maine's largest city, which is three quarters of an hour away if you take the ferry. Living here requires a real commitment of time and a positive upbeat psyche. While our population has not grown appreciably in the past 11 years, there have been 40 new homes built on the island. Thirty are seasonal and 10 are year round. Of the 10 year round homes, two are fishing families, six are retirees, one is a commuter with a young family and one is a couple spending their first winter on the island.

With personal computers, fax machines and the availability of high speed internet, professional people have relocated on our island and do their business comfortably while still enjoying a rural and safe setting, one that is only forty five minutes from Portland and one hour from an airport.

But what has to be borne in mind is that this forty- five minutes is merely the steaming time of the ferry. The inconvenience lies with the schedule. In the winter the ferry only arrives and leaves five times a day. However, only 49% of the respondents to the Comprehensive Plan Survey, wanted more frequent ferry service, 23% did not want more and 20% wanted no change. The availability of a year round water taxi may be part of the reason that more residents don't want more frequent ferry service, because the water taxi allows residents to get on or off the island when the ferry isn't running. Although it doesn't happen often, on rare occasions during extreme weather the ferry and water taxi may not run at all.

A wholesale lobster trading company operates here from about May through November providing some seasonal jobs. There is some cottage industry, but we do not expect a significant upturn in job opportunities. Employment and labor characteristics are typical of small island towns. The cost of importing materials is significant which makes Long Island unattractive to large-scale development. There is no municipal water supply or public sewage. A privately owned taxi/bus service operates regularly during the summer but as an on call business in the off- season.

The weather is as much a factor in island growth as is the cost of transportation. Physical characteristics and difficulties of access place limitations on economic development. Residential construction, marine related businesses, and small entrepreneurial and cottage industry is expected to grow moderately. Such small-scale industry seems to suit Long Islanders just fine. 26% of the respondents to the 2006 survey would like to see more light industry, 32% would like to see the same and 28% would like to see less. Regarding heavy industry, Long Islanders are opposed. 62% would like to see less, 22% the same and only 2% would like to see more.

Employment

The mainstay of the community is lobster fishing. The lobster harvest for the past two years has not been good, but the lobstermen are hopeful for the future. The ground fishing, dragging, gill-netting and hand lining has been in a slow to rapid state of decline for the past ten years and presently has been shut down almost entirely. There are fishermen here but not many fish. During the winter season a few lobstermen switch from lobstering to shrimping or scalloping. The depletion of the Gulf of Maine fishery is a catastrophe that has had long-term implications for life on Long Island and it's fishing heritage.

While most Long Islanders prefer to work on the island or in the local waters, many residents have to commute to their jobs in Portland or nearby communities. There is seasonal or part time employment at the two stores, the post office, town hall, the boatyard, a lawn mowing service and various other small enterprises. Self-employment includes; carpentry, day care, taxi driving, landscaping, pet and house sitting, furniture making, jewelry design, pottery and basket weaving. Those who rent the VFW Hall or Long Island Community Center for weddings, company outings or other functions support catering and floral arrangement businesses. There are approximately 80 islanders working on the island or in the local waters.

There are two general stores on the island. One closes for the season in mid October. The other store is open seven days a week year round with fewer hours as we get into the winter season. The small winter population makes any business activity during the winter season more a thoughtful accommodation for the residents than a productive enterprise. During the summer months both stores are open for longer hours and employ many seasonal workers. A bed & breakfast is open year round. Occasionally dinners are available to island residents at the B&B throughout the year. A seasonal lobster pound operates from April-November. Three guesthouses have opened in the past few years with rooms available for rent year round. An adventure based youth program operates from May- September and hires approximately 50 seasonal workers on nearby Cow Island.

We have a seasonal gift shop run by volunteers for the benefit of the Evergreen United Methodist Church. Volunteerism is a highly developed avocation on Long Island with every dime spent by the town, civic, church, veteran, library and school groups supplemented by many hours of donated effort.

Commuters are employed on the mainland in: nursing, teaching, secretarial positions, hair cutting, house cleaning, catering, postal positions and real estate as well as a variety of other jobs. Most of the 40 commuters travel to Portland on the 6:45 a.m. boat and return on the 5:45 p.m. boat, making for a very long workday. In the winter, they leave in the dark and return home in the dark getting to the island at 6:30 p.m.

Also mentioned should be the off-island workers. Carpenters, contractors, stern men, the school superintendent, school specialists and other workers come from the mainland to do their work here.

Island Labor Force

There were 176 adults living on Long Island during the winter of 2007. Approximately 120 were working full time or part time: 80 were working on the island and 40 were commuting to Portland and nearby communities. The other adults are either mothers working at home taking care of their families or retired residents.

The lobster fishing industry is the town's largest employer with 49 people directly involved in the industry. The other major employers on Long Island are: the Town of Long Island, Islands' Builders Construction, Boathouse Beverage & Variety, Johnson's Boat Yard, Casco Bay Lobster, Long Island Store, Greene Lawns and Rippleffect.

The on island employed labor force by occupation includes; 49 in the fishing industry, 13 for the Town of Long Island, 8 in construction, 10 in the general stores, 3 at the Boatyard and 3 in the Post Office. Many individuals are self-employed making their livings in landscaping, forestry management, electrical contracting, taxi driving, construction, as well as the creative arts (jewelry design, basket making, painting, crafts, furniture making, etc.). Still others combine several part time jobs to make ends meet.

Seasonal Residents

Seasonal residents have a great impact on the financial situation here and represent 74% of the tax base. They employ many for various odd jobs. Seasonal residents are also part of the Long Island labor force. They make jobs for island residents, but they are also among the workers on the island. They work in the stores, fish, mow lawns, baby-sit, clean and paint houses as well as a variety of other jobs. Long Islanders, both summer and year round residents have created and enjoyed a deep friendship and spirit of cooperation for the good of the island.

However, in recent years there has been a change in the constitution of the summer people. Because a number of our residents purchased their homes during the real estate boom of the late 1990's, they are burdened with heavy mortgages that need servicing by rental incomes. This has caused some long time summer residents to rent their homes for part of the summer to help meet those increases. Yet, the spirit of friendship and cooperation still exists with all the new renters.

Tourists and Day Trippers

The stores, gift shop, guesthouses and lobster pound benefit from tourists and day-trippers that visit the island. Growth in the number of day-trippers is apparent despite the difficulties and expenses of parking in Portland and the increased boat fares. Long Islanders appreciate the day-trippers and know how much they contribute to our economy financially. Approximately 70% of the 2006 survey respondents would like to see the same or more day-trippers or bicycle tourists while 20% would like to see less.

Looking to the Future

The traditional downtown area has always been near Ponce's Landing, our former ferry landing, and included the restaurant, post office and one store. With the closing of the restaurant and the store becoming a seasonal business, the downtown area would appear to be in decline. However, many would probably agree that the downtown area has simply relocated closer to Mariner's Landing, our new ferry landing. The post office, the year round store, the lobster company, a car repair shop, our town hall, a furniture maker and our Community Center are all located between Ponce's Landing and Mariner's Wharf, and this area seems to be thriving.

The businesses most important to employment and economic vitality for the future include; the lobster/ fishing industry, the Town of Long Island itself, construction and landscaping, the stores, the boatyard, the bed and breakfast and guesthouses, the adventure based youth development organization, computer businesses and the cottage industries.

The two stores are currently meeting the needs of the community. The year- round store focuses on providing the groceries needed by island residents (meat, fresh fruits and vegetables, breads, dairy products, canned goods etc.). While the seasonal store also provides groceries, they focus more on sandwiches, pizza, prepared foods and souvenir items. The seasonal store is also the only store selling gasoline and in the winter is only opened a few hours a week, which sometimes makes gassing up a challenge. Insuring the availability of gasoline year round is definitely an on-going concern for residents. Both stores provide seasonal jobs for island residents and the year round store provides year round work.

Although the lobster harvest has not been good for the past two years, the lobstermen remain hopeful for the future and sometimes supplement their income by scalloping or shrimping in the off- season. Others work part time jobs in the winter. With lobster fishing being the major employer of the town, the town has turned over management of Ponce's Landing to the local lobstermen who pay a fee to use it. Fees collected go towards the on-going maintenance of the wharf. Ponce's is the only public wharf available to the lobstermen to use to set and take up gear. Although there are also some privately owned wharves currently being used for commercial fishing, it cannot be stressed enough that Ponce's is the only public access that lobstermen have to the ocean to make their living. Economic policy #2 supports the lobster and fishing activities that have traditionally been the backbone of the town's economy as well as any future emerging fisheries such as mussel farming and aquaculture.

The construction industry has probably seen the most growth and will likely continue to grow and provide jobs for the future. The boatyard will also most likely continue to build, repair, and store both fishing and lobster boats as well as pleasure boats. Tourists and day- trippers are an important part of the local economy. They spend their money in the stores, gift shop, guesthouses and lobster pound and will probably continue to do so in the future.

The town's current economic policies reflect the community's desire to encourage small- scale cottage industries along with the traditional fishing related industries. 74% of survey respondents wanted more or the same amount of cottage industries. Town policies do not currently support any heavy industry with 62% of survey respondents wanting less heavy industry.

Economic Policy

1. It shall be the policy of the Town of Long Island to support small-scale entrepreneurial efforts in the areas of town that are zoned for business and to nurture cottage industries.

2. It shall be the policy of the Town of Long Island to support the lobster and fishing industries, which have traditionally been the backbones of the town's economy as well as being open to new marine related business.

3. It shall be the policy of the Town of Long Island that all businesses conform to state and federal sewage and wastewater treatment standards and that the costs shall be borne by those businesses.

Economic Policy Implementation Strategy

1. The Selectmen and Planning Board will continue to be sensitive to and encourage opportunities for small-scale entrepreneurial businesses and cottage industries.

2. The Selectmen and Planning Board will continue to support the lobster and fishing industries as well as any marine related activities which are seen as compatible with the values of our community and which do not put at risk our island and the surrounding marine environment.

3. Our Code Enforcement Officer shall be given the support necessary to effectively monitor the environmental safety of present and future development.

3.3 Housing

A thorough inventory of housing was accomplished in the fall of 2006 by using real estate tax maps, other Town records and walking/driving through all neighborhoods. Present housing on Long Island includes:

Types of Dwellings	Last Plan (Fall 1993) Numbers	Fall 2006 Numbers
Single family	308 (308 dwelling units)	362 (362 dwelling units)
Two family	4 (8 dwelling units)	2 (4 dwelling units)
Three family	1 (3 dwelling units)	0 (0 dwelling units)
Mobile homes	3 (3 dwelling units)	1 (1 dwelling unit)
Total	322 dwelling units	367 dwelling units
Use of Dwellings		
In winter use	80	97
Seasonal use	242	270
Total	322 dwelling units	367 dwelling units
Age of Dwellings		
Under 25 yrs. old	42	80
Over 25 yrs. old	280	287
Total	322 dwelling units	367 dwelling units

As of the fall of 2006 there were known to be on the market: 5 winter and 2 seasonal dwellings

Existing Housing

Almost all frame dwellings are free standing single-family homes. There are only 3 exceptions. Most dwellings, with a few exceptions of long unoccupied structures, are in moderate to good repair. House lots range in size from 1750 sq. ft. to 698,688 sq. ft. Valuations for property tax purposes of houses range from $57,964 to $2,059,000. This is a recent valuation figure, effective for the 2008-2009 tax year; in other words, they take effect this summer. Homes are served by private wells and septic systems. There is no municipal water supply servicing Long Island. Housing development possibilities are limited by our ground water resources and the ability of our soils to handle our septic wastes.

Recent Development

Since the last Comprehensive Plan a "bulge" in home building resulted from one subdivision. This was done by Northland in the 1990s at the Tank Farm location involved 27 lots with deed restrictions that do not allow further subdivision of the lots. These lots range from 1.1 acre to 4.25 acres. Some of these 27 lots are zoned for business. Although many homes have been built since the last Comprehensive Plan, 111 survey respondents thought this rate of growth was "too fast", while 110 thought it was 'just right", while 4 thought it was "too slow". Questions of water and sewage disposal may limit future housing development even though there is sufficient undeveloped land. The strongest response to any of the questions on the Plan Questionnaire was to the question: "Should Long Island take steps to retain its rural character?" The answers were 213 -yes, 17 -no, and 3- no opinion.

Two modifications in the zoning ordinance which were adopted at the Town Meeting in 2007 may result in more housing units. One is permitting, as a conditional use in the three zones IR-1, IR-2 and IB where single family residential use has been permitted, "accessory dwelling units" which are "to provide enhanced opportunities to accommodate housing for family/relative members while protecting the single -family character of existing residential neighborhoods". They must be "primarily accessed through the existing living area of the primary structure", designed to be "subordinate in scale and mass", have at least 500 sq. ft. and not exceed 50% of the floor area of the main dwelling unit, and the septic system must meet the standards of the Maine Plumbing Code for the number of bedrooms proposed.

The second ordinance change would allow multi-family dwellings as a conditional use in the I-B Island Business Zone. A multi-family dwelling is defined as a "detached building used exclusively for the residential occupancy by two (2) or more families and containing two (2) or more dwelling units." The septic system must be certified by a licensed Site Plan Evaluator that it meets the standards of the Maine Plumbing Code for the proposed multi-unit dwelling.

Although the "bulge" resulting from the Northland lot development may be over, these new ordinances may create a new spurt of building.

Seasonal vs. Year Round Occupancy

Long Island has a large seasonal population. Of the 367 dwelling units, 270 are used seasonally and 97 are occupied year round. Both categories have grown since the last Comprehensive Plan, but the proportion of three-quarters of the dwelling units on Long Island being seasonal has remained nearly the same. Some seasonal cottages have been, and are being, converted for winter use. Some new homes have been built to accommodate year round use, but are being occupied seasonally. Some folks, who may or may not have been seasonal residents of Long Island during their working lives, are retiring to become year round residents on the island. Some year round island residents are retiring and becoming seasonal island residents as they spend a long winter season in warmer climates, often changing their legal residence when they do so because of more favorable tax laws in other states.

Senior Housing and Assisted Living

A committee on Long Island is looking into the possibility of establishing an assisted living facility on Long Island. We have one private home that provides assisted living to two senior citizens, and there are private in-home care arrangements when needed, but our community has to rely on off island services for nursing and assisted living situations. It is hoped that the new accessory dwelling unit ordinance may help address some of the needs of older residents who require some in-home assistance.

Affordable Housing

The high cost of land, of constructing a proper septic system and of drilling a well inhibits the building of new low cost homes as does the higher cost of construction itself due to transportation costs from the mainland to the island of materials and also labor, particularly if off-island contractors are used. Manufactured, or modular, housing with the component parts brought to the island on a barge has been one answer for some families to help reduce the cost of new construction. Because many of the seasonal-to-winter conversions have been accomplished by the homeowners themselves over a period of years with frugally purchased materials and using their own labor, the process of renovation has made them in some sense "affordable".

The median income of Long Island is $35,833 according to the 2000 U.S. Census. The affordability index for Long Island is not available because there were fewer than 4 home sales on Long (and other small islands the year it was done - 2005) but if you check the recent Island Indicators report on the Island Institute website, there is an affordability index in there for many other islands. An index of *"less than "1" means the area is generally unaffordable - i.e. a household earning area median income could not cover the payment on a median priced home (30 year mortgage, taxes, and insurance) using no more than 28% of gross income."* Examples cited from the Casco Bay islands are Great Diamond Island: 0.20 and Peaks Island, 0.36, and the statistic from the State of Maine is 0.70. This suggests that the affordability on Long may be lower if not worse (than Peaks or Great Diamond Island) although the substantially lower taxes on Long may help offset this. We have a low median income in a high priced housing area.

In response to concern expressed about attracting and keeping young year-round families on the island, the Island Institute has funded a Fellows position and the USDA, through their Rural Communities Development Initiative, and the Genesis Foundation have provided grant money to facilitate the development of year round housing. A Year Round Housing Committee has been very active for the past year and a half, working to devise a way to create new housing for year round residents. We enjoy the vigor young families add to the island population, and we appreciate, and very much need, their participation in the many volunteer activities that keep this island functioning on a year round basis.

In the early part of 2007 two surveys were done by the Year Round Housing Committee. One survey was sent to individual residents (one per individual resident 18 years or older) and a different survey was sent to seasonal households (one per household). Of 182 surveys sent to individual residents 81 were returned. Of 200 surveys sent to seasonal households 126 were returned. Although the bodies of the two surveys were different, the last two questions were asked to both surveyed groups as follows:

QUESTIONS ASKED:

"The Year Round Housing Committee is researching a proposal to build a single-family, year-round rental house on town land. As conceived, it would be funded primarily through grant

Yes: 41 (65%) and No: 16 (25%)

Do you think the YRHC should proceed with a different project?

Yes: 20 (32%) and No: 19 (30%)

The proposal of the Year Round Housing Committee has evolved since the survey to propose, instead of rental housing, that the town lease lots of town owned land for houses to be built by year round residents. This proposal contributes to affordability by removing the cost of land acquisition from the homeowner's building costs. It also honors the reluctance shown in the Comprehensive Plan survey to the town spending money for low cost housing, because this current proposal would generate the same annual income for the town (in the form of rent for the land) as if taxes were being paid, while restricting the housing for year round use. The 2007 Town Meeting agreed to allow the long term lease of four town owned lots for individual owner-built year round houses. The Year Round Housing Committee continues to work to develop the criteria and protocols for this creative effort as well as looking at other forms of housing initiatives to further broaden the options for the community in the future.

Housing Policy

1. It is the policy of the Town of Long Island to treat manufactured housing the same as stick built housing.

2. It is the policy of the Town of Long Island to take steps to make it possible and desirable for young families to locate and remain here.

3. It is the policy of the Town of Long Island to seek to achieve at least 10% of all housing built or placed during the next decade be affordable.

Housing Policy Implementation Strategy

1. The Planning Board will insure that mobile home parks are treated the same as stick built housing developments and may be located in the IB, IR1 or IR2 zones.

2. The Year Round Housing Committee and the Planning Board will continue its work to provide affordable year round housing on Long Island.

3.4 Transportation

Transportation between Long Island and the Mainland

Transportation to Long Island must be accomplished by boat, since there have been very few instances of helicopter transportation and no landing field for airplanes. There is year round passenger ferry service provided by the Casco Bay Island Transit District (often referred to as Casco Bay Lines), a non-profit quasi-governmental entity with a Board of Directors which includes representatives elected from the Casco Bay islands which it serves. Some residents, particularly fishermen, use private boats. Year round water taxi service is also available. Goods and materials are transported on the ferry vessels, on private boats and by barge.

Necessary to any transportation between the mainland and Long Island is a shore side staging area for barges, launching area for boats, and wharf and dock space accessible at any tide, in any season, and hopefully in any weather. All of these facilities must be available both on the mainland and on Long Island. The Portland East End Beach facility and Boston Sand and Gravel on Long Island provide the accessibility needed. The Boston Sand and Gravel site is what remains of a former naval pier used during World War II. Named for the company that delivered gravel to the island during the war, BS&G was given to the town by Northland Development Corp. Since becoming a town in 1993, Boston Sand and Gravel has been cleaned up and paved so that it is now accessible at all tides. It is maintained by the town and is used mostly by commercial barge companies that service the island delivering automobiles, lumber, concrete, gravel and sand to contractors and residents. An alternate landing site is also available at the boatyard. Prior to 1993, vehicles and goods were off loaded onto an old naval beach that was only accessible at certain tides.

The town also has 5 floats for public use. The float at Ponce's Landing is available from May-November and is primarily used by fishermen and the public, for access to the business district. The float at Mariner's Wharf is used year round for emergency medical evacuation and provides access for the water taxi, utility companies, fishermen and other private boats. During extreme weather, the ramp to the year round float can be lifted to avoid damage. Three other floats at Mariner's are seasonal. All seasonal floats are removed in the winter due to weather.

Transportation on Long Island

Long Island has 9.2 miles of public roads, .89 miles of former military roads, approximately 3 miles of private roads, and no sidewalks or bridges. There are no state aid roads, but the town

receives approximately $10,000 a year from the Urban-Rural Initiative Program (URIP). According to the Road Commissioner, our roads are in good shape and are adequately meeting our community needs. Our roads are constructed to promote a very slow vehicular speed (20 mph on the entire island), and their design takes into consideration the needs of pedestrians and bicyclers, so we do not have traffic safety concerns.

At this time, there is no plan for the building of new public roads to meet projected growth and development needs. The Road Commissioner does not project that any private roads will be accepted as public roads at this time due to the high cost of bringing them up to the acceptable standard. Also the issue would have to be voted on by the taxpayers, and if accepted the town would have to maintain the roads. Residents living on private roads have been encouraged to form road associations to pool their money to maintain their roads but have not done so yet.

The Town of Long Island participates in a program called Road Service Management through the state that helps determine the on-going maintenance needs of our roads. The only time there is traffic congestion is during the summer months at boat times in the vicinity of Mariner's Wharf, and the traffic is usually cleared out within a half hour. Occasionally, during the winter months a road may be closed because of icy or dangerous conditions due to the weather.

For residents not owning vehicles, there is a bus service that meets most boats in the summer months and delivers residents to their homes or tourists to the beach or other destinations. In the off-season, the bus service works on an on call basis.

Vehicles on the Island

More households than in the past have one or more vehicles on the island. In the spring there is an influx of vehicles belonging to summer residents, and in the fall some of these leave. However, many of the vehicles are stored for the winter here on the island. It is difficult to get an accurate count on the number of island vehicles because many of the vehicles registered are actually our in-town cars, which remain in Portland. The parking permit list was used for this report because it probably gives us the most accurate numbers. Also, we believe that with more strict enforcement of motor vehicle registrations more people are registering their vehicles than in 1994. The Town of Long Island has registered the following vehicles in 1994 and 2006:

1994	2006
68 cars	354 cars
47 trucks	60 trucks
4 mopeds	15 mopeds
? golf carts	55 golf carts

Vehicle Maintenance and Disposal

Vehicles on Long Island are required to be registered, but they are not required to pass inspection. There is no inspection station on Long island but there is a garage that services mechanical problems. Residents usually develop a certain level of mechanical skill that is supplemented by those among us who have higher levels of skill. Often the cars brought to the island are well used before they arrive, and deteriorate rapidly in the environment of salt air. Junk

cars are a perennial problem here as they are on every island. Volunteers have in recent years organized junk car removal efforts that attempt to keep up with the annual crop. An average of 25 cars are removed each year by way of a barge and towing company on the mainland. The cost is $75 if the car is running and $150 if it is not drivable.

Vehicle Transportation to the Island

Getting vehicles from the mainland to the island is not easy. There is no regularly scheduled car ferry and 73% of the 2006 survey respondents did not want daily car ferry service. Cars can be transported on the Maquoit II, with reservations made in advance with Casco Bay Lines, weather and tide permitting. The cost of transporting a vehicle on the Maquoit II is $75 in the off season (Oct.-May) and $105 in peak season (June-Sept). Vehicles can also be transported to the island on one of the frequently scheduled barge trips. The price would be determined by the company and be somewhat dependent on the number of vehicles on board.

We don't commute with our cars as is done by some other islands. Even so, only 16% of the Comprehensive Plan respondents wanted more access for mainland vehicles and 70% wanted the same or less access for mainland vehicles. Attitudes towards cars and trucks have remained much the same as in 1994, but attitudes towards golf carts have improved. Because golf carts are fuel efficient, quiet and slow moving, 81% of the respondents would like to see more or the same number of golf carts. The 4 wheeled Mules seem to be gaining some acceptance while the ATV's seem to be less acceptable with only 3% wanting more ATV's.

Casco Bay Lines Ferry Service

The Maquoit II continues to be our main down the bay boat, often making at least 4 trips a day. Lengthened by 13 feet in 2006, it can now transport up to 4 cars at a time on the main deck. It has a capacity of 400 passengers, is handicapped accessible, has 3 cargo decks and the crane makes it possible to offload freight easier and faster. The newest ferryboat is the Aucocisco III that was put into service in 2005. It is primarily used as a commuter boat in the summer season. The Aucocisco III also has a capacity of 400 and is handicapped accessible. Attitudes regarding the frequency of ferry service have changed very little. In 1994, 53% of respondents wanted more service and in 2006, 49% wanted more service. In 1994, 16% did not want more frequent service and in 2006, 23% do not want more service. Residents also do not want a transfer bridge with 61% saying no in 1994 and 63% opposed in 2006.

Mariner's Wharf and Ponce's Landing

In 1995, Mariner's Wharf replaced Ponce's Landing. The ferry wharf was relocated to its present site because it offered ample parking away from residential areas; elimination of the steep hill at Ponce's and it relieved congestion in the business area. Island residents were involved in the design process. Some of the special features designed into the new wharf include; a separated walkway for pedestrians, a semi protected year round float, upper and lower slips, and a much larger size which accommodates more vehicles, passengers and freight. Mariner's Wharf continues to serve us well and meet the needs of the community in 2006. On going maintenance through the writing of grants is helping to replace the ramp and floats. Because of the much larger size of Mariner's and the separate pedestrian walkway, residents are no longer as concerned about vehicles on the wharf at boat time. In the 1994 survey, 64% of the respondents wanted vehicles off the wharf at boat time while only 28% feel that way in 2006. Likewise, in

1994, 24% thought vehicles could be on the wharf at boat time while 54% feel that way in 2006.

In addition to being used by the local lobstermen and private boaters, Ponce's Landing is vital to transportation because the fuel barge docks there to deliver gasoline to the island.

Island and Mainland Parking

The parking lot at Mariner's Wharf is currently meeting the needs of the community, although in the summer months space is limited as there are more cars than available spaces. There are approximately 120 parking spaces divided into short term, long term and commuter spaces. Handicapped parking and golf cart spaces are available also.

Thanks to the voluntary cooperation of most of the residents who follow the parking guidelines, there is currently no plan to expand parking to an additional satellite lot. Although there had been on going discussions about the possibility of adding an additional lot, those talks have been removed from the town agenda at this time. There was some concern that building an additional lot for more long- term parking would only create problems where they don't currently exist. Through education, more residents are understanding the importance of taking care of their long term parking needs by leaving their vehicles on their own property or paying for storage of their vehicle in a nearby storage facility. A few private residences near the wharf also provide some limited parking. One resident provides a valet service and will deliver your vehicle to your property or deliver it to the parking lot when you need it. Another resident provides an on call bus service.

Parking in Portland is available at the Casco Bay Garage and numerous other garages within walking distance of Casco Bay Lines. However, mainland parking is expensive and hard to find, and maintaining access to in-town parking is an ongoing concern.

Emergency Response Plan

The Town of Long Island has a state mandated Emergency Response Plan. The plan is on file at Town Hall, the Long Island Fire Department, and the Cumberland County EMA bunker in Windham. The escape routes are Mariner's, Ponce's, Boston Sand and Gravel, Johnson's Boatyard as well as any private docks. Casco Bay Lines, the Long Island Fire and Rescue boat, charter boats, private boats or helicopters would provide transportation. Helicopter landing areas include the ball field and the conservation area across from the fire station. One of the selectmen serves as the Emergency Management officer.

Transportation Policy

1. It is the policy of the Town of Long Island that roads will be built so they won't require high maintenance, that their construction promotes a very slow vehicular speed and that their design takes into consideration the needs of pedestrians and bicyclers.

2. It shall be the policy of the Town of Long Island to advocate for convenient passenger ferry service to Long Island from the Casco Bay Island Transit District.

3. It is the policy of the Town of Long Island to maintain a staging area for barges, a launching area for boats and wharf and dock space accessible at any tide, in any season and hopefully in

any weather.

4. It is the policy of the Town of Long Island to encourage residents to take care of their long term parking needs by parking in a private parking facility or by leaving their vehicles on their own property.

5. It shall be the policy of the Town of Long Island to advocate for convenient and affordable mainland parking.

Transportation Policy Implementation Strategy

1. The Selectmen will consider future maintenance issues, the desirability of very slow vehicular speed, and will take into consideration the needs of pedestrians and bicyclers in making road construction decisions. They will also continue to participate in the Road Surface Management Program through the State of Maine.

2. The Selectmen or their designees will maintain effective communication with the Casco Bay Island Transit District relating to passenger and freight ferry service to Long Island.

3. The Selectmen will insure that the Town of Long Island will maintain Boston Sand and Gravel as a staging area for barges and a launching area for boats. They will also insure that Mariner's Wharf and associated dock space will be accessible at any tide, in any season and hopefully in any weather. The selectmen will also work with the City of Portland to maintain access to the East End Beach facility.

4. The Selectmen will encourage all residents to take care of their long term parking needs in a nearby storage facility or by leaving their vehicles on their own property.

5. The Selectmen will seek the support of the City of Portland and the State of Maine to insure the availability of affordable mainland parking.

3.5 Recreation

Waters

Much of Long Island's recreation and open space exists because of its location in the middle of Casco Bay, the waters of which provide the setting for a good deal of our recreation and pleasure, in addition to our business and livelihood. Our watery surrounds provide vistas, which change with every season, every cloud and every footstep. Our open space extends from here to Portugal. These waters are home to our number one cash crop, lobsters, and provide sport for our many ardent recreational fishermen.

Public access to these waters is available on Long Island from many locations. The Town of Long Island owns Ponce's Landing, the former ferry dock, and is pursuing the possibility of a covenant giving permanent access for fishing and lobstering uses. The town also owns Boston Sand and Gravel, which is our town boat launch area, accessible at any tide. There is also the town owned Wreck Cove property, which is permanently protected by a conservation easement held by Oceanside Conservation Trust of Casco Bay, a local land trust. Several of our roads go to the shore and therefore provide additional public access. The State of Maine owns the current ferry landing, Mariner's Wharf where the town has at least one publicly accessible float in the water year round, and in the summer season there are three.

Beaches

Long Island has the distinction of having some of the most beautiful beaches of any island in Maine. The largest is Andrews Beach (known locally as South Beach, Big Sandy or Southside) on the south side of Long Island, facing Vaill Island. Approximately two-thirds of this beach is designated as a state park owned by the State of Maine and is fully accessible for use by the general public. This has both positive and negative implications as it attracts numbers of pleasure seekers during the summer months to a location, which has the barest amenities. The state has built one privy, which is located in the woods behind the dunes and is maintained by the town's parks director and volunteers. Efforts are now underway with the state to give the town more control over the management of the beach. This does not mean the town would own the beach, but we would be able to exercise more control over what takes place on the beach.

A second beach is owned by the Long Island Civic Association (Fowlers Beach), which is open to the residents of Long Island. The Civic Association deeded a conservation easement to Oceanside Conservation Trust of Casco Bay which monitors the restrictions placed on its use by L.I.C.A. Efforts have been made to protect its dune structure with the planting of beach grass, beach roses (rosa rugosa), and the installation of snow fencing.

There are several other beaches on the Island such as Front Beach, Red Sand Beach, Cleaves Landing and East End Beach. A map of the beaches, publicly-used open spaces and associated facilities, such as parking and toilet facilities is in the Natural Resources section of this document.

State Owned Islands

There are two Islands within the Town of Long Island that are owned by the State of Maine and used for recreational purposes; one is Little Chebeague Island of which two thirds are within the boundary lines of the town. It is used by private boaters throughout the summer for day trips, picnicking and camping. The other island Vaill Island, locally known as Marsh Island, gets some use by boaters and is some times accessible at very low tides by way of a rock and sand bar that connects it to Long Island's South Beach.

Privately Owned Islands with Public Access

Cow Island is now owned by Rippleffect, a group that runs youth adventure and kayaking programs on the island. This island is also open for limited public access on the northern shore, and is protected by a conservation easement held by Maine Coast Heritage Trust, a land trust based in Topsham, Maine.

College Island is a tiny island off the west end of Long Island. It is owned by Oceanside Conservation Trust of Casco Bay and is listed by Maine Island Trails, which monitors its use, as a brief pull out spot for kayakers.

Island Recreations

The Long Island Civic Association owns a nine-acre parcel in the inland section of the west end of the island which is used as a baseball and soccer field in the summer time. The field recently has been graded with new topsoil and had new grass planted. It is maintained by volunteers with the cost for materials paid by LICA, which organizes fund raising events to cover those costs. Players are all ages and abilities, but we do have some genuine talent now and then, and some times there are inter island games. Most recently the Long Island Recreation Department has started a Little League team that plays there.

There is also a large open area in the center of the Island. The former Long Island Naval Fuel Tank Farm is now owned by Long Island Community Land Operating Co., LLC. This property is also protected from development by a conservation easement held by the Long Island Civic Association with the DEP as a backup holder. The LLC is governed by a board of five members appointed by the Selectmen. This area is a wild land park open to the public, but motorized vehicles are prohibited under the terms of the conservation easement. It has walking trails that are maintained by volunteers under the supervision of the town's Parks Director and can be used for cross-country skiing and snowshoeing. It offers one of many opportunities to observe a

variety of wild life such as birds, deer, fox, and even beavers at work.

There is a community garden area located on land that is part of the community center property. It consists of some thirty-two raised beds for use by the public for growing flowers and vegetables and is enclosed by a fence to keep deer out of the gardens.

In addition to the waters, beaches, and conservation lands, Long Islanders enjoy a long list of simple pleasures. There is sea duck hunting off shore and deer hunting, by special town permit only, in season. On our Comprehensive Plan survey islanders in order of preference detailed the outdoor recreations as being most important to them:

Walking	Swimming	Berry picking	Bicycling
Boating	Sunbathing	Fishing	Picnicking
Sailing	Tennis	Cross-country skiing	Jogging
Skating			

Neighborliness is a fine art on Long Island, and visiting is probably one of the most enjoyed indoor recreations. We have wonderful pot luck suppers for fund raisers for the school, the churches, the VFW, the Fire & Rescue, or some times just for fun. There are community auctions, craft fairs, bridge groups, bean suppers, cabarets, pancake breakfast, hors d'oeuvres sales and endless volunteer projects for the school, churches, VFW, Library, Fire & Rescue Department, Town, beach, and ball field, all of which bring us together. To name just a few of the continuing projects accomplished by mostly unpaid volunteers in the community: Renovation work on the community center, fire barn, police building, ball field and the library and school, work parties to clean the beaches, plant beach grass and roses, and pick up trash, and brush on open lands. All of these things make Long Island the close community that it is. For the most part we like each other, help each other whenever possible, and it usually will not take too much prodding to get a group working or playing together.

Recreation Department

The Long Island Recreation Department organizes and runs many programs for both the youth and adults on the island, most of which take place at the Long Island Community Center. They include after school programs, art classes and an Art Club. Teen programs include trips to the Mall, movies, sports events, teen nights, dances, and a game room with video games. There are exercise classes and gymnastics. They also have outside sports activities such as track, soccer and pickup softball games and basketball games. Family events include ice-skating, movie nights, the Wharf Street Festival and campfires with marshmallows and s'mores.

Off Island Recreations

Mainland and regional recreational opportunities are somewhat limited by ferry schedules, especially in the winter months, but through the efforts of the Long Island Recreation Department, which sets up trips to attend professional base ball games, hockey games, basketball and also arranges trips to flower shows, concerts and other events, islanders have chances to go places and enjoy things that they might not otherwise have.

Conservation Groups Active in the Town of Long Island

Oceanside Conservation Trust of Casco Bay
P.O. Box 10404, Portland, ME 04104

Maine Coast Heritage Trust
Main Office: 1 Bowdoin Mill Island, Suite 201, Topsham, ME 04086

Long Island Civic Association
P.O. Box 307, Long Island, ME 04050

Recreation and Open Space Policy

1. It is the policy of the town of Long Island to continue to provide, maintain and support the development of any and all recreational opportunities and activities that are available to the island.

Recreation and Open Space Policy Implementation Strategies

1. The Town and its Selectmen will continue to support the Long Island Recreation Department in its efforts to provide year round recreational activities to island residents including both youth programs and adult programs both on and off the island through the town budget and Capital Improvement funding and by pursuing available grant monies.

2. The Town and its Selectmen will support the maintenance of all town owned recreational areas.

3.6 Marine Resources

Importance of Marine Resources

The protection of the ocean waters that surround the islands of the Town of Long Island and nurture their marine produce is as critical as is the protection of our groundwater. From these ocean waters we derive most of our community's income and character and much of our pleasure. Should they become fouled there is little on this island which would be unaffected.

Marine Resources are extremely important to the people and culture of the Town of Long Island. The lobsters that provide a sometimes good living for Long Island lobstermen move in waters within the territory of the town but do not belong to the town. An unwritten law may keep Cliff Islanders fishing in Cliff Island waters and Long Islanders fishing in Long Island waters, but such practices are the result of long standing courtesies and have no legal standing. The drastic decline of the offshore fisheries of the Gulf of Maine have caused many fishermen to turn to this lobster fishery and increased the pressure on the lobster stock and former traditional territories and conservation practices.

The 49 Long Island residents who hold licenses or are employed in lobstering and fishing represent nearly one quarter of the adult population of the town. More people come to Long Island seasonally and are then employed full time in lobstering and fishing. Others are employed part time, and still more have jobs related to the fishing industry such as those employed at Casco Bay Lobster which brokers fuel, lobsters, and bait, or at Johnson's Boatyard which has built many of the newer boats, services many more, provides dock space for smaller boats as well as winter storage for most of the island's boats. Our marine resources have been central to the economic life of this community for generations. The fisheries resources of lobsters and scallops are managed regionally by the Department of Marine Resources.

Access to the Shore for Commercial Fishermen and the Public

It is the State's goal to protect the State's marine resources industry, ports and harbors from incompatible development and to promote access to the shore for commercial fishermen and the public. The viability of marine use areas are continuously under threat by the heavy real estate/recreational pressures on this part of the coast, but the Town of Long Island has taken several steps to secure deep-water access.

Long Island has actively pursued this goal by the purchase of waterfront land (Northland Parcel #3 - now known as the Community Center). This land has deep-water access, if ever needed, and is adjacent to our new ferry pier. It provides support for that facility in the form of parking.

When the State constructed a new ferry wharf at Mariner's Landing the Town accepted ownership of Ponce's Landing, the aging former ferry wharf. Ponce's now provides public deep-

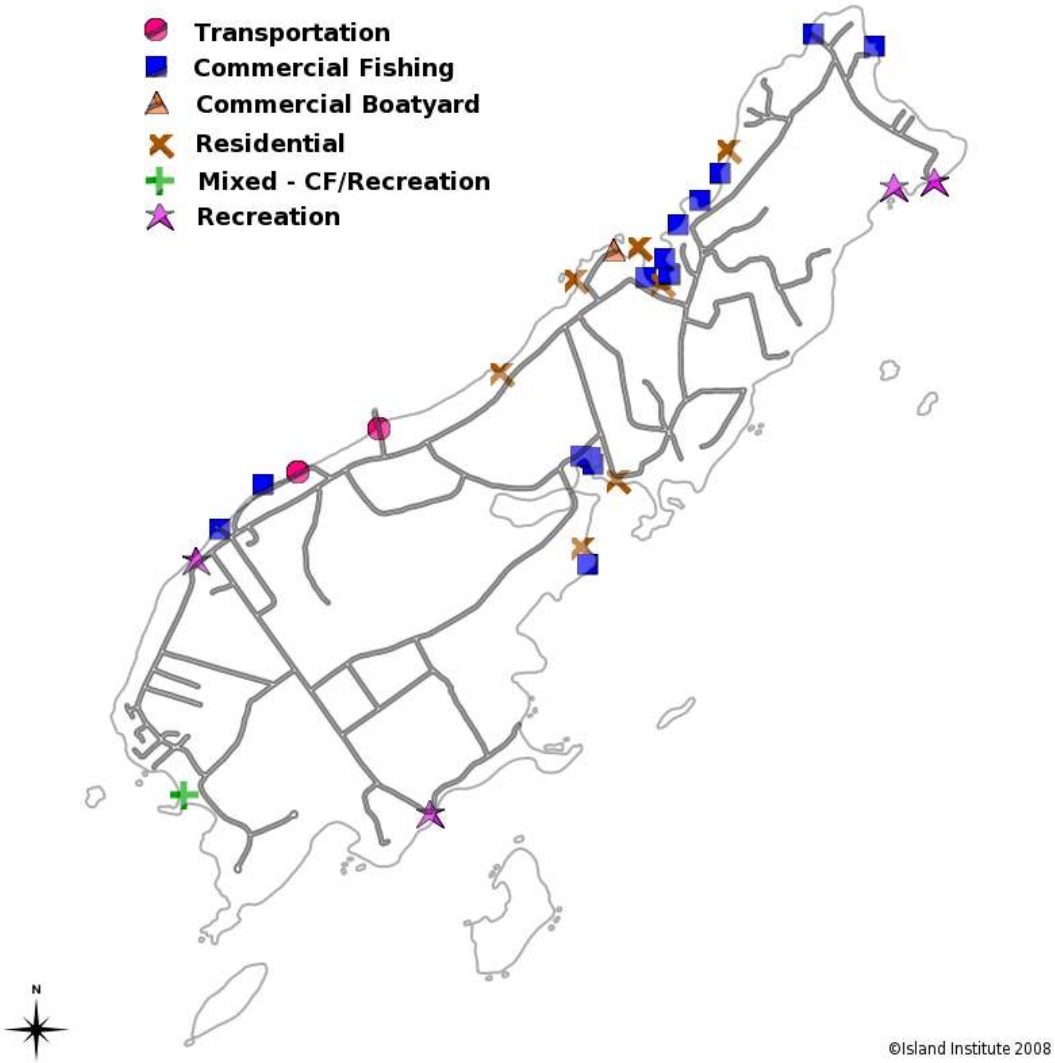
water access for private boats and, by a fee paying cooperative arrangement, to commercial lobstermen. More recent and significant, the voters at the 2007 Town Meeting approved the sale of a "protective covenant" to the State to ensure in perpetuity the continued access for commercial fishing to this facility. The details of this covenant are currently being explored. Estimated cost of providing needed harbor improvements (Ponce's Landing) are dependent on plans being formulated. The covenant, if it can be purchased from the Town by the State, should provide access to funding to restore this premier working waterfront facility. A proposal on the table for a condominium project at Ponce's Landing certainly brings the risk of conflicts with the use of that facility that could be characterized as incompatible.

The Town has benefited in other ways from its cooperation with the State as it has taken advantage of the State's Small Harbor Improvement Program, which has been most beneficial to our acquisition, and improvement of our coastal resources. It assisted in repairs to Ponce's Landing, construction of additional floating docks for public access at Mariner's Landing, and the acquisition of working waterfront property adjacent to Mariner's Landing.

While no distinction, in addition to shoreland zoning, is made zoning wise to lands around harbors, the Town gives preference to water-dependent uses over other uses by continuing to support the construction of marine lobstering wharves with minimal red tape and the exemption of small "fish houses" from set back requirements. The Town applies minimal taxation to the fishing infrastructure of wharves, floats, gear etc. The current use taxation program to owners of waterfront land used to provide access to or support the conduct of commercial fishing activities may not be fully appreciated due to the relatively low property taxes. The Town has favorable mooring and float policies for commercial fishing uses. So far these arrangements for managing local harbors have been effective in protecting our lobstering industry, but the continuing increase in the number of moorings and pressure from adjacent mainland communities with little anchorage space left needs to be monitored. At this point, the relative success of the lobster catchers allows them to "hold the fort" against selling their working waterfront properties. Any change in the health of this fishery will cause future loss of these valuable assets. Conversions will occur if/when the lobstering declines.

The Town provides sufficient funding for a harbormaster, and the 2007 Town Meeting authorized a new vessel to be used by the Harbormaster in the conduct of his responsibilities. Our Harbormaster is certified by the Harbormasters' Association and works under the supervision of the Selectmen, and particularly the Selectman who oversees Public Safety. While monitoring the use of our wharves and public floats his emphasis is on public access to the water and balancing recreational and commercial uses. With friendly education the boating public has come to understand Long Island's rules, and levying a fine has become a rarity. There is no local harbor management plan, but our Harbormaster actively works with adjoining municipal harbormasters including Portland, Falmouth, and the Town of Chebeague.

Since becoming a town we have also acquired, and improved, a boat ramp and barge landing location that is known on the island as "Boston Sand and Gravel". This site is critical to the island's ability to move materials and equipment, boats, and even whole houses on and off the island. It serves its purpose well.



Long Island Water Access Map

Marine Environment

Waters surrounding the island have recently come under the closer scrutiny of the Department of Marine Resources (DMR) and the Department of Environmental Protection (DEP). Enough concern about the levels of pollution measured in the bay waters surrounding the island have resulted in these agencies attempting to study the extent of septic treatment or lack thereof on the properties along our shorelines and neighboring islands. DMR representatives have walked the shorelines and recently peeked under many homes and cottages seeking clues about the Bay's questionable health. This information has not been made public at this time. We should expect recommendations to be forthcoming in the future from these studies.

The Department of Marine Resources has recently suspended (with no explanation) a long-standing program of volunteer water quality testing at specific sites around the shores of Long Island.

In order to control development in the shore areas the Town has adopted shoreland zoning ordinances that have been reviewed and found to be consistent with State statutes.

Protection of Critical Habitat and Natural Areas

The Town has been active and should continue to be active in the protection of critical habitat and natural areas. Conservation Easements have been placed on the Town owned 12-acre Wreck Cove property and the 123-acre Conservation Land in the former Navy Base. Other easements on significant habitats and natural areas include Fowler's Beach and Cow Island. Andrews Beach and Little Chebeague Island are State Parks; College Island is owned in fee by a local land trust, Oceanside Conservation Trust of Casco Bay. Vaill (Marsh) Island is State owned and theoretically protected.

Opportunities for Outdoor Recreation

Swimming, boating and recreational fishing are important activities on Long Island. The Town has been active in maintaining its recreation facilities and programs. We pay a Recreation Director who is assisted by a large volunteer organization to provide outstanding summer and year round recreation opportunities for our residents and visitors. The Town pays a Parks Supervisor who, with the help of volunteers, developed and maintained walking trails in the Conservation Land. We have, and continue to fund and maintain, our public tennis court and basketball court in first class condition. We maintain public portable bathrooms for tourists near the ferry, and the state maintains a privy at the State Beach. A map of the beaches, publicly-used open spaces and associated facilities, such as parking and toilet facilities located in the Natural Resources section of this document.

Clam and Shellfish Harvesting

Clams and mussels are stationary and harvestable at low tide. In recent years they could be legally harvested in only a few open areas of the Town. On Long Island only Cleaves Beach to Cushing Point had been open, but that, too, is now closed. Only the Island of Little Chebeague that is within town waters is open to the harvesting of shellfish. At this time - due to (1) general non-point pollution, (2) four grandfathered licensed overboard discharges, and (3) lack of testing to allow the opening of possibly clean waters - the areas to harvest shellfish must remain very limited. The state does not allow shellfish harvesting in areas with overboard sewage discharges, even if these discharges are legal and licensed. While many citizens enjoy the mussels and/or clams of our waters, only 40% of those surveyed were interested in committing resources (manpower and/or money) to expand shellfish testing to open more of the Town's shoreline. The reality is, we have few significant clam-flats that have much promise for being clean enough in the foreseeable future to open, and even if they were, we lack the acreage for anything but occasional recreational digging. One commercial digger could wipe out the resource in a very short time even if the whole island were open. There is no economic return for Long Island from significant investments in this fishery. With so little potential for commercial shellfish harvesting the decision has been made by the Town Selectmen to discontinue the Shellfish Warden Program.

Currently, we have a mussel aquaculture license for a raft behind Little Chebeague Island (which has been recently relocated nearer Clapboard Island) and a dormant urchin license for the Wreck Cove area. Future activity of the aquaculture industry in our waters should be anticipated.

Large Vessel Anchorage

Town lays claim to an anchorage within its territorial waters and in limited fashion regulates the use of the anchorage by large vessels. These waters are also prime lobstering grounds, and a big vessel's comings and goings damages fishing gear. While at anchor a large vessel uses long

anchor chains that sweep the bottom as the vessel swings and can also do significant damage to the fishing gear in area. Continued efforts by the Long Island Harbormaster to receive alerts by shipping interests of vessel arrivals can be useful to warn fisherman to take precautions.

Other Threats

Even larger threats to the waters and our fisheries have blown through in the last few years with proposals for LNG terminals in Harpswell, Hope Island, and Cousins Island. The magnificent deep-water harbor that our island creates will continue to be an attraction for industrial and energy-related proposals sure to come in the future. In addition, a long-standing boundary issue with Portland in the waters near Cliff Island will need future resolution.

Marine Resources Policy

1. It is the policy of the Town of Long Island to encourage and protect traditional fishing and lobstering activities.

2. It is the policy of the Town of Long Island to cooperate with state, regional, and federal efforts to protect the quality of the waters surrounding Long Island.

Marine Resources Policy Implementation Strategy

1. The Planning Board will insure that traditional marine uses will continue to be recognized in the zoning ordinances of the Town of Long Island.

2. The Code Enforcement Officer will be supported in the enforcement of town ordinances and regulations affecting marine water quality, especially including the shoreland zoning ordinances, consistent with Department of Marine Resources and Department of Environmental Protection regulations.

3. The town will support the Bay Keeper in his efforts to educate owners of marine businesses and industries in the clean marina/boatyard programs.

4. The Selectmen will continue to pursue grants to restore and improve Ponce's Landing and will ask the town to appropriate the required matching funds.

5. The Code Enforcement Officer will pursue opportunities for alternatives to legal overboard discharges as properties and uses change and will work for continued improvement of septic systems. Efforts to mitigate all types of other discharges both point and non-point, will be a top priority.

6. The town will continue to provide sufficient funding for and staffing of the harbormaster.

7. The town may cooperate with the Casco Bay Estuary Plan and Partnership to protect Casco Bay and its watershed.

3.7 Water Resources

Water is important to our community, and we understand the issue well. In our 2006 survey 92% of the respondents do NOT want us to ignore contamination of ground water. That is the strongest response to any question on the survey. A full 85% consider protecting Long Island's drinking water to be very important, and 55% would support a change in lot sizes based on the differing abilities of soils on various parts of Long Island to accommodate waste water, 64% are willing to forgo the right to build on small pieces of land to protect our groundwater, 62% are willing to limit changes (additions, new bathrooms, etc.) to their properties in order to protect our ground water, 55% want to vigorously require all septic systems to conform to code, 54% want to require periodic maintenance/inspection of existing systems, 75% want to encourage intermediate improvements in inadequate existing systems, while 61% do not want us to pay attention only to new construction.

In 1986 Robert Gerber, Inc. prepared an Island Ground Water Management Study for the City of Portland. Long Island and four other Casco Bay Islands within the municipal boundary of Portland at that time were the subject of the study. Work on the project in 1986 included the compilation of ground water resource data, the identification of potential sources of contamination, the development of a ground water flow model and the development of management goals and objectives aimed at protecting ground water resources. This information was incorporated into the 1995 Comprehensive Plan and the recommendations formed the basis for the policy implementation strategy of that document.

With the passage of more than 20 years since the 1986 Island Ground Water Management Study a hydrogeologic update is proposed to review the following topics:

Long Island Fuel Terminal Data

In addition to the hydrogeologic study prepared by Gerber in 1986, there has been considerable work performed on the island to evaluate contamination at the Long Island Fuel Terminal. Defense infrastructure installed during World War II included 12 underground fuel storage tanks. Although the tanks have not been active for over 20 years, petroleum leakage occurred from residue in the tanks. Ground water monitoring over the past 20 years quantified the extent of contamination and aided in remediation efforts that are now complete. This data should be added to the groundwater information from the Gerber report.

Viral and Bacterial Contamination

Although nitrate-nitrogen from septic systems is still of concern as an impact to aquifers in high density areas, viral and bacterial contamination is becoming of equal concern and requires a slightly different approach to residential lot design. There are new developments in septic system denitrification and prevention of disease from pathogenic contamination transmitted through groundwater.

Salt Water Intrusion

There have been improvements in the methodologies used to evaluate saltwater intrusion

A request for incremental funding of this update was approved as part of the 2008 town budget request.

In the meantime Long Island relies on "The Gerber Report" for fundamental understanding of our water resources. In 1986 the City of Portland commissioned this study of the ground water of all of the inhabited islands then within the City. The Long Island Civic Association made a valuable contribution to that study by conducting a well sampling survey that tested 104 of the wells on Long Island, and the resulting data was folded into the final "City of Portland Island Ground Water Management Study". Because of that significant sampling of Long Island wells, Robert Gerber, author of what has become known as "The Gerber Report", says that Long Island "has about as good a data base as any community in regard to their water resources."

The following is a summary of information pertinent to Long Island extracted from the "City of Portland island Ground Water Management Study" prepared by Robert G. Gerber, Inc. Consulting Civil Engineers and Geologists, 17 West St., Freeport, ME 04032, August 1986. It is quoted directly from the report but leaves out references to the other Portland Islands and replaces reference to the "City of Portland" as the governing body with the "Town of Long Island". This report gives important background for the kind of policy decisions the people of this town will have to make to protect our ground water.

GROUND WATER OCCURRENCE AND MOVEMENT

All ground water on each island we studied originates from rain and snow that falls on the land surface of the island. While most of this precipitation is lost because of surface run-off, evaporation, or use by vegetation, a small portion becomes "ground water" when it seeps into the ground to saturate the soil and fill narrow cracks in the underlying bedrock or ledge. Once in the soil or ledge, the ground water generally moves downhill and either discharges to a local wetland or stream, or travels all the way to the ocean to discharge near the shoreline. Water is in turn evaporated from the ocean (or other more distant areas) then returned to the land surface in the form of rain or snow. This "hydrologic cycle", as it is called, is depicted in Figure I.

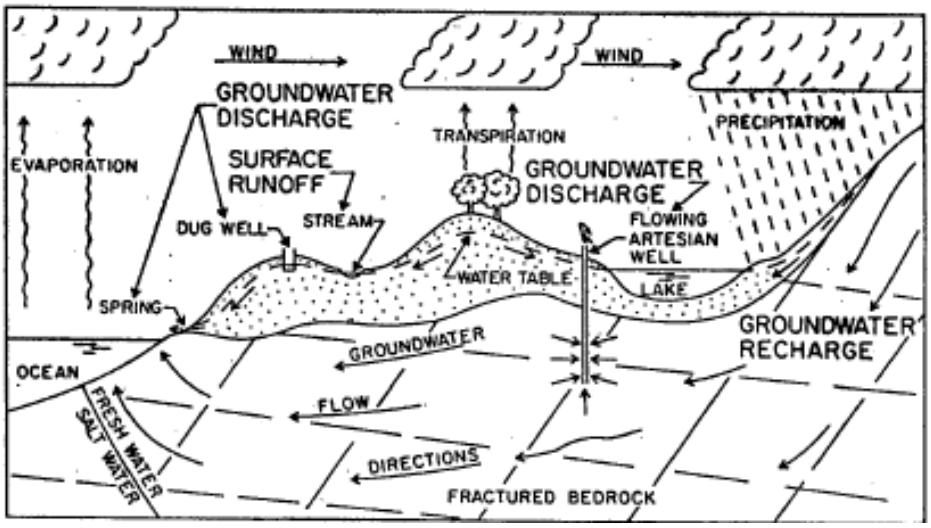


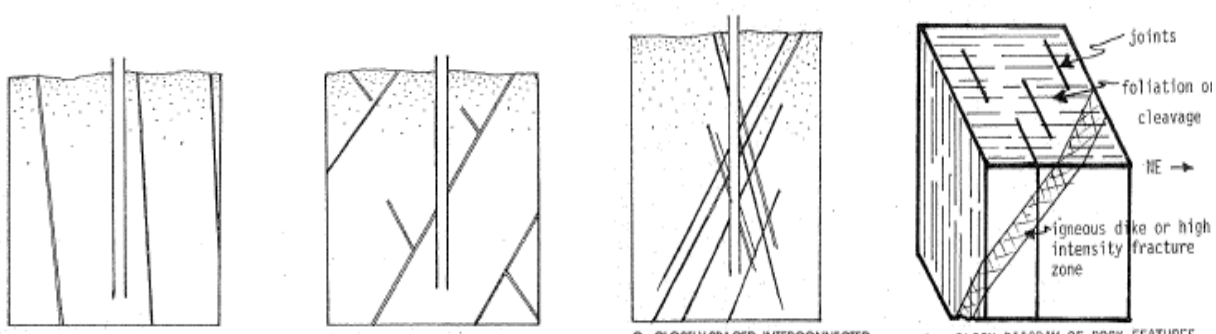
Fig I. Hydrologic Cycle

When a saturated body of soil or ledge has sufficiently open and interconnecting

voids or cracks to yield a quantity of water to wells at a cost that people are willing to pay to obtain ground water, that body is defined as an "aquifer". As a well draws water, the aquifer is recharged by the continued infiltration of water from soil and/or bedrock above and to the sides of the well. Wells that are pumped faster than the natural recharge rate of the aquifer will go dry or, in coastal areas, will pull ocean (salt) water into the aquifer (page 52).

There are two separate, but interconnected types of aquifers on the islands: a) those in the soil, or "surficial" deposits; and b) those in the ledge, or "bedrock". Except in those areas where there is no soil cover over ledge, precipitation or snowmelt must infiltrate and travel vertically downward through the soil before it can pass into the bedrock. In gravel soils, most precipitation can enter the soil immediately, although almost half the annual precipitation is captured by plants or lost again to evaporation. In clay soils, as little as 5% of precipitation is able to infiltrate the soil and pass through to the underlying bedrock. Where soil deposits have sufficient saturated thickness (preferably greater than 10’) and where a dug well can collect ground water originating as rainfall over a minimum of about 5 acres of land, then a dug well can supply a single-family house with sufficient water for domestic use. However, in most cases on the islands, dug wells are not feasible and homeowners must rely on drilled bedrock wells for their water supply.

Bedrock aquifers in Casco Bay absorb water into cracks or "fractures" on the higher parts of the island. On the average, about 8% of the precipitation falling on the Portland islands moves through the fractures to become ground water flow in the bedrock aquifer. These fractures may be very narrow (50 microns wide) openings in the rock along the planes of the ancient sedimentary layers in the rock (which may now be tilted to a nearly vertical attitude), or may be cracks resulting from rock breakage during the rock flexure that has taken place during the several hundred million years that the rock has been formed, and then moved around on the earth’s surface. Figure II shows typical "fracture" patterns and how a bedrock (or "artesian") well might intercept these fractures to obtain water. As shown on Figure 2, ground water entering the rock at the highest point of the island flows nearly straight down, deep into the earth before turning sideways, then upwards to discharge at the saltwater interface. Ground water entering the rock near the edge of an island stays shallow and will discharge just above or below the high tide line.



A. WIDELY SPACED, NEARLY VERTICAL FRACTURES, NONE OF WHICH ARE INTERSECTED BY THE DRILL HOLE. HOLE IS DRY.

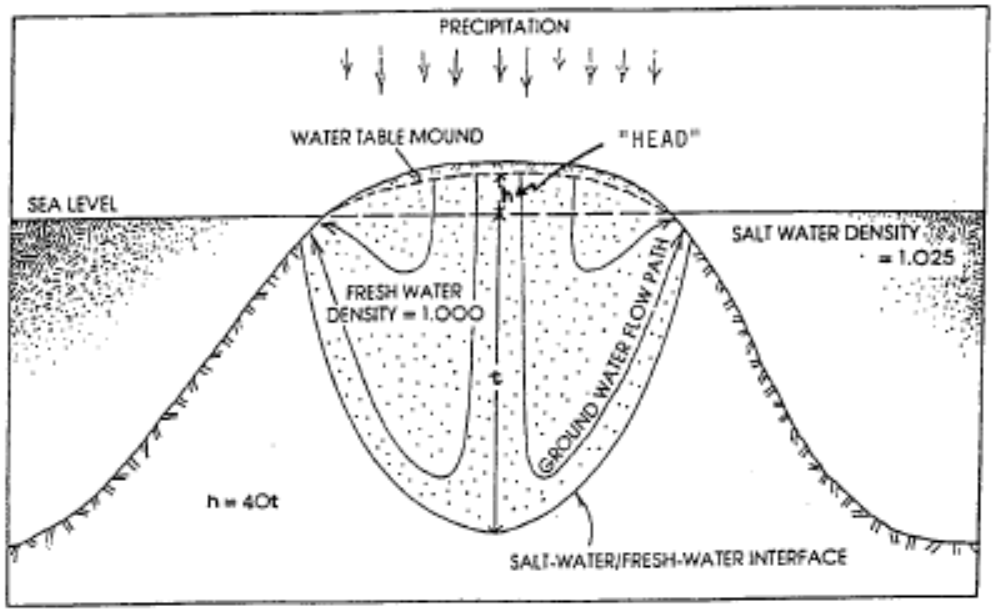
B. WIDELY SPACED OBLIQUE FRACTURES OCCASIONALLY INTERSECTED BY A SECOND SET OF OBLIQUE FRACTURES, SMALL YIELD.

C. CLOSELY SPACED, INTERCONNECTED FRACTURES. HIGH YIELD.

D. BLOCK DIAGRAM OF ROCK FEATURES.

The first two examples show fracture geometries causing poor yields in bedrock wells e, while the third is an example of a high-yield fracture geometry.

FIGURE III Response of Ground Water at the Salt-water Interface



Schematic cross section of an oceanic island showing lens of fresh water. The water table mound is maintained by precipitation. (Caswell,1978, Fig.36, p.46)

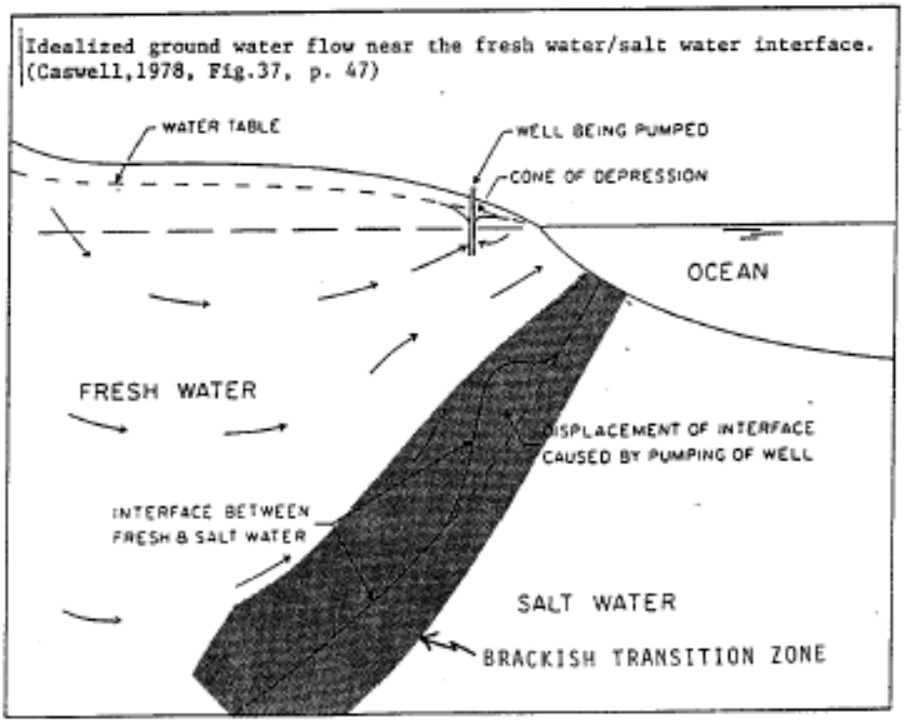


Fig III. Response of Groundwater at Saltwater Interface

Salt water intrusion is a problem of particular concern on islands. Salt water corrodes plumbing fixtures, is unhealthy to drink, and is very expensive to treat to make it fit to drink. Fresh water in the form of ground water, because it has a lower density than salt water, will float on top of salt water. A thick zone of brackish ground water occurs near the salt water interface shown on Figure III, due to mixing

caused by tidal fluctuations and by ground water moving along the saltwater interface. The theoretical salt water interface is located about 40 times the depth below Mean Sea Level as the surface of the ground water is elevated above Mean Sea Level. Therefore, the saltwater interface is very deep under the center of an island where the surface of the ground water may be close to, say, 80' above Mean Sea Level. However, the closer to the shoreline, the shallower the saltwater interface becomes. As shown on the bottom of Figure III, when a well is being pumped and draws down the ground water surface, salt water is displaced upward towards the well.

STUDY FINDINGS

The geology of the islands is fundamental to the understanding of ground water occurrence and movement. We have developed geologic maps of both the soils and the bedrock (page 53). The soils are subdivided by their origin and texture, since these factors most closely affect the ability of precipitation to infiltrate the soil and also the speed with which ground water is transmitted from one point to another. Based on our experience, laboratory measurements of the properties of similar soils, and knowledge gained from other computer simulations having good calibration, we have assigned average precipitation infiltration rates to each soil group which are used to estimate recharge to the soils and to estimate the amount of dilution that precipitation will provide to any contaminants leaked to the ground water.

The principal soils on the islands include: a) a thick silty, stony soil called "glacial till", which was laid under the last continental ice sheet 13,000 to 20,000 years ago; b) thin stony, sandy soil developed from water washing through glacial till; c) a stratified sand or gravelly sand deposited by meltwater streams flowing off the glaciers 13,000 years ago; and d) interbedded fine sand, silt, and clay deposited 13,000 years ago when the ocean was 250' higher than at present. The stratified sands and gravels make the best surficial aquifers; the tills are intermediate in favorability; and the clay-silts are least productive.

Based on our field mapping and the water supply questionnaire results, we have prepared maps showing the thickness of the soil deposits on the islands (page 57). Dug wells would only be reliable where soils are relatively thick (say 10' or greater). Soils are typically less than 5' thick except on the northern and southwestern portions of Long Island. Because of the relatively thin soils, the surficial aquifers are only of minor importance to the island as a water source. On a map we prepared called "Special Features Map" (page 58), we have shown the locations of sites in surficial deposits where above-average thickness and coarse texture favor developing wells in the surficial deposits.

The bedrock geology of the islands is complex, but began more than 500 million years ago when sediments were being deposited into a sea while nearby 'volcanoes were erupting.

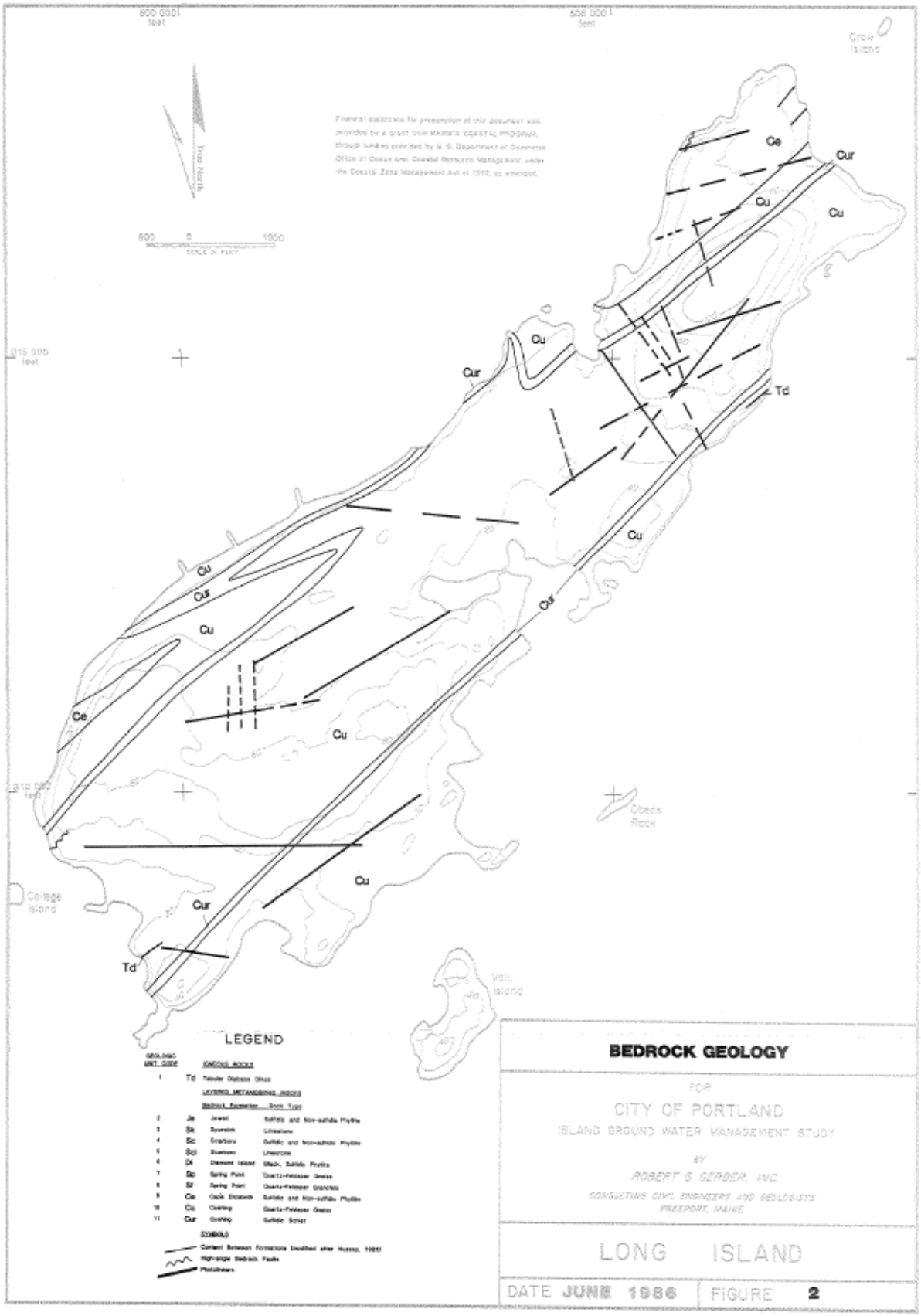


Fig 2. Bedrock Geology

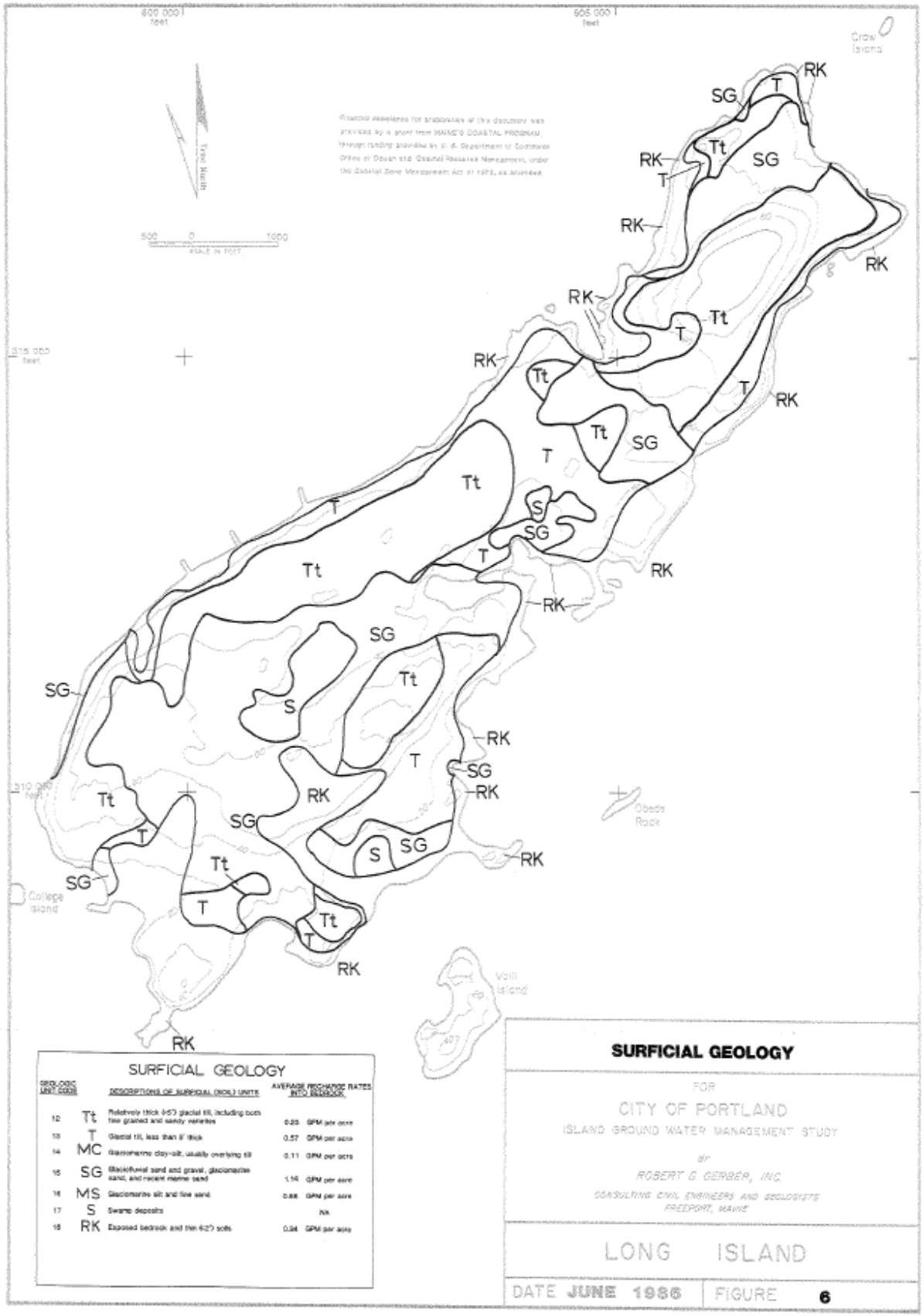


Fig 6. Surficial Geology

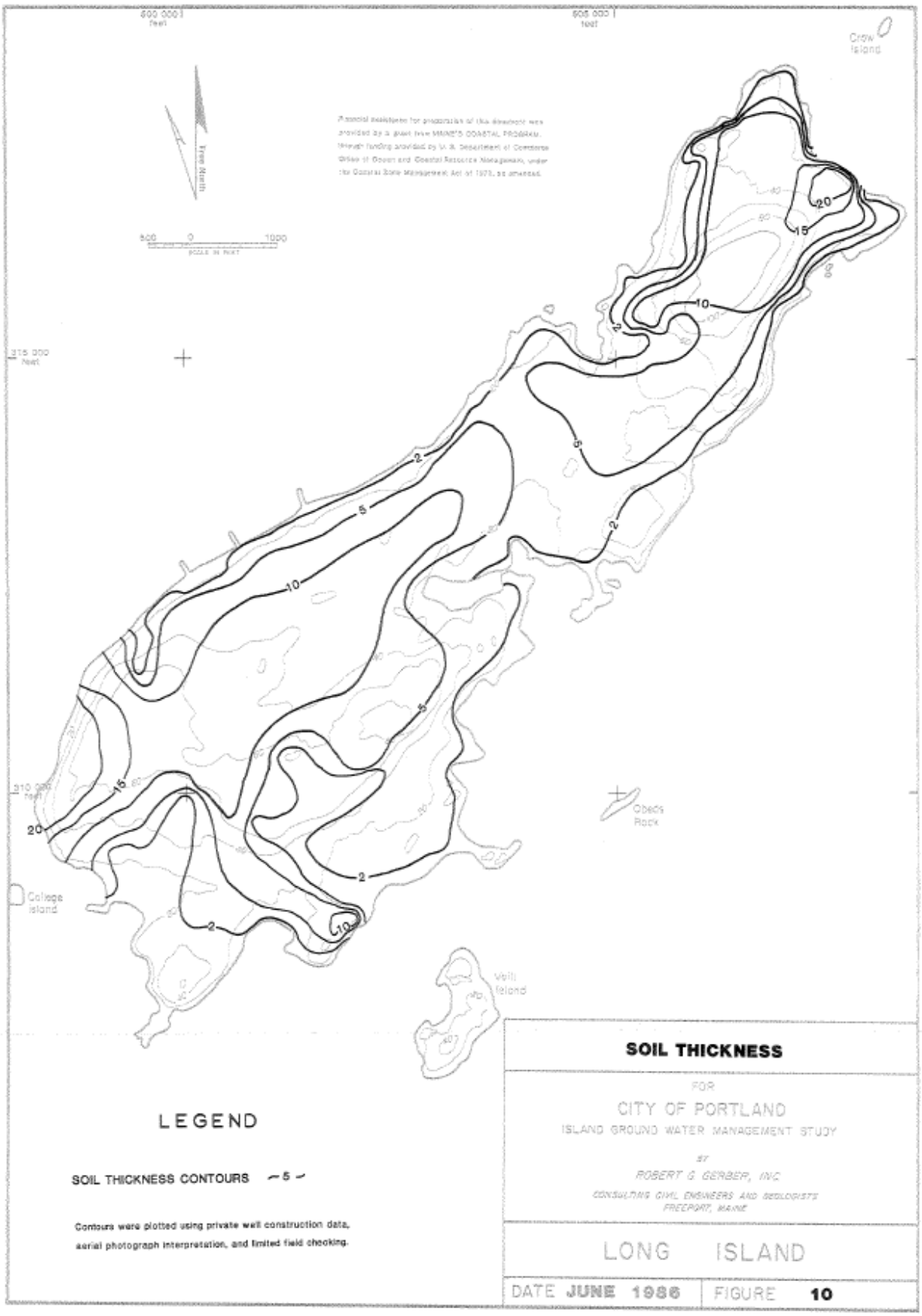


Fig 10. Soil Thickness

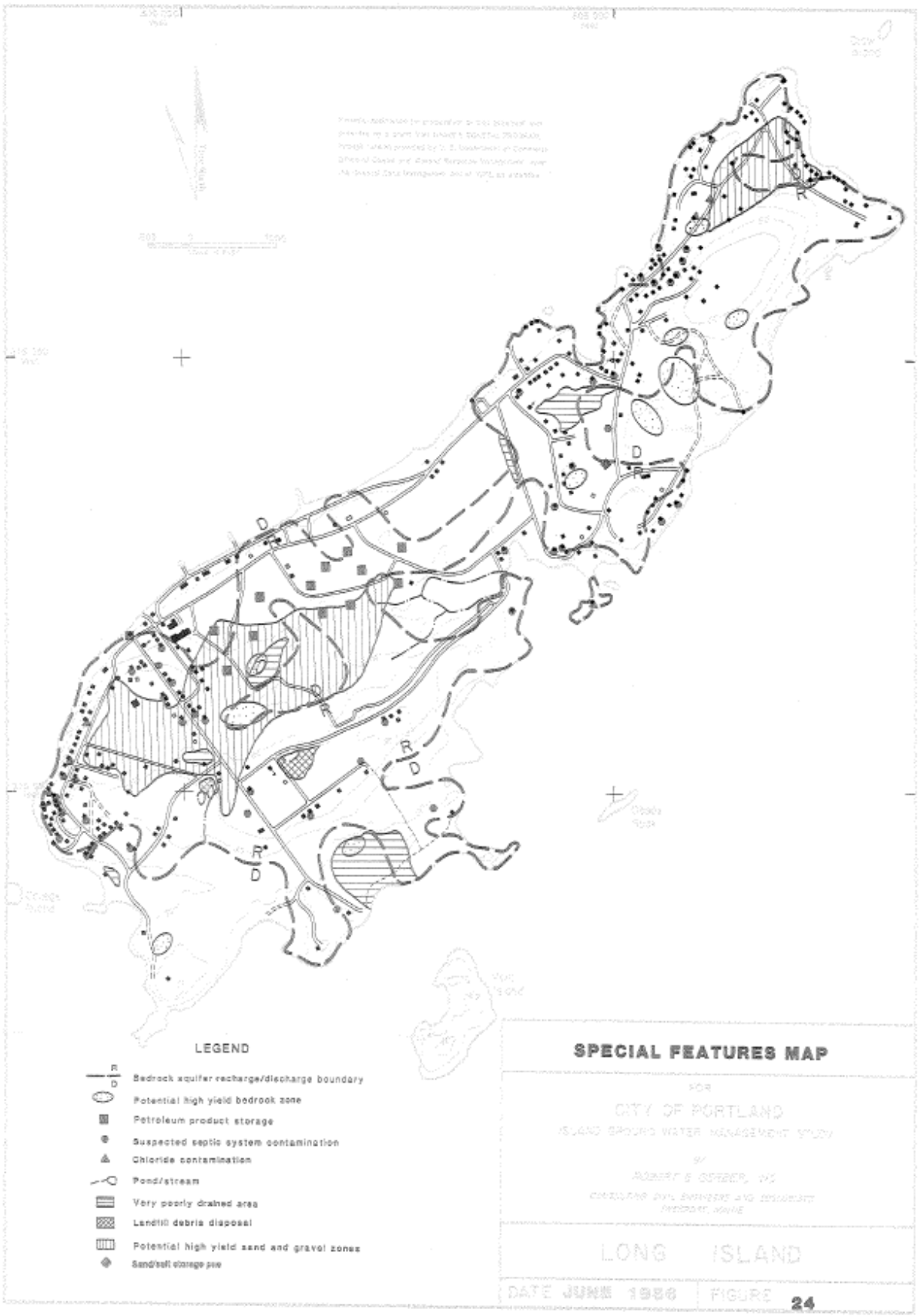


Fig 24. Special Features

These sediments and volcanic materials were deposited initially in a relatively flat-lying position, layer upon layer. However, later movements of the earth's crust involving continental plate movement and mountain building episodes "cooked" the sediments (thus changing the mineralogy) and tilted the layers so that what were flat lying beds are now almost vertical. The strains that accompanied all of this earth movement created the fractures in the rock that transmit the ground water.

The bedrock aquifers were divided according to different bedrock types, which are differentiated by origin and the different minerals that make up the rock. Based on data we obtained from the Long Island well survey, it appears that at least one rock type, the Cape Elizabeth Formation, produces wells that produce more water when pumped (called yield and expressed in gallons per minute) than other rock types. In addition, we have found that certain rock types naturally produce more iron and manganese (which will stain laundry and sinks and may also smell like sulfur) than other rock types.

After measuring the orientations of hundreds of fractures in the rock, we concluded that ground water movement is favored along the sheet-like layering in the rock that is now tilted almost vertically. The orientation of these many fine laminations, if one were to stand over the rock and look down at a horizontal exposure displaying the tilted layers, is northeast-southwest, along the long- axes of the islands. There are short, relatively widely spaced, fractures that are oriented nearly vertically and trend northwest-southeast, perpendicular to the rock layering. However, we believe that these do not conduct water so readily as the high density of fracture planes between the layers. We estimate that about 10 times as much water may move along the layers as across the layers, all other factors being equal.

There are narrow, linear zones in the rock that may vary from 1 to 100 feet wide that may have above-average ability to transmit water. In addition to direct observation of these zones on the shoreline (the rock may be so fractured that it looks like soil), the presence of these zones can also often be detected by interpretation of aerial photographs, satellite imagery, and an airborne radar technique. We have used these types of photographs to identify the bedrock zones that may produce high yield wells. Where two or more of these narrow zones cross, there is a particularly good chance that the rock is sufficiently fractured to produce many gallons per minute. Bedrock well yields in excess of 10 gallons per minute are considered "high yield". We have identified these linear zones on the bedrock geology map (page 55) and shown localized areas where these zones intersect on the "Special Features" map (page 58). Although these zones may be capable of producing many gallons per minute, caution must be used since sustained pumping at high rates may produce salt water intrusion.

Typical bedrock well yield on Long Island is about 5 gpm, which is about average for the coast of Maine. Typical bedrock well depth on the Casco Bay islands is about 100', whereas 175' is average for the coast as a whole.

Water Quality

Ground water quality is known in some detail for Long Island. In 1985, 104 of the wells on the island were tested more-or-less simultaneously for common health- and esthetic-related water quality parameters. The Long Island water quality results found that almost half the wells tested had some coliform bacteria, and over 1/3 of the wells had nitrate-nitrogen concentrations significantly above what would be typical of uncontaminated ground water. It appears that high densities of subsurface sewage disposal systems and/or malfunctioning systems have caused this degradation of ground water. On the "Special Features" map (page 58), we have identified sections of Long where subsurface sewage disposal systems are suspected of contaminating wells. In addition, we have identified other known or potential sources of contamination such as

large petroleum storage tanks and landfills. It is important to note that there are very few cases of reported salt water intrusion in the island wells. Some local chloride contamination may be due to road salting or sand/salt storage.

It would rarely take longer than 5 years for a particle of water to move from the highest point in the bedrock aquifer to discharge in the ocean. If a contaminant is introduced at a steady rate into the aquifer, it eventually attains a steady-state (constant) concentration at each point in the aquifer. Concentrations would be higher in the source area and decrease with distance from the source. About 63% of the final steady state concentration would be obtained in the first year near the source of the contamination. Therefore, contaminants can spread rapidly in the bedrock aquifer, see map on page 60.

The water quality data obtained for this study were-derived from files of water quality tests at the Maine Department of Human Services, from a water quality survey conducted by the residents of Long Island. The important water quality parameters to consider in each of these data sources and their respective concentration levels which we believe indicate deteriorated water quality are listed as follows:

Nitrate	>1	mg/L
Iron	>0.25	"
Chloride	>50	"
Copper	>0.01	"
Manganese	>0.05	"
Coliforms	>1 colony per plate	

It is important to note that copper is usually derived from copper plumbing and not from the environment. The maximum contaminant level for copper based on secondary drinking water standards set by the Maine Department of Human Services are 1.0 mg/L. The nitrate-N drinking water limit set by the Maine Department of Human Services, Division of Health Engineering is 10 mg/L but concentrations in contaminated ground water are usually >1 mg/L. Nitrate and coliform concentrations in ground water are generally related to the amount of biological decomposition and subsurface -sewage disposal wastes present in the environment. Maximum contaminant levels for manganese and iron in secondary drinking water standards set by the Maine Department of Human Services are 0.05 mg/L, and 0.3 mg/L, respectively. Iron and manganese concentrations are generally related to the decomposition of an iron- and manganese-rich sulfide mineral present in the bedrock. The secondary drinking water standard for chloride is 250 mg/L but chloride concentrations commonly correlate with sodium concentrations in the environment. Chloride concentrations in excess of 50 mg/L generally indicate salt water intrusion, road salt contamination, or sewage contamination, and the associated sodium concentrations will probably exceed the recommended limit of 20 mg/L standard for public drinking water supplies.

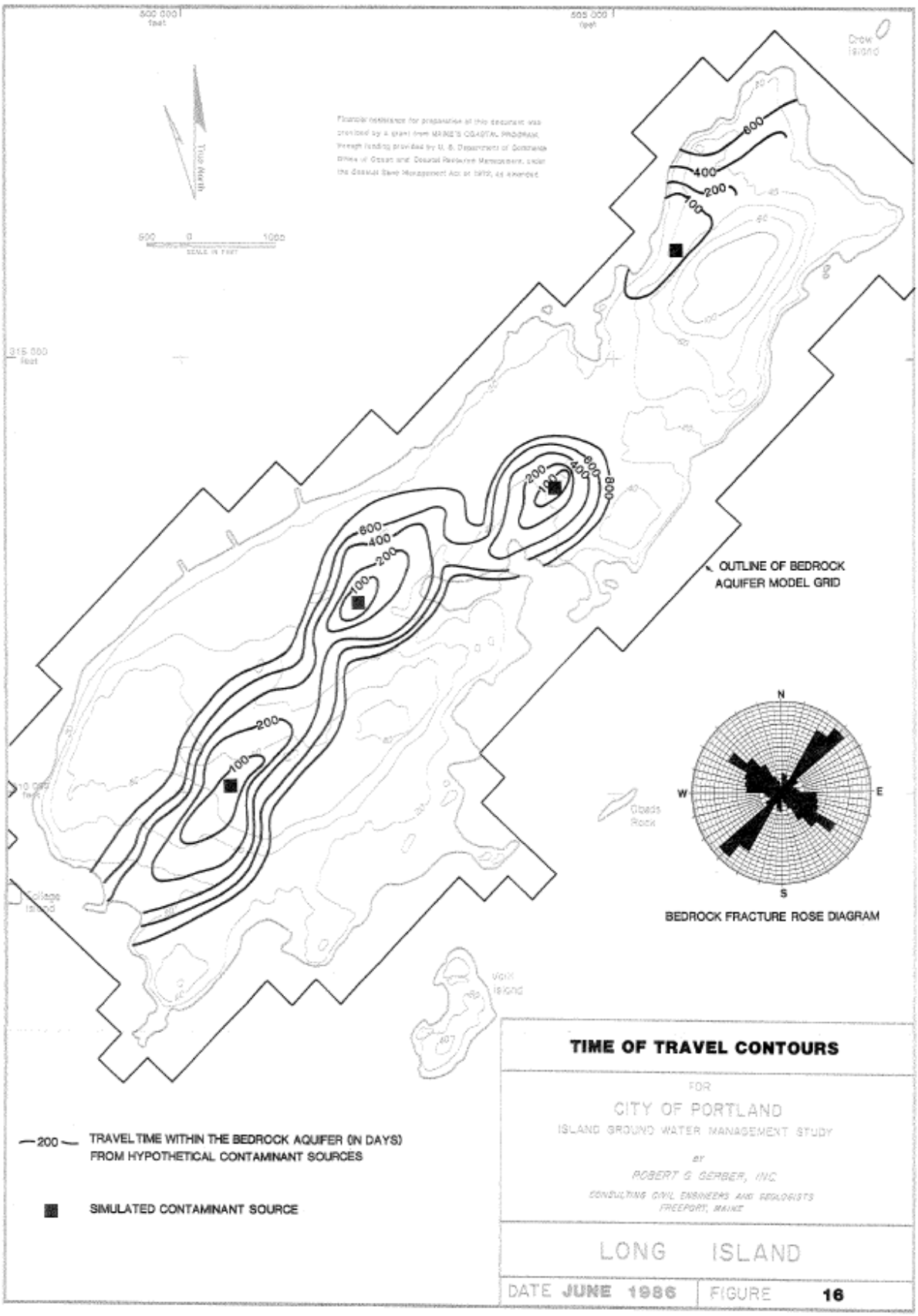


Fig 16. Time of Travel Contours

For the 104 water quality tests obtained by the Long Island residents, the cases where the concentration levels exceeded our recommended screening level are as follows:

Parameter	No. of Cases Exceeding	Percent
Nitrate	35	34
Iron	16	15
Chloride	3	3
Copper	5	14
Manganese	30	28
Coliforms	51	49

Please note that some wells may exceed our recommended screening level for more than one parameter. It is apparent from the above data that a relatively large percentage of wells on Long Island are being impacted by nitrate and coliform. As mentioned previously, since concentrations of these 2 parameters are related mainly to the amount of biological decomposition and subsurface sewage disposal, roughly one-half of the wells surveyed on Long Island appear to be affected by biological wastes of some sort, probably subsurface sewage disposal system effluent. High iron and/or manganese concentrations in some of the wells appears to be related to the bedrock type in which the wells were drilled. Locally, the bedrock on Long Island contains an iron- and manganese-rich sulfide mineral which releases iron, manganese, and sulfide gas upon weathering.

In addition, on Long Island 4 cases of hydrocarbon and/or gasoline well contamination are reported. These are probably related to leaking petroleum storage tanks.

In summary, salt water intrusion does not appear to be a major problem affecting the ground water quality in the bedrock aquifer on Long Island at present. A number of wells on Long Island have undesirably high concentrations of iron and manganese. These are naturally occurring and they are present in higher concentrations in particular bedrock zones tapped by the individual wells. Between 15% and 30% of the ground water sampled has above-background nitrate and 40%-50% has coliform bacteria, indicating a significant problem with subsurface sewage disposal systems on Long Island.

Water Quantity

The simulated potentiometric surface contours of the bedrock aquifer on Long Island are shown on page 63. One major potentiometric surface peak occurs at each end of the island, approximately coinciding with ground surface topographic highs. A much smaller local peak occurs in the central portion of the island. These potentiometric surface peaks are the principal localized recharge zones.

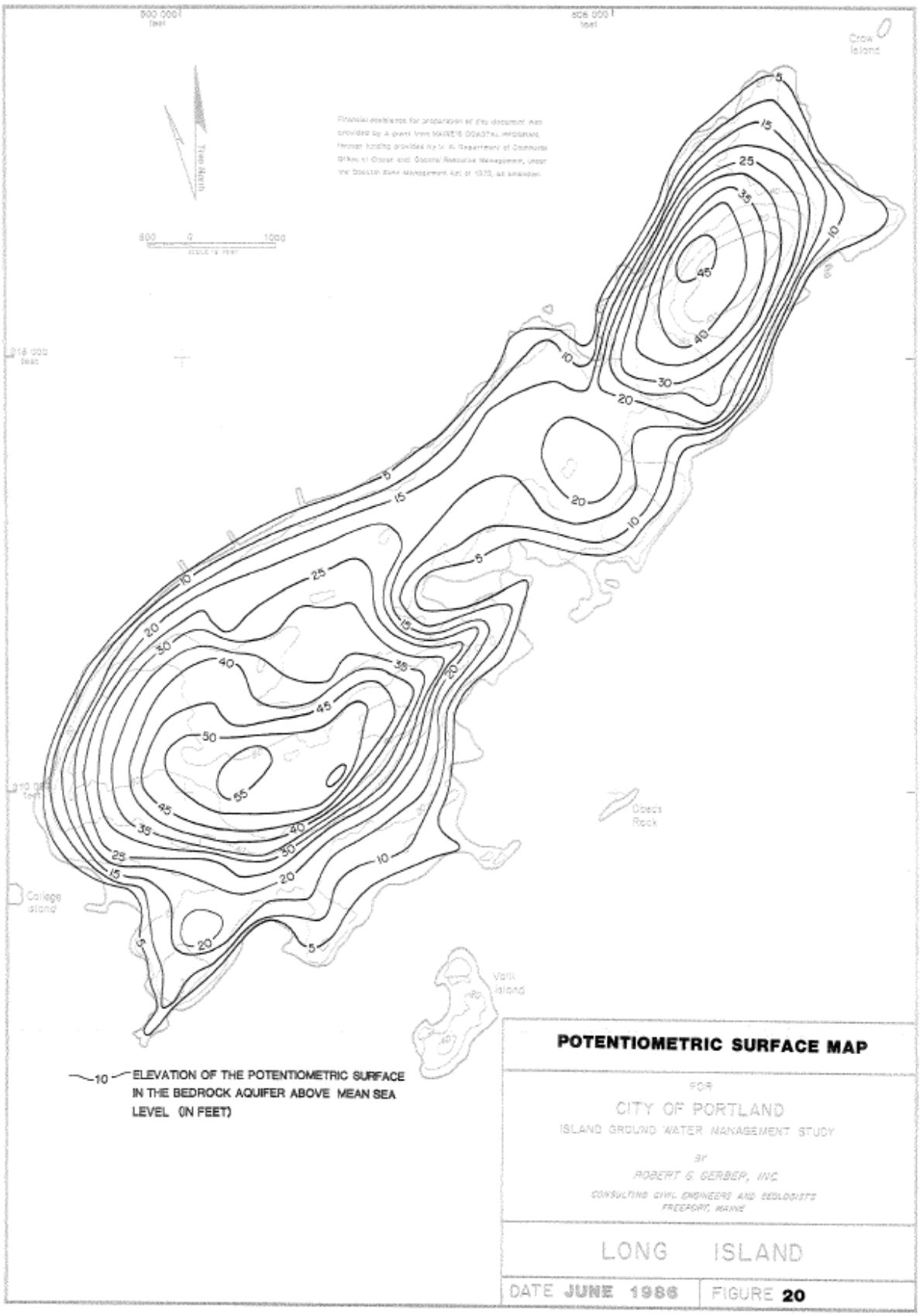


Fig 20. Potentiometric

Notice on Figure 24 (page 58) that there are a number of re-entrants in the recharge/discharge boundary that either coincide with topographic lows or areas of permeable soils that would not resist upward discharge from the bedrock aquifer.

There seems to be potential for high-yield bedrock wells just south of the high hill at the north end of the island. However, due to the proximity of the shorelines in this area there would be a practical limit to the rate at which any well could be pumped without inducing salt water intrusion.

Potential Contaminant Sources

Potential contamination of ground water by septic systems was interpreted from the Long Island well water quality survey. Due in part to the abundance of water quality data, we have identified several potential or existing ground water contaminant sources on Long Island as shown in Figure 24 (page 58).

At least 50 cases of ground water contamination by subsurface sewage disposal system effluent occur throughout the island. This is 42% of the total number of wells for which water quality data are reported. This does not necessarily imply that the ground water is unsafe to drink, but it does mean that ground water contains physical and biological matter that is probably derived from subsurface sewage disposal systems. Should anyone using these septic systems have a disease that is readily transmitted in water, downgradient wells could pick up this virus or bacteria and transmit it to humans drinking the water. In addition, high nitrate concentrations in the ground water could cause young infants who drink the water to get "blue-baby" syndrome. High nitrate concentrations have also been linked to the potential to cause gastric cancer. The potential reasons for such a high incidence of contamination by subsurface sewage disposal systems are: a) poorly designed or maintained subsurface disposal systems; b) high localized concentrations of systems; and/or c) thin soil under the systems and fast contaminant travel times to the nearest well. Research has shown that viruses and bacteria can survive in ground water for up to 170 days.

The Long Island landfill located near the intersection of Beach Avenue and Fowler Road (south-central portion of island at elevation 60’) is currently being used only as a solid waste transfer station. Preliminary results for a study which we are conducting in order to evaluate an appropriate landfill closure design indicate that the landfill is having a minor deleterious impact on the water quality, mainly in elevated concentrations of manganese and iron, in both the surface and ground water immediately around the landfill. Since the landfill is positioned in a local recharge area for the southern portion of the island, any contaminants entering the bedrock aquifer in this region will probably be transmitted to deeper levels in the aquifer and not remain near-surface. An active debris disposal area is located approximately 800’ east-northeast along Fern Avenue. The very permeable sand and gravel deposits overlying shallow bedrock in this bedrock aquifer recharge area makes this site particularly capable of polluting deep into the bedrock aquifer if any leachate generated from the fill reaches the bedrock.

SUMMARY

There is a modest ground water resource available, primarily in the bedrock aquifers on Long Island that will supply sufficient water to support an overall density of about 1 dwelling unit per acre. The water quality is affected by naturally-occurring iron and manganese and by localized problems associated with subsurface sewage disposal systems. A ground water management plan has been recommended which, if implemented, should correct some of the current problems, and preserve sufficient ground water of drinking water quality to serve future generations.

Public Water Supplies

There is only one Public Water Supply identified on Long Island, and that is at the Long Island Store. All other water supplies are private wells. There is potential for the renewal of a Public Water Supply at the location of the Spa, a restaurant which closed after the 2006 season, should that establishment become active again and for a new Public Water Supply at the second store on the island, The Boathouse. All other water supplies are private.

Overboard Discharges

There are five state permitted overboard discharges on Long Island, one at the Long Island Store, the Spar Restaurant (which is currently closed), two at private homes near Wreck Cove, and one at the private home on the Nubble at Harbor de Grace

WATER ISSUES ADDRESSED SINCE THE LAST COMPREHENSIVE PLAN

New Septic Ordinances and their Implementation

It is documented that certain areas of Long Island have ground water tainted by subsurface sewage disposal systems. Some of the systems that are causing the problems may be antiquated and malfunctioning. Since the last Comprehensive Plan there have been efforts to address some of the water quality issues identified by the Gerber Report. In response to the Gerber Report recommendation for an "ordinance requiring that whenever a dwelling or business changes ownership that if the building disposes of sewage through a subsurface system, that a Licensed Site Evaluator be retained to inspect the system and if it is found to be malfunctioning, then the new owner will not be allowed to occupy the building until the system is upgraded according to the Plumbing Code" and the town has adopted the following ordinance:

7.16 Septic System Inspection Required.

A. Prior to any title transfer of ownership of a lot containing a Subsurface Wastewater Disposal (SSWD) system or a structure connected to a SSWD system, the present owner of the property shall comply with the standards established in this section. A licensed Site Evaluator (SE) shall be hired, not at public expense, to test the SSWD system. The SSWD system will be tested with a standard die test, and the system evaluated to determine if it meets the standards in the Maine SSWD rules. The SE shall issue a written report of the findings, and a full copy of the report shall be forwarded to the Town within two weeks of the title transfer.

B. If the SE determines that the SSWD system is malfunctioning then the structure shall not be occupied until the system has been brought into conformance with the Maine SSWD Rules. In the event that the proposed title transfer is to occur between November and May and an adequate test is not able to be performed, the agreement between the present owner and the proposed owner shall ensure that funding sufficient to correct a malfunctioning system will be available.

C. The present owner may not transfer, sell or offer to transfer/sell, any lot containing a SSWD or structure connected to a SSWD system without advising the transferee/buyer of this requirement.

Our Code Enforcement Officer says this ordinance has been problematic to enforce, "Notification of property transfers is from the county registry to the Town and is usually months after the property has actually changed hands. This makes the new owner the person responsible to comply, not the original owner as specified and intended in the ordinance. Upon receiving the transfer the Town does notify the past and present owners. In most cases the parties then contact a soils evaluator but depending on the season and the evaluator's work load it is usually several months (not weeks as required by ordinance) before the Town is given the information. There is no penalty for failure to comply, and most people claim they were not aware of the regulation." Effort has been made recently to notify all property owners of this ordinance by a notice included in the tax bills and an article in the *LongIslander*, an island newsletter, but the enforcement issues should be addressed.

Another ordinance has been adopted to address the issue of adequacy of septic systems when residences are being enlarged.

ARTICLE 7: TOWNWIDE PERFORMANCE STANDARDS 7.6 Bedroom Additions.

Whenever a bedroom is to be added to any structure a Licensed Site Evaluator shall be retained, not at public expense, to inspect the subsurface sewage disposal system. If the system is found to be malfunctioning or not adequate to service the structure including the proposed addition while insuring the integrity of the groundwater, then a building permit will not be granted for the addition of the bedroom until the system is upgraded according to the Maine Subsurface Wastewater Disposal Rules. Such inspections shall be considered valid for three (3) years from date of issuance. For purposes of this section any room, attached or otherwise, in excess of one (1) kitchen, one (1) living room, one (1) dining room, one (1) family room/office, and bathrooms shall also be considered as if it were a bedroom.

This is a relatively simple standard to enforce since it actually forbids the code officer from granting a permit until the owner/applicant supplies the office with the required information.

Because upgrading septic systems is an expensive process particularly on an island, the town has been reluctant to require blanket inspections and upgrades of systems which if inspected might fail to meet the Maine SSWD Rules. Other towns have done so, requiring that all septic systems be inspected meet state standards by a certain date, giving property owners a time period, perhaps five years, to comply. These two new ordinances are an attempt to address some of the inadequate septic systems "when there is money around", such as at the point of sale or ownership transfer, hoping that this will eventually bring all systems into compliance and make progress toward reducing well water contamination on Long Island.

There has been some money available through the DEP to solve localized sewage disposal problems for resident property owners who meet income guidelines. The town has promoted this program to the people who could take advantage of it, and 9 homeowners have done so. Since 2000/2001 the town has received grants totaling $84,838 to install 8 new systems and 1 system upgrade.

Fiscal Year	# of Systems	Grant Amount

2001-2002	2 systems	$24,634
2002-2003	None	None
2003-2004	3 systems	$34,633
2004-2005	None	None
2005-2006	1 upgrade	$10,000

We are unaware of any financial assistance available to non-resident and seasonal property owners.

Emergency Response Plan for Reacting to Accidental Chemical or Petroleum Spills

An emergency response plan for reacting to accidental chemical or petroleum spills has been provided by training key island residents and giving them the equipment and mainland support necessary to react properly, Dickie Clarke, the Chief of the Long Island Volunteer Fire Department says:

"The Fire Department has response equipment for fuel/oil leaks including a short amount of floating boom that is used around tankers. This is supplied by CAB Services of New Hampshire. The Town has an Agreement (verbal) with Environmental Projects Inc. of Gray, Maine for any major spills.

"The Fire and Rescue personnel are trained in Haz-Mat awareness. We are to actually have a new class this winter to get everyone back up to speed and a refresher each year. (This is to be taught by David Feeney of Cumberland County EMA)

"As with (the recent case of) the unknown device that was later determined to be a Navel Marker Flare, we would request assistance from the County Haz-Mat Team or Portland. Due to the extensive amount of training and rectification and lack of personnel willing to keep up with the training on the Island this is the best way to handle Haz-Mat incidents."

Sand & Salt Storage

After a five-year effort to obtain funding, a salt shed has been constructed to protect the island's salt supply. All salt is kept in the salt shed year round. Approximately 100 cubic yards of sand/salt road de-icing mixture are stored on Long Island. The pile was located on the western flank of a small hill on the low drainage end. Water used to filter under and around the pile. It has been relocated and is now on the high side and is kept under a tarp after it is mixed for two reasons 1. to prevent rain from leaching the salt out and 2. to keep the sand dry preventing frozen clumps during winter months. It also preserves the sand/salt mixture year to year. A recommendation is to build a frame type building to cover the sand pile, so we do not have to keep buying tarps that get destroyed from loading the trucks.

Periodic Inspections of All Petroleum Tanks

The Department of Environmental Protection made three communities (Long Island, Chebeague Island and Harpswell) the test sites for an oil tank inspection and upgrade program which inspected every oil tank on the island and required upgrades for those found to be inadequate or improperly sited or installed. Dickie Clarke, the owner of Dalmatian Oil Co. LLC, the only oil delivery service on Long Island, says, *"Tanks are inspected each time I put oil in a tank unless I can't see it (inside). I do this for my liability insurance as well as code compliance in case of an incident. Since the oil tank program every oil tank installed on the Island that is filled by Dalmatian Oil Co., LLC. must meet the state code before being filled."*

Public Works and Road Maintenance Practices

Our Public Works Director, Coleman Clarke, has attended many classes to learn better and more cost efficient ways to maintain the town's roads. For example, he has attended classes for soil conservation and erosion control from Maine Local Roads Program as well as drainage classes. He recently attended a class sponsored by FEMA on Geo Textiles and Drainage issues. He is a graduate from the Maine Roads Scholar program. This is a program for continuing education for highway departments to learn about acceptable practices and new technology.

Clark says, *"The town uses erosion control methods and soil loss prevention practices. Reseeding, erosion blankets, hay, etc. Erosion control is important because we do not have a lot of soil. Street sweeping is still the old way, off into the woods. However major areas of sand are recovered.*

At the town garage we recycle all used oil in the town waste oil burner. Any hazardous materials are shipped off once a year with the household hazardous waste from the transfer station and are disposed of properly. We do have MSDS for the items stored in the garage as well as safety equipment for traffic and personnel."

Flood Plain Management

The Town participates in the Flood Insurance Program. The Floodplains are identified and protected. The Floodplain management ordinance is consistently enforced.

Water Monitoring Program

In 1996 the town received a Comprehensive Plan Implementation Grant from the State Planning Office to assist in implementing a long term monitoring program of our aquifer. The town set up a series of water monitoring stations with the assistance of island teens. This continued for a year or so, but the data was lost due to a computer failure.

Education

Also part of the follow-up activities to the 1996 Comprehensive Plan funded by the Comprehensive Plan Implementation Grant from the State Planning Office was a public presentation, posters showing Long Island's groundwater issues, and educational articles. A five part series of articles on water supply protection was prepared by Lissa Robinson and Edward Brainard, civil engineers and hydrogeologists, and published in 1996 in successive issues of the *LongIslander*, the newsletter of the Long Island Civic Association which goes to most, but not all, Long Islanders. A public ground water presentation by Edward Brainard, civil engineer and hydrogeologist, Al Frick, soil scientist and designer of many Long Island septic systems, and John Hopeck from the Maine Department of Environmental Protection was held on August 13, 1996 with about 60 islanders in attendance, and the content of that presentation was shared with the public through the *LongIslander* newsletter. The weakness of these educational efforts is that they were accomplished in 1996 and not repeated since. There needs to be an ongoing educational effort to keep these issues current in the minds of all of our citizens.

Ground Water Policy

It shall be the policy of the Town of Long Island to adopt the goals of the City of Portland

Island Ground Water Management Study" (The Gerber Report) which are in line with both State and Federal policy with respect to ground water management.
These goals are:

I. PRESERVE QUANTITY - Preserve the recharge rate to the island aquifers to the extent practical such that ground water tables are not significantly lowered and saltwater intrusion does not occur to either existing or future well sites.

II. PRESERVE QUALITY - Protect ground water quality so that it will meet the State of Maine Primary Drinking Water Standards. Where the quality is presently inferior to those Standards, the goal is to restore the ground water to a quality equal to or better than the Safe Drinking Water Standards.

Ground Water Policy Implementation Strategy

TO PRESERVE QUANTITY

1. In order to minimize loss of recharge and augment the water supply, if possible, the Planning Board will review zoning densities and development impact under site plan review and recommend changes so that no development shall be allowed to create a excessive ground water drawdown.

2. Long Island will not exceed the safe yield of the aquifers. The recharge to the bedrock aquifer is limited - it will supply only enough water to support an average overall island density of about 1 dwelling unit per acre. The existing zoning system generally accomplishes this density balance except for the grandfathered lot size provisions, and densities for the island business zone. Therefore the Planning Board will consider adjusting these densities in light of a one-dwelling-per-acre goal.

3. The Selectmen, with professional consultants, will develop a long-term monitoring program that will continue to collect well data and will monitor long-term trends in ground water elevations. A monitoring program is essential to the success of any management program.

4. The Selectmen will oversee education to island residents and island visitors concerning the need to conserve water, reduce demand, and preserve and enhance recharge. A pamphlet will be produced for wide distribution to the island property owners and will be included annually with a tax bill mailing.

II. PRESERVE QUALITY

1. Long Island will prevent ground water degradation to the extent possible by setting appropriate zoning policy that will not result in ground water contamination, and by strictly controlling the impacts of developments through subdivision and site plan reviews. The Planning Board will review its ordinance "7.16 Septic System Inspection Required" and revise it as necessary to insure that whenever a dwelling or business changes ownership that if the building disposes of sewage through a subsurface system, that a Licensed Site Evaluator be retained to inspect the system, and if it is found to be malfunctioning, then the new owner will not be allowed to occupy the building until the system is upgraded according to the Plumbing Code. Eventually, existing substandard subsurface sewage disposal systems should be replaced

with modern systems designed to conform to the Plumbing Code.

2. The Planning Board will set zoning policy such that if the entire island is developed to its maximum permitted density, that ground water quality will still meet Safe Drinking Water Standards.

3. The Planning Board will control the effects of developments so that no one developer uses all of the ground water's capability to treat and dilute contaminants.

4. The Selectmen will control the storage and disposal of materials that can affect ground water quality by generally restricting them to bedrock aquifer "discharge areas" or by requiring extra precautions. The town will control non-point sources of contamination such as resource mining, petroleum storage tanks, road de-icing chemicals, agricultural practices, and abandoned wells. Currently road sand is kept under a tarp after it is mixed with salt. A recommendation is to build a frame type building to cover the salted sand pile.

5. The Code Enforcement Officer will develop a remedial action plan for improving ground water quality where it is presently contaminated. We have documented that certain areas of Long Island have ground water tainted by subsurface sewage disposal systems. Some of the systems that are causing the problems may be antiquated and malfunctioning. The town Code Enforcement Officer will continue to enforce our new ordinances designed to address this situation, and it will continue to access any money available through the DEP to solve localized sewage disposal problems.

6. The Selectmen will develop a long-term ground water quality monitoring plan. As with the "PRESERVE QUANTITY" monitoring objective, it will be important to monitor ground water quality trends over the long-term to measure progress on the plan.

7. The Selectmen will develop a public water education plan. We envision that information on how the property owner can affect his ground water quality will be part of the suggested brochure we discussed under the "PRESERVE QUANTITY" goal.

8. The Selectmen will update the 1986 Island Ground Water Management Study to review the following topics:

a. Update Long Island Fuel Terminal Data. In addition to the hydrogeologic study prepared by Gerber in 1986, there has been considerable work performed on the island to evaluate contamination at the Long Island Fuel Terminal. Defense infrastructure installed during World War II included 12 underground fuel storage tanks. Although the tanks have not been active for over 20 years, petroleum leakage occurred from residue in the tanks. Ground water monitoring over the past 20 years quantified the extent of contamination and aided in remediation efforts that are now complete. This data should be added to the groundwater information from the Gerber report.

b. Reevaluate Viral and Bacterial Contamination. Although nitrate-nitrogen from septic systems is still of concern as an impact to aquifers in high density areas, viral and bacterial contamination is becoming of equal concern and requires a slightly different approach to residential lot design. There are new developments in septic system denitrification and prevention of disease from pathogenic contamination transmitted through groundwater.

c. Reevaluate Salt Water Intrusion. There have been improvements in the methodologies used to evaluate saltwater intrusion

9. The Planning Board will review its Floodplain Management Ordinance and update it as necessary to be consistent with state and federal standards.

10. The Planning Board will consider amending local land use ordinances as applicable to incorporate low impact development standards.

3.8 Critical Natural Resources

According to material received in June 2007 from the Beginning With Habitat program of the Maine Department of Inland Fisheries and Wildlife, "No high value plant or animal habitats are found within the Town of Long Island," and "No focus areas are found within the Town of Long Island," but Steve Walker, coordinator of that program, explains that this is due to a "lack of comprehensive inventory effort and certainly not a definitive assessment." There are many natural resources which are locally considered to be important to our town.

Beaches

"Beaches in and of themselves and their associated vegetated dune communities are a fairly rare natural community in Maine," says Steve Walker.

On Long Island

Andrews Beach (known locally as South Beach, Big Sandy or Southside) - on the south side of Long Island, facing Vaill Island

Approximately two-thirds of Andrews Beach, together with its dunes and back wetlands, is state owned and under the control of the Department of Parks and Recreation. Together with the remaining privately owned section, it is by far the largest beach on the island. There are no facilities with the exception of a single privy sited well behind the dunes about midway along the stretch of beach. Steve Walker says, "Andrew's beach likely supports rare dune plant species such as sea beach sedge (Carex silicea) and may have historically provided habitat for piping plovers. It is likely to be a migratory stop over site for these birds as well as other shorebirds."

In addition to the use it gets from Long Island residents, there are many others who come to enjoy Andrews Beach. School groups use this beach as a field trip site, usually in June. In the height of the summer season there may be as many as 200 private day trippers arriving on the Casco Bay Island Transit District ferries bound for a day on this beach. Private boats also anchor off its shore and disembark their passengers onto the beach.

The problems of litter, large groups of strangers on our small island, occasional inappropriate use by our island residents, camping and illegal fires must continually be addressed. Fire permits can be obtained from the Long Island Fire Department, but overnight camping is not permitted.

Medical evacuation from this and other remote sites can be challenging and expensive for the town. Leah Doughty, Director of Long Island Parklands and Beaches, has prepared a letter to be given to all persons inquiring about group excursions to this beach aboard any of the Casco Bay Lines ferries. This letter advises people who are considering coming to this beach about its isolated location and lack of access to services, and it also outlines certain policies (no overnight camping, visitors must carry out their own litter, etc.).

Fowler's Beach - on the south-west side of Long Island, facing Peaks Island

A second beach is accessible to the public on Long Island. That is Fowler's Beach on the West end of the island facing Peaks Island. This beach and its backlands are owned by the Long Island Civic Association, a non-profit and tax-exempt island organization, and are protected by a conservation easement preventing any development of this beach in the future. The easement is held by Oceanside Conservation Trust of Casco Bay, a land trust in Casco Bay.

The Long Island Civic Association and a legion of volunteers have done extensive work on Fowler's Beach to prevent erosion. They have enlisted the labor of children from the Long Island Elementary School and older students to plant dune grass under the supervision of the Soil and Water Conservation Service. With the approval of the Department of Environmental Protection a snow fence has been installed to protect that planting and to aid in the accretion of additional layers of sand to the dune's structure. An extension of the DEP permit has been approved to permit the snow fence to continue onto property belonging to an abutting private landowner who shares an interest in restoration of the dune system. Rosa rugosas (often called beach roses) have also been planted along the roadway to help stabilize the dunes and to guide pedestrians to use the two plank walkways for access to the beach without disturbing the dune grass. These plank walkways also give easy access for wheelchairs and baby carriages and keep pedestrians away from the poison ivy that grows in some areas of the dunes. Fowler's Beach tends to be used mostly by islanders. The beach is generally litter free and of low maintenance.

Wreck Cove on the south side of Long Island

A town owned parcel, Wreck Cove includes about 12 acres of wooded forest (some very mature), scattered wetlands, a seasonal stream, and alder marsh land which abuts the nearly 400 foot section of rock and cobble beach cove open to the ocean. There is also a significant cattail marsh included in the property behind the high rocky cobble berm at the southern bounds of the property. This 10 foot or higher wave-built cobble berm is the prominent beach feature. The Wreck Cove property is protected by a conservation easement held by Oceanside Conservation Trust of Casco Bay.

Other Beaches

Long Island has other beaches including Singing Sands (shown as Shark Cove on navigational charts), Front Beach, the East End Beach, Cleaves Landing Beach and Red Sands Beach.

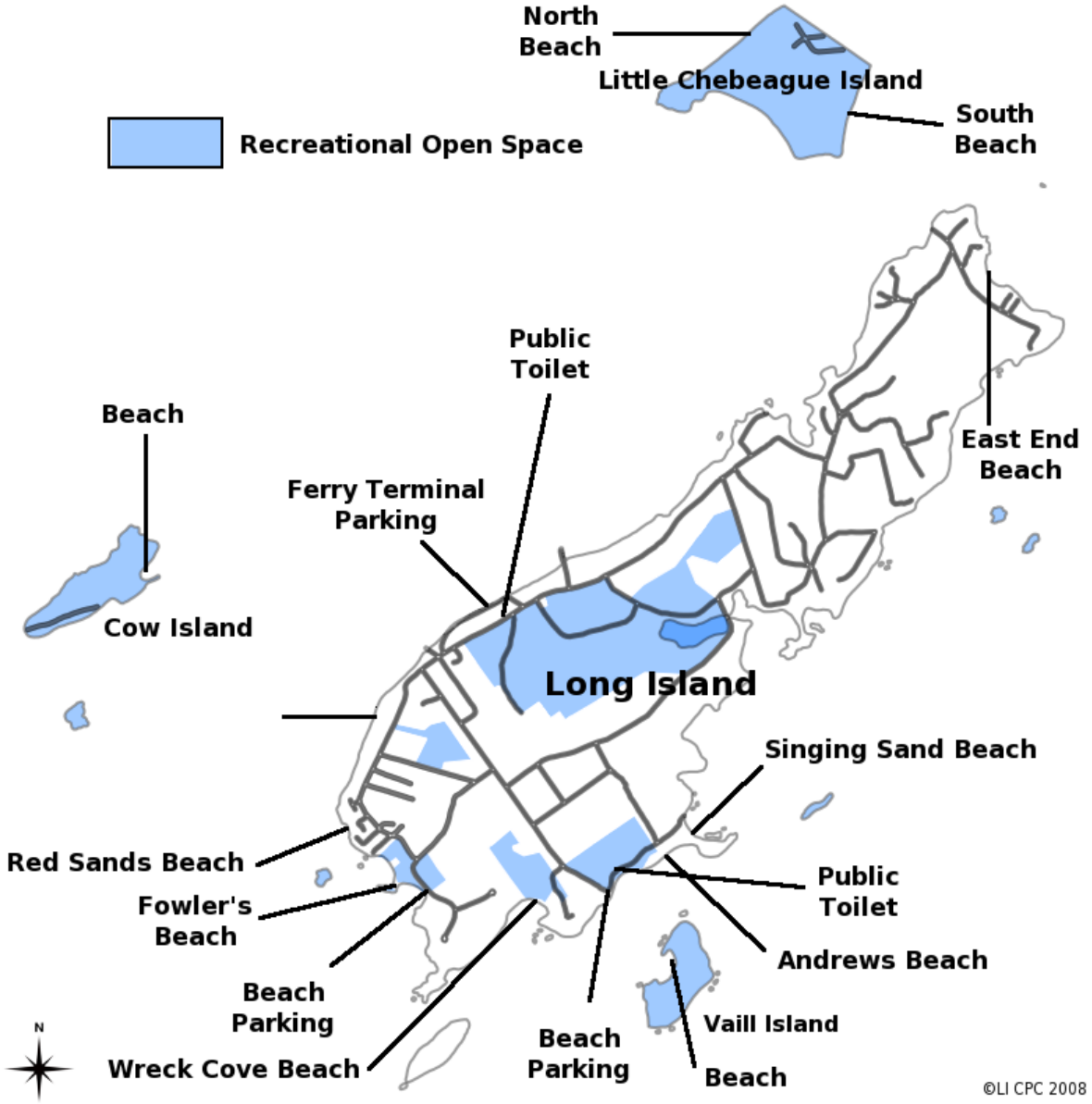
Beaches on Other Islands within the Territory of the Town of Long Island

Little Chebeague Island, which is owned by the state, has a long gravel beach on its south side that can be accessed by private boat or at low tide by walking across a sand bar from Great Chebeague Island. It is used by families for picnics and some overnight camping in the summer months. Another beach on the north side of Little Chebeague is partly within the territory of the Town of Long Island (the rest as of July 1st 2007 is in the Town of Chebeague Island).

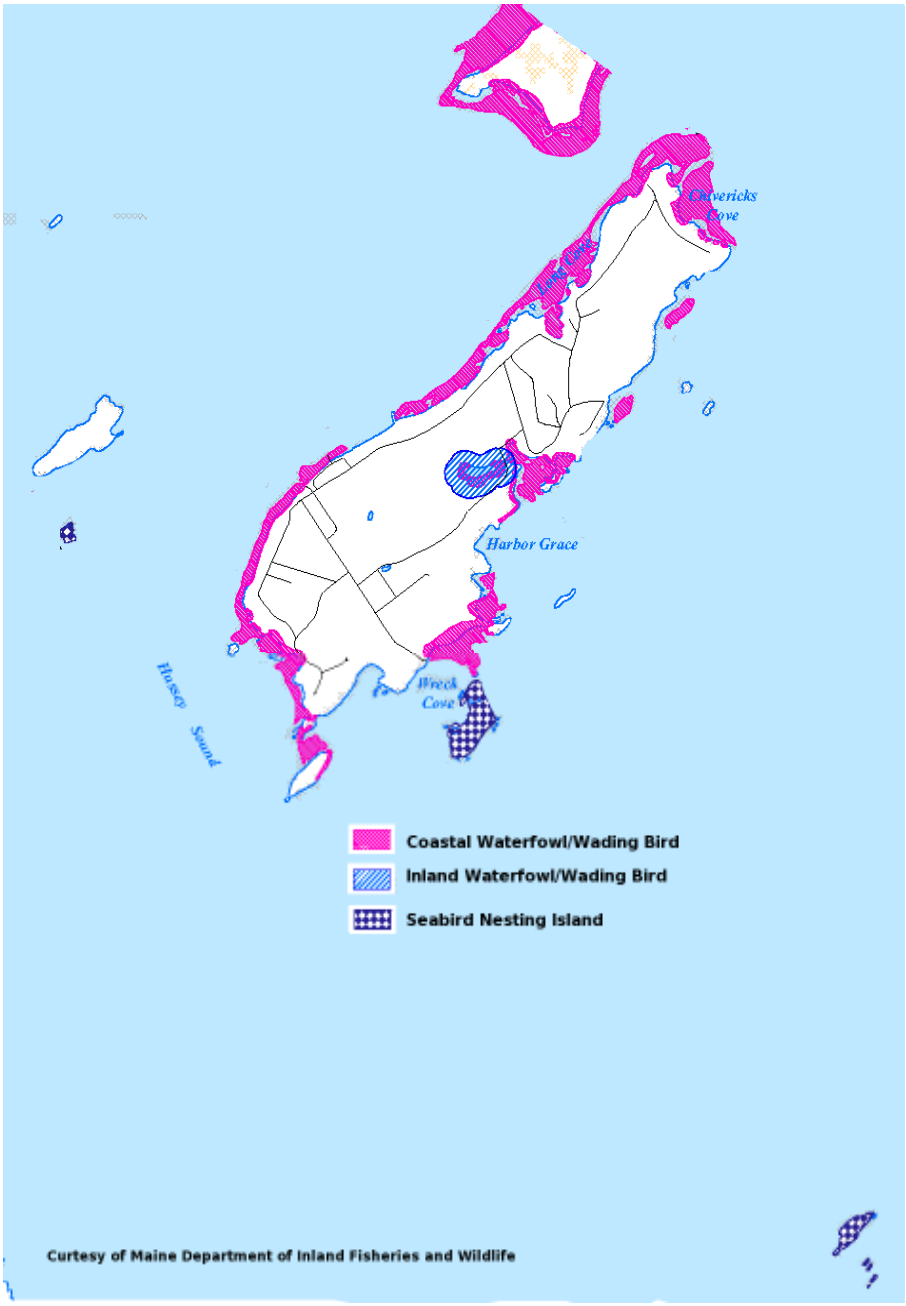
Vaill Island, known locally as Marsh Island, is also owned by the state. It has a small crescent

beach facing west across from Andrew's Beach. It is also accessed by private boats that sometimes anchor in its cove overnight.

Cow Island has a small beach on its east end. It is used mainly by participants in the summer adventure programs offered by the island's owners, Rippleffect, but there is public access to this beach. Cow Island in its entirety is protected by a conservation easement held by Maine Coast Heritage Trust, a statewide land trust whose main office is in Topsham, Maine. Under that conservation easement some public access is required.



Beaches and Recreation Areas



Seashore Bird Areas

Seabird Nesting Islands

According to material received in June 2007 from the Beginning With Habitat program of the Maine Department of Inland Fisheries and Wildlife, there are three Seabird Nesting Islands within the territory of the Town of Long Island. Seabird Nesting Islands are defined by the material as "An island, ledge, or portion thereof in tidal waters with documented, nesting seabirds or suitable nesting habitat for endangered seabirds," and these are regulated as Significant Wildlife Habitat under NRPA . They are the tiny Crow Island that lies just off Diamond Cove on Great Diamond Island, Vaill Island, locally known as Marsh Island, and Outer Green Island. Crow Island is owned by the Federal Government. Vaill Island is owned by the State of Maine as is Outer Green Island, a small island well off shore where there has been a

project to restore a tern nesting population in recent years. Steve Walker says, "Outer Green is the most productive tern colony in southern Maine and supports federally endangered roseate terns." Although not designated as seabird nesting islands, both Obed's Rock and the Stepping Stones do support some breeding eider ducks.

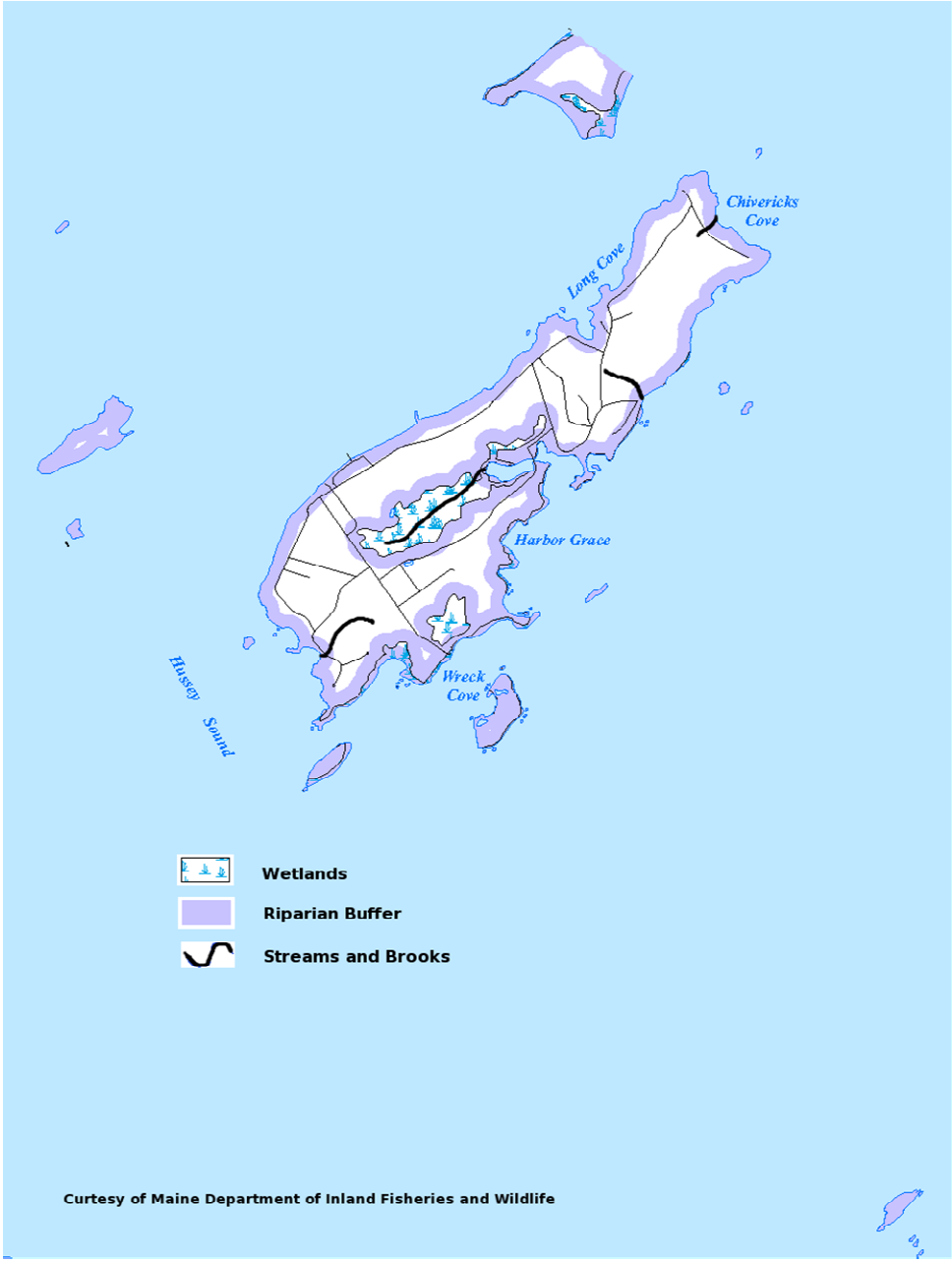
Wetlands

"All wetlands, especially on an island where groundwater recharge opportunities are limited, are critically important given the functions and values they provide," says Steve Walker, and "All wetlands are protected under state and federal regulations. Those within the shoreland zone are considered Wetlands of Special Significance by Maine Department of Environmental Protection." It is significant for the protection of Long Island's water resources that our wetlands are protected by conservation easements in addition to shoreland zoning.

Regarding Moderate and High Value Wetlands for Shoreland Zoning Purposes (which are state designated categories which require special protection) Richard P. Baker, the state Shoreland Zoning Coordinator, states, "there are no such wetlands within the boundaries of the town." This may be based on size criteria. However, there are wetlands behind the dunes associated with Andrew's and Fowler's Beaches and Wreck Cove, all of which are protected properties. There is also a large fresh water pond at the head of Harbor de Grace which is mapped as a high to moderate value inland wading bird / waterfowl habitat, and it is included, as it is required to be, under local shoreland zoning. There is occasional use of the pond by one or more bald eagles, likely looking for waterfowl or small mammal (muskrat) prey. The pond in its entirety is protected by a conservation easement held by the Long Island Civic Association. This easement will prevent any future development around its shores.

The pond was created when the military constructed a road, called Fern Ave., around the back side of The Area which was then fenced, gated, and closed to civilians during the WWII military tank farm occupancy. The road and the size and location of the culvert impounded the drainage outflow and created the fresh water pond. Today it is used for skating in the winter months by island families. Islanders take pleasure in watching the bird population come and go. In the spring and fall the pond is host to many migratory birds; black ducks occasionally nest and raise a clutch of ducklings; and there are painted turtles. On a sunny day the turtles arrange themselves in a parade on a log to warm themselves. This sight often slows traffic on nearby Fern Avenue.

The island has several high value shorebird feeding areas and tidal wading bird waterfowl habitats.



Wetlands

Streams

There are four small streams on Long Island and some other drainage areas after rain events. The smallest running stream, often dry in late summer, is at the east end of the island and drains a small pond which is the historic location of Hedman's ice house. A similar seasonal stream outflows at Beach Cove. Another originates in the protected Wreck Cove property near the south shore and outlets beside Fowler's Beach. The largest comes through the property we call The Area and outlets through a culvert under Fern Avenue into Harbor de Grace.

Beavers

There is an issue of resident beavers at the fresh water pond and their potential impact on the pond and its vegetation and on the drainage/oil filtration system of the tank farm. It is recognized that a limited number of resident beavers help control the vegetative growth of the pond so that it will continue to be a resource for recreation and a water source for the fire department. David Johnson, a neighbor of the pond, has been an interested observer of this pond for many years, and he has seen as many as five beavers at one time, but does not estimate the total beaver population. He thinks the pond would have been completely filled in without the beavers. Pond lilies were introduced to this pond many years ago, and until recently the lilies and other pond vegetation seemed to be spreading to nearly cover the entire pond. David thinks that the beavers are not necessarily eating the vegetation, but have ripped out at least 50% of the growth in the last couple of years. The beavers also block the culvert at the outlet of the pond into Harbor de Grace where the water runs under the road. The water level rising to cover the road is a problem only in years (like 2006) with unusually high water levels, and David monitors this and clears the culvert when necessary.

The beavers have built a large lodge at the back north corner of the pond, and the problem with the beavers involves their upper two dams on the water course that flows into the pond. Ralph Sweet, who monitors the conservation easement on this property for the Long Island Civic Association, says:

"The lower of these two dams raises the water level above the top of the oil-water separator and floods it. It doesn't work under these conditions."

"*The upper of these two dams raises the water level to a point even with the top of the soil covering the underground tank. This condition floods the tank drainage system that is a rock filled annular space around the outside of the tank. The tank drainage system has at least two important functions: 1) keeps the tank from floating up out of the ground; 2) captures oil that leaked out of the tank when it was damaged and routes ground water and residual oil to the oil water separator. The pressure developed by the difference in the water levels between the upper dam and the lower dam is across the tank drainage system. Now, water flooding the tank drainage system has found at least one alternate route out through the side of the drainage system that is below the upper dam and above the lower dam and not through the oil-water separator. When I first saw this leak there was oil flowing with the water out through the side of the drainage system. There is a possibility that the tank could have been damaged if this breach in the drainage system hadn't developed."*

"*Shirley Conner and I removed the upper and lower beaver dams (with the state's permission) and the oil and water from the breach in the side of the drainage system stopped in about a week. When we removed the lower beaver dam there was oil on the water but I couldn't tell if it was coming from the flooded oil-water separator or from the breach in the side of the tank drainage system.*

"*In my discussions with Frank Stewart of Northland Development, about this situation it has consistently been his opinion that there was no alternate solution to "removing" the beavers. I think he is correct."*

According Bob Gerber (who is the author of the 1986 Gerber Groundwater Report which gave this community a detailed understanding of our aquifer) when he gave testimony at a June 2005 public meeting, the oil/water separators were inspected on June 7, 2005. On drains 6 & 7 beaver activity has caused high water levels that could interfere with their functioning. Gerber says that the beavers must be controlled.

Deer

By the late1990s the increased size of the deer herd on Long Island had become a concern. With the enforcement of both the leash law for dogs and the ordinances that prohibited hunting, there had been a significant increase in the number of deer on all the Casco Bay islands, including Long. There was concern about damage being done to gardens and landscaping plants and more particularly to the understory in the woodlands, as well as concern for the nutrition and health of all those deer. Although an accurate deer count has never been accomplished, the recommendation was that Long Island's 1.25 sq. mile area can support no more than 22-23 deer. There were a number of cases of Lyme Disease on the island, and this also influenced opinions about controlling the deer population. Public meetings were held with speakers from the Fish and Wildlife and the Humane Society, and a survey of citizens was strongly in favor of some action to control the deer population. After much public discussion in 2000 the Selectmen responded by allowing deer hunting, only by licensed hunters with a special permit issued by the Selectmen, and only during certain hours and certain days (primarily when children are in school) during hunting season.

There is a Deer Committee that meets as necessary to manage an annual deer hunt. The committee works hard to balance the needs of the hunters with the needs of the non-hunting residents who also enjoy their time in the woods. In the past the committee has had guest speakers from the Department of Inland Fisheries and Wildlife to help the community understand the issues and concerns that are raised during the hunt. They seek input from the public and then set the dates and times for the deer hunt. Their recommendations are passed on the Selectmen for their approval.

Although some residents agree that a hunt is necessary, there are others who feel it is time for the issue to be reconsidered. Since an accurate count has still not been accomplished, there is disagreement among residents about the number of deer on the island. Also some residents have raised concerns about their safety during hunting season, and there have been violations to the hunting rules by a few hunters. Although the violations have been few, they have been significant enough to cause some property owners to post their land or allow only certain hunters on their property. For the past two years the committee has recommended no hunting on Saturdays as well as Sundays. On private property written permission of the property owners is required. Also, the committee recommends no hunting on any school holidays or during Thanksgiving week when many families are together on the island.

Amphibians and Reptiles

Michael Johnson, Project Manager, Woodlot Alternatives, who grew up on Long Island and is

familiar with the species here, lists the following resident amphibians and reptiles:

Spring peepers
Redback salamander
Painted turtles
Eastern garter snake
Northern ringneck snake
Smooth green snake
Northern brown snake

The following he lists as "likely introductions":
Spotted turtle (Not known to have been observed in last 10-15 years)
Eastern box turtle (observed 2005/2006?)
Bullfrog (Not heard for approximately 15 years)

Species notable by their absence include:
Wood frog
Green frog
American toad
Spotted salamanders

Edible Resources

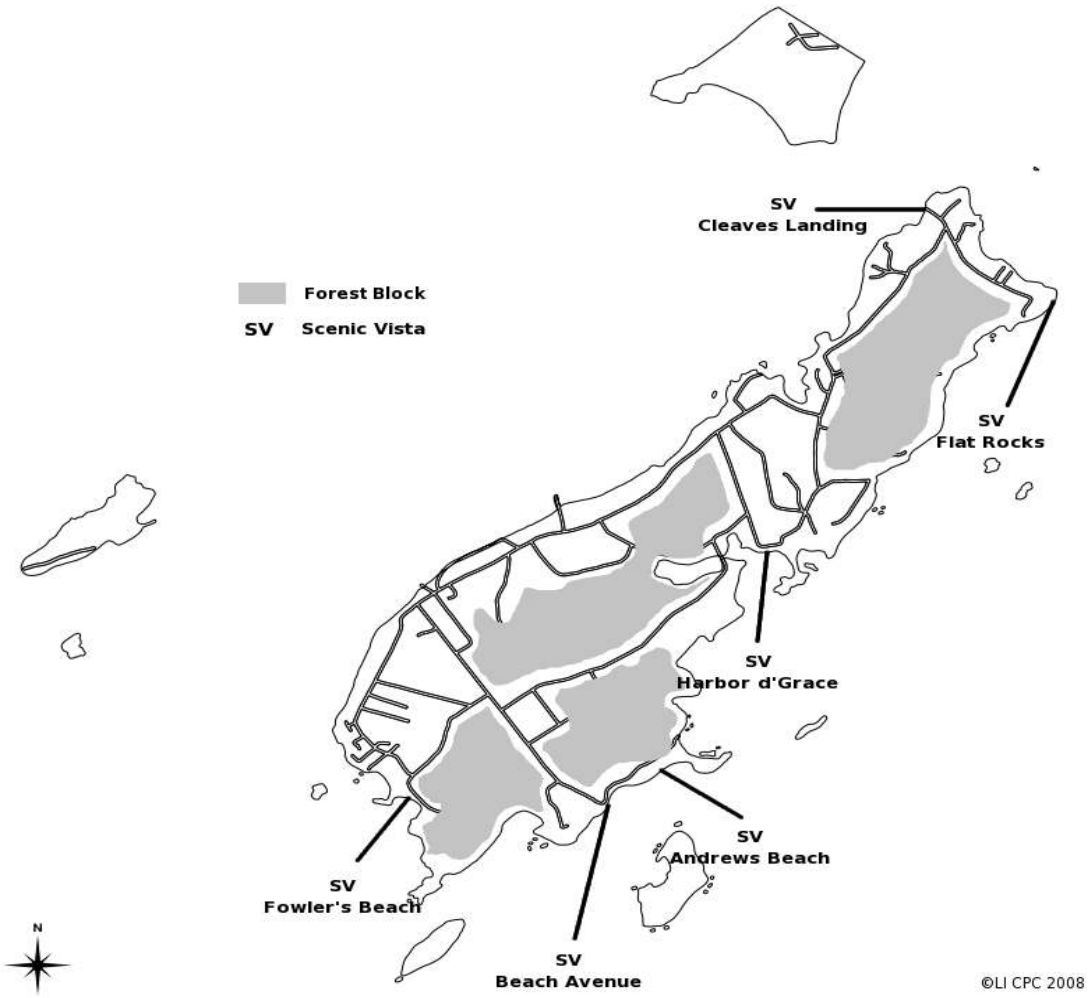
Berry picking in their season is enjoyed by many island residents. Both high bush and low bush blueberries are present. There are many raspberry and blackberry bushes. In the fall, a few know the secret locations of cranberries to be harvested. For those willing to search, there are the tiny, but intensely delicious, wild strawberries. It is also possible to pick wild apples and grapes.

Commercial Use of Natural Resources

At the present time there is no known commercial use of island natural resources.

Scenic Vistas

Locally identified as important scenic vistas on Long Island are Fowler's Beach, Andrew's Beach, and the end of Beach Avenue which faces Vaill Island (locally known as Marsh Island) Harbor de Grace, Cleaves' Landing, and the right of way to the flat rocks at the east end of Long Island. However, most islanders would agree that all the vistas on Long Island are scenic, and these include the docks and piers used by our local lobstermen. These are our "working waterfronts " and are viewed with pride and respect.



Scenic Vistas

Undeveloped Forest Blocks

The lands on the southwest end of the island which are an undeveloped forest block include the Wreck cove property which is protected by a conservation easement and 7 lots in private ownership which have deed restrictions preventing further subdivision, so this land is unlikely to become more fragmented. The undeveloped forest block from Cushings Street west includes the 217 acre conservation tract, land in private ownership which have deed restrictions preventing further subdivision and a 10.18 acre parcel which qualifies under the Tree Growth tax policy, so this tract, too, is unlikely to change its character. The forest toward the east end of the island which islanders refer to as "The Dark Forest" is mostly small lots in private ownership, although a few are town owned. This area is currently of difficult access, but some lots are being developed in this area, and it is likely that more will be so in the future.

Current Protective Zoning

There are three zones that offer recognition and protection for these special features of our landscape. They are the Recreation and Open Space Zone of the state-owned Andrews Beach and Little Chebeague Island, the Wreck Cove parcel, the Area conservation land, LICA's Fowler's Beach parcel and the LICA ball field; Resource Protection Zone on Vaill Island, Crow

Island, College Island, Obeds Rock, two parcels on the Stepping Stones, and nine parcels on unnamed island outcrops; and the Shoreland Protection Zone which is an overlay zone and extends 250 feet from the maximum spring tide level and from the upland edge of wetland vegetation. The Shoreland Protection Zone is being reviewed by our Planning Board to bring it into conformance with the new state standards. has been reviewed by the state and found to be consistent with state statutes. It is the general feeling that these zones offer reasonable protection to identified critical natural resources.

Potential Impact of Future Growth and Development

We are indeed fortunate that in addition to our shoreland zoning ordinance the majority of our most critical natural areas are protected by state ownership or conservation easements. Great strides have been made in conservation of important properties in recent years. Three of the important conservation easements have occurred in the last ten years, those on the 217 acre Conservation Area in the middle of Long Island, Wreck Cove on the south shore of Long Island, and the one that covers the entirety of Cow Island. The Long Island Civic Association holds the easement on the Conservation Area, and the Department of Environmental Protection is the back-up holder of that easement. Wreck Cove is town owned, and the conservation easement is held by a local land trust, Oceanside Conservation Trust of Casco Bay. Cow Island is now owned by a non-profit organization, Rippleffect, and the conservation easement is held by Maine Coast Heritage Trust.

Little Chebeague Island, Outer Green Island and Vaill Island are owned by the State of Maine. The Crow Island off Diamond Cove is owned by the Federal Government. College Island is owned by Oceanside Conservation Trust of Casco Bay, a local land trust.

Of all separate islands (excepting Long Island) within the boundaries of the town, only Overset Island has the potential to be developed for residential purposes. It is privately owned and a new home is under construction on that island. There is a low tide manmade riprap connection to Long Island which was put in place by the military during World War II, and that likely gives access from Long Island for foxes and raccoons. If that were breached Overset might have some significance as a bird nesting island.

Our beaches and their wetlands are significantly protected by public ownership, conservation easements and shoreland zoning.

Policy relating to Critical Natural Resources

1. While we are proud that this town has beaches that are accessible to the public, because of the lack of facilities and our concern about the overuse of sensitive natural areas, it shall be the policy of the Town of Long Island not to advertise or promote excessive use of these resources.

2. The Town of Long Island will cooperate with the State of Maine to monitor and protect the state owned islands that lie within the territory of the Town of Long Island and Andrews Beach, which is owned by the State.

3. It is the policy of the Town of Long Island to control the numbers of beavers in the fresh water pond on Long Island. It is recognized that a limited number of beavers help control the vegetative growth of the pond so that it will continue to be a resource for recreation and a water

source for the fire department, but when their numbers expand the beavers move to other regions of the drainage system and put the integrity of the oil/water separators at risk.

4. The Town of Long Island will maintain conservation of protected natural resources in the Town of Long Island.

5. It is the policy of the Town of Long Island to conform to the State Guidelines for Municipal Shoreland Zoning Ordinances.

Critical Natural Resources Strategies

1. The Town of Long Island will not advertise or promote excessive use of our public beaches.

2. The Selectmen will cooperate with the State of Maine to monitor and protect the state owned islands that lie within the territory of the Town of Long Island and Andrews Beach, which is owned by the State.

3. The Selectmen will take steps to control the numbers of beavers in the fresh water pond on Long Island when their numbers put the integrity of the oil/water separators at risk.

4. The Planning Board will review our local shoreland zone standards to see that they meet current state guidelines.

5. The Planning Board will consider maps and information provided by the Maine Beginning with Habitat program in the planning board review process.

6. The Planning Board shall develop an ordinance to require subdivision or nonresidential property developers to look for and identify critical natural resources that may be on site and to take appropriate measures to protect those resources, including but not limited to, modification of the proposed site design, construction timing, and/or extent of excavation.

3.9 Historical and Archaeological Resources

Historic and archaeological sites on Long Island show evidence of the Red Paint People, the early settlers of the island, and less happily - the two World Wars.

Archaeological Sites

We have a documented dig site showing the Red Paint people as early inhabitants. Several prehistoric shell heaps have been identified by the State Archaeologist and the Maine Historic Preservation Commission. They are on private property along the shores. Their locations are kept on record at Town Hall and with the Code Enforcement Officer so that there can be a review before any development is permitted near those sites. To protect those sites from inappropriate interest and disturbance that information is not made available to the public. Our ordinances provide that any proposed land use activity involving structural development or soil disturbance on or adjacent to sites listed on, or eligible to be listed on, the National Register of Historic Places, as determined by the Planning Board, shall be submitted by the applicant to the Maine Historic Preservation Commission for review and comment at least twenty days prior to action being taken by the Code Enforcement Officer. The Code Enforcement Officer shall consider comments received from the Commission prior to rendering a decision on the application.

Historic Sites of Local Interest

We have many historic sites of local interest, but none has been listed on the National Register of Historic Places or has any other official designation or protection. An historic sites map has been developed to identify the locations of some sites of local interest. The number identifying them on our map is placed in parentheses when they are mentioned below.

There are descendants of the early settlers still living on the island. These early families farmed, fished and were largely self-sustaining. The ocean side of the Island was settled first. The southern exposure encouraged this, shielding the homesteads from the northern winter winds. A farmhouse foundation and well have been located (25). The original school house foundation (22) is known to be on private property, as are the two ice house foundations (1 and 23). We have stone walls (18) tracing the outlines of former pastures now grown up to woods. The three island cemeteries (20, 24, and 26) are under the care of a committee of the town and are being restored slowly.

A real estate boom occurred for a limited time in the 1890s and early 1900s, and Long Island

was the destination of summer visitors to its several hotels and "rusticators" who built summer cottages. Of the several wharves from that era, only Ponce's Landing (11) remains. It has been replaced with a new ferry wharf, but Ponce's is now owned by the town and used cooperatively by island fishermen.

Fire razed the business zone's hotels and wharf on the eve of World War I, and afterwards only a few stores were rebuilt. Then World War II claimed a large part of the island. Cottages and homes were demolished to make way for a Naval re-fueling base. Today the island has reclaimed the military land, and much of it is conservation land. New homes have been constructed on the land outside of the conservation area.

We have one schoolhouse in current use that dates to World War II. There were three before World War II. Two of those structures remain, one as a gift shop (27) and one as a private residence (2).

One of the two stores in the business district is in an original store building (14) dating back to the mid to late 1800s. A building once used as the fire barn (16) has been renovated as a residence for our sheriff's deputy and his family.

There are two churches. The Evergreen Methodist Church (4) was built in 1879-1880 and is still a vibrant part of island life. The Star of the Sea Catholic Church (13) was built in 1926 and is used seasonally.

Military Remnants

Remnants from military presence on Long Island during World War II include foundations, a tower and searchlight position (21), a seaplane ramp (now a boatyard) (3), a breakwater (9), a barracks (10) and various buildings now in private hands. The town owns other former military buildings and has adapted them for use as our town hall, fire station (6), community center and office for our police and harbormaster, and the town is leasing a six-bay garage building and another free standing structure to local businesses.

On Cow Island there are remnants of Fort Lyon's two gun batteries, Battery Bayard built in 1907 and Battery Abbot built in 1909. With their guns long since cut up for scrap, they are now the site of Rippleffect's outdoor adventure programming.

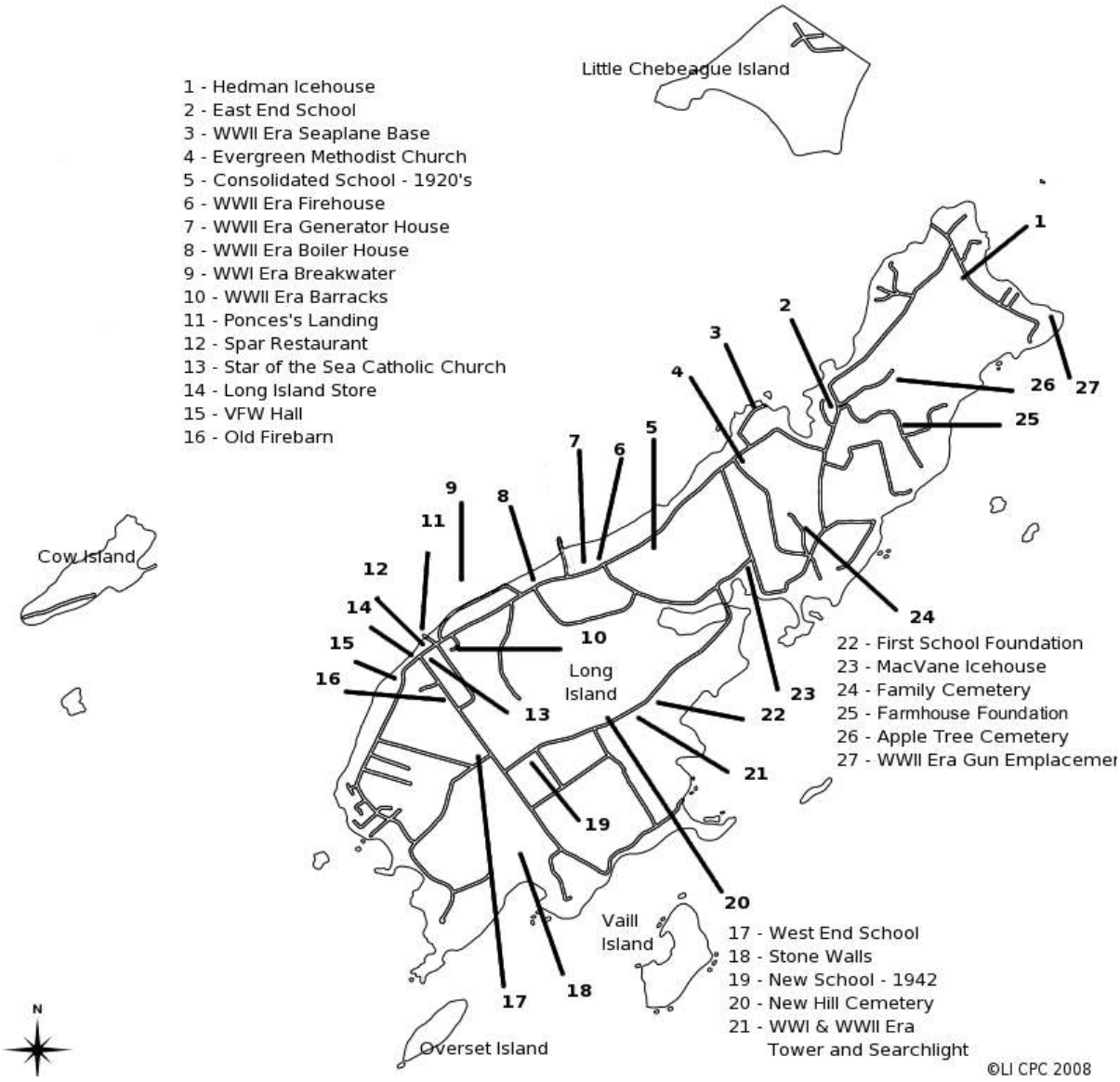
Little Chebeague Island

Two thirds of Little Chebeague Island is within the territory of the Town of Long Island; the rest is in the Town of Chebeague Island. Early on, Little Chebeague Island was a summer area for the native peoples as evidenced by piles of clam shells which have been identified, but by the 19th Century there had been "development", and there was a farm, a hotel, cottages and a bowling "saloon" until a fire destroyed the hotel in 1893. The island slowly declined until 1942 when the U. S. Government took it over for a recreation area for the servicemen stationed around Casco Bay and aboard the ships in the area, and for use as a military fire fighters' school. The State of Maine acquired the island in the 1970s, and today it is managed by the Bureau of Parks and Lands for recreation purposes. There are very few remnants from the military use, but there are documented remains, now little more than foundations, from the pre-war cottages and the large barn associated with the farm. A book has been written about the island, *Little Chebeague Island: Its History from 1874 to 2002* by Richard B. Innes, and the same man, with the help of

volunteers, created a trail identifying and connecting some of the remnant sites. There are archaeological sites on the island that have been identified by the State Archaeologist and the Maine Historic Preservation Commission. Their locations are kept on record at Town Hall and with the Code Enforcement Officer, but development on Little Chebeague is not expected.

Long Island Historical Society

Long Island has a vigorous all volunteer Historical Society that meets year round. They have sent members to several seminars to improve their preservation skills. An archive room has been constructed as part of the new Long Island Learning Center where documents and collections are being stored in a controlled environment. The group has been very active in collecting written materials, artifacts and oral histories from island residents. The Historical Society maintains an exhibit space in the Community building where it mounts always-popular annual summer exhibits to share its collection and knowledge about the history of our community.



Historic and Archaeological Resources

Historical and Archaeological Resource Policy

1. It is the policy of the Town of Long Island to protect to the greatest extent practicable the significant historic and archaeological resources in the community.

Historical and Archaeological Resource Strategies

1. The Town of Long Island Code Enforcement Officer will continue to be provided with information about identified archaeological sites and will review any development plans near those sites. To protect those sites from inappropriate interest and disturbance that information is not made available to the public.

2. The Town of Long Island Planning Board will review the local land use ordinances relating to historical and archaeological resources and make any necessary changes so that they require residential or non-residential property developers to look for and identify any historical and archaeological resources and to take appropriate measures to protect and mitigate damage to those resources, including but not limited to, modification of proposed site design, construction timing, and/or extent of excavation.

LONG ISLAND HISTORICAL SOCIETY EST. 1995

3.10 Agricultural and Forest Resources

Commercial Agriculture on Long Island

There is no commercial agriculture on Long Island, although there are many small family vegetable and flower gardens. At one time the island was self-sustaining, but those days have long since passed. It came as quite a surprise to have some already developed residential land on Long Island identified by the State Planning Office material as "farmland of statewide importance". We have been told that this is based on soil quality criteria, not a current use factor. The last farm on Long Island went out of existence more than 50 years ago.

Deer

The overabundance of deer in recent years has been discouraging to gardeners, and many have either fenced their yards with 10-foot high deer fence, fenced individual shrubs, or replaced vulnerable plantings with more deer resistant species. Many have given up gardening all together.

Community Garden

2006 saw the development of a Community Garden project, sponsored by the Long Island Civic Association and spearheaded by one of Long Island's certified Master Gardeners, Penny Murley, with lots of help from many community members. The purpose was to provide access to garden space for people who would like to garden but are unable to for a variety of reasons having to do with lack of good garden space and/or soils and an aggressive deer population. Volunteers constructed twenty-four 4' X 16' raised beds and a large perennial border along the front on town owned land on Island Avenue above the Town Hall. Soil was brought in to fill the raised beds. A ten-foot high deer fence protects the project, and all 24 beds were leased for the first summer season. These plots have become productive projects for island families, educational for children and adults alike, and fruitful with produce for family dinner tables. An additional 8 beds were constructed in 2007 for a total of 32, and there was a waiting list for the '08 season. Even those who have not gardened themselves frequently drive by and stop to admire the gardeners' efforts. None of the crops raised are sold commercially, but some flower bouquets are sold at the Boat House, and the proceeds support the community garden.

School Programs

Our school has recently acquired a greenhouse, so planting and raising seedlings and garden cultivation has become an integral part of the school curriculum. Our lead schoolteacher, Paula Johnson, is also a certified Master Gardener, so we are assured that there will be generations of skilled gardeners coming along.

Commercial Forestry on Long Island

There is no commercial forestry on Long Island or on the other islands within the territory of the Town of Long Island, although a couple of individuals have portable small saw mills for private use on their property. One 10.18-acre parcel qualifies under the Tree Growth tax policy.

Many islanders harvest firewood for personal use, and there is a good deal of community effort by volunteer firefighters and neighbors-helping-neighbors to deal with fallen trees after a storm event. Greg Middleton is our Town Arborist and capable of doing skilled tree work for the town and for private customers.

Fire Danger from Storm Damage to Forests

The Patriots' Day Storm (April 16-18, 2007) caused significant damage to Long Island's forests. After conducting ground and aerial inspections, the Maine Forest Service stated that downed trees and branches significantly increased the risk of wildfire on the island, and the town's Fire Chief declared the damage a fire hazard. This declaration meant that a large number of private property owners were responsible for removing the hazard. To assist property owners in cleaning up the damage, the town got a grant from the Federal Emergency Management Agency (FEMA) to help pay a logging company to remove and process damaged trees. The town had recently done extensive GIS mapping which allowed them to pursue the time-consuming task of contacting the many individual small-lot property owners to get permission for the loggers to work on private property. The mapping gave the ability to identify owners of properties where the blowdowns were observed during the flyovers. The work began on July 2nd and concluded in the fall.

The FEMA grant paid to remove trees from public roads off the island. Because FEMA does not pay to clean up private land, the value of the logs removed from private property and town land covered the cleanup costs. The town hired forester Rene Noel of Southern Maine Forestry to design a plan to remove the debris and hazardous trees. Mr. Noel hired Central Maine Logging to be the job contractor. Because of the small lot sizes and limited areas to work, the debris needed to be trucked to one central location for processing and shipment off the island. After contacting the Maine Department of Environmental Protection and the Long Island Civic Association (the holders of a conservation easement on the land) and LICLOC (the LLC which owns the land), an area in the conservation land on the former tank farm was chosen to be used as a processing yard.

Revenue from the sale of the logs is returned to the town to pay the cost of the logging operation plus the town's 10% share of the grant. The FEMA logging project will cost the taxpayers approximately $28,000. (There was an article on the 2008 Town Meeting warrant asking the Town to give the selectmen the authority to use the balance in this year's selectmen's contingency to pay as much as possible, and to pay the rest from the Minimum Balance Set Aside.)

With this massive project now complete we are well aware that there will be future storm events, and trees will keep falling. Forester Rene Noel will provide the town with a recommendation for a future forest management plan for the whole island. The Fire Department will be mailing information provided by the Maine Forest Service to property owners that will allow property owners to create a defensible space around their homes to protect their property and homes from forest fires.

This project has drawn a lot of attention from many fields such as other islands/municipalities, the logging industry, the Forest Management Council, FEMA and conservation groups for the future of many island forests.

Agriculture and Forestry Policy

Because of the negligible potential for either commercial agriculture or commercial forestry the town has developed no policies relating to agriculture and forestry.

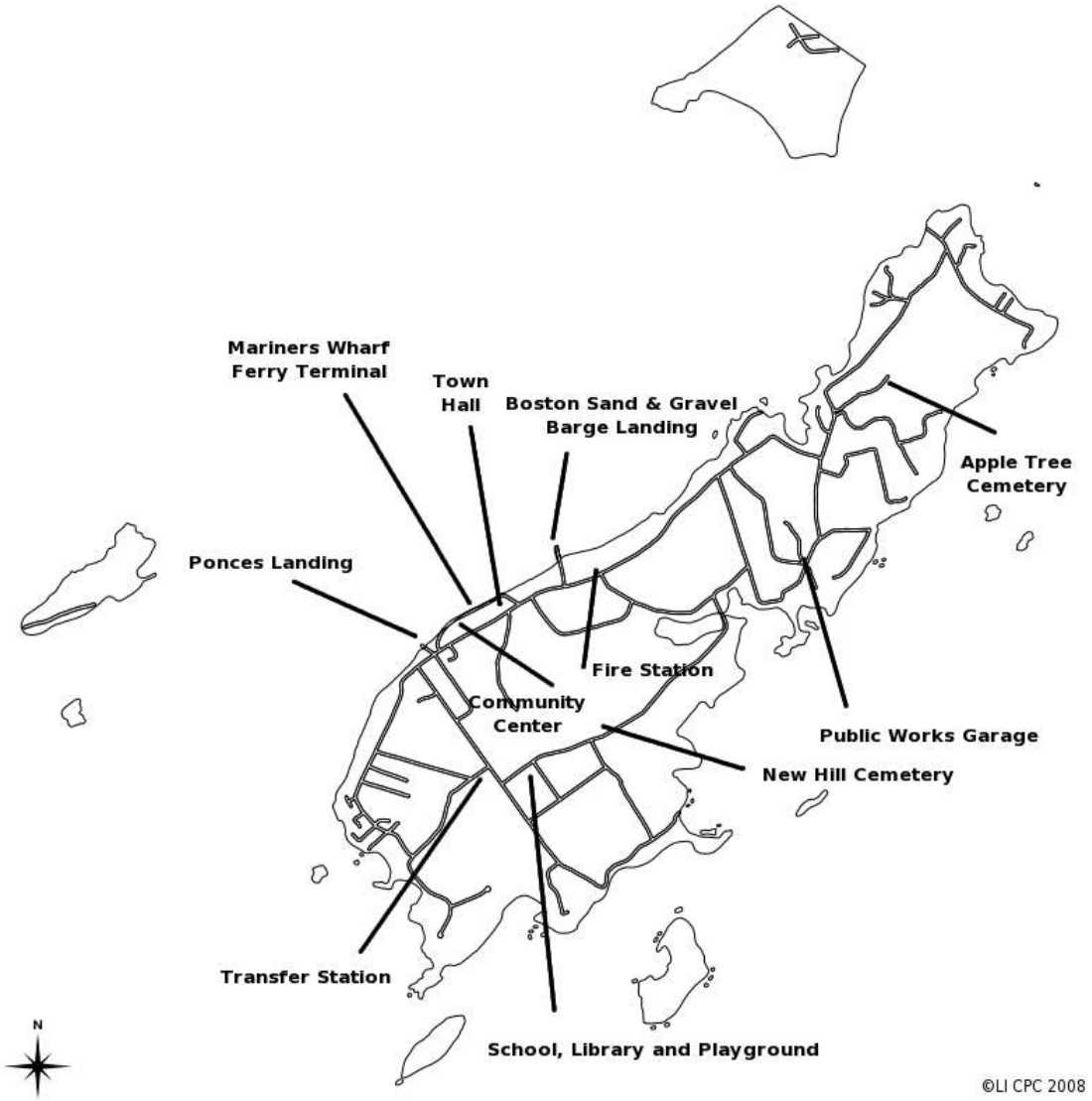
Agriculture and Forestry Policy Implementation Strategy

No action is required

3.11 Public Facilities and Services

Public Facilities

The term public "public facilities" refers to municipal buildings such as the town office and fire station and other facilities such as the community center, piers etc.



Public Facilities

Facilities Acquired from the City of Portland Upon Incorporation

The Town of Long Island was incorporated on July 1, 1993. At that time all real property owned by the City of Portland became the property of the town including the following facilities:

There was a small house (the former fire station on Beach Avenue) that had been converted by the Portland Police Department for a residence for their summer officers and now is used to house the Cumberland County Sheriff's deputy who patrols the island in the summer.

A two room school house, built in 1944-45, shelters the Long Island Elementary school that at this time has 10 students in kindergarten to fifth grades. A similar number of students commute by ferry to King Middle School and Portland High School where their tuition is paid by the town. Students living within one half mile of the school can walk or ride bikes to school. Those living farther away are picked up by bus. The building also housed the Long Island Community Library. There are currently no plans for expansion of classrooms or other teaching facilities at this building during the planning period.

The Public Works Barn provides a space to work on town owned equipment and outside storage of equipment and materials such as sand and gravel. The town owns several pieces of equipment including dump trucks, a truck for pickup of household trash, sanders and a front end loader. The town currently contracts for road work, snow plowing and trash pick up.

The transfer station was also acquired from the City of Portland in 1993 and now has two balers, one for household trash and one for cardboard that is recycled. There is also a small building for the collection of bottles and cans, the deposit funds from which provide funds for the Fire and Rescue Department to purchase items that are not included in the town budget. There is also a building for hazardous materials and a "silver bullet" container for recyclables such as newspapers, glass, plastic bottles and tin cans. There are two large dumpsters for wood and metal. There is a waste oil furnace (currently located at the fire station) where waste oil from cars, boats and other sources is collected and burned. It provides about 80% of the heat for the building. The town's current recycling is about 17%.

There were also three cemeteries on Long Island, those being New Hill Cemetery, Apple Tree Cemetery, and one located behind the town garage that is currently on private property. New Hill Cemetery was expanded as part of the Northland subdivision and has had some land clearing and back filling to accommodate new demand and still has more land available for future expansion.

New Facilities Acquired or Built After Incorporation

The town office was the former headquarters for the navy base, and it was leased from Northland for a nominal fee until 1996 when ownership was transferred to the town. In anticipation of the incorporation of the Town of Long Island it was rehabilitated by a cadre of volunteers into a very serviceable town office and has since undergone many upgrades including a septic system, replacement windows, new wiring, lighting and work to improve handicapped accessibility and abatement of asbestos in the building. The building accommodates the Town Clerk and Tax Collector, the Town Treasurer and Selectmen's office and space for the Code Enforcement Officer/ Health Inspector and General Assistance person.

There is also a four bay garage building that was transferred with the town office to town ownership. Currently some of these garage spaces are being leased for various purposes, and others are used for storage by other town departments and as an office to accommodate the Harbor Master and sub-station for the Sheriff's office. This building has had limited renovations including new electrical service and a new roof.

At the same location as the Public Works Barn the town has constructed a new salt shed to meet current requirements for the storage of salt and sand.

The Community Center and a small building next to it were purchased from Northland in 1996 with grant money. The Community Center houses the town's Historical Society's exhibit rooms, the Recreation Department's office and activities rooms and a large multipurpose room. The building has had many improvements over the years, the first being the abatement of all asbestos in the building and then the installation of a new septic system and two bathrooms, insulation work, new wiring and expansion of the pottery and craft room. The outside of the building has been painted, some windows have been replaced, and there is a new rubberized roof. There also has been much landscape work done. Much of this work has been done by many volunteers over several years. The building hosts various activities including town meetings, Long Island Civic Association meetings, flea markets, public events, dances, art exhibits, auctions and various recreation programs including youth programs and summer camps, festivals and activities for young and old alike, to name but a few.

The small building next to the community building is currently leased to a person who makes cabinets, furniture and wooden boats.

The fire station is another building that was acquired from Northland in 1993. It had been leased by the City of Portland and then turned over to the town at the time of incorporation. The building has six bays that house the ambulance, three fire engines (two of which are new, bought with money from Homeland Security grants) and two tank trucks and various portable equipment such as pumps and generators. Stationary equipment includes a compressor and cascade system for filling Scott Air-pak bottles. There is also a four wheel drive all-terrain vehicle used for off road rescues and for transporting men and equipment to remote locations. The island has its own rescue boat for transporting patients to the mainland, and it is equipped with a 1500 gallon per minute pump and other fire fighting equipment. There is also a twelve foot inflatable boat used for water rescues and shore line searches.

The Long Island Fire & Rescue Department is made up of about 27 call people who are volunteers and a paid fire chief. The station is located roughly in the center of the island, and the response time in any direction is about three minutes. The transport time with a patient on the rescue boat to Portland is on average sixteen to eighteen minutes. The dispatching for fire, rescue and police is done by Cumberland County Regional Dispatch Center in Windham, Maine. To help lower the cost of dispatching, the town will be sharing a radio frequency with the new Town of Chebeague Island. There are also mutual aid assistance agreements with the surrounding islands and the City of Portland for help with fire fighting and rescue efforts.

The Code Enforcement Officer serves as the town's Public Health Officer. No public health issues have been identified.

The Long Island Learning Center was built in 2004 as an addition to the Long Island School. The building houses a large multipurpose room with a stage that is used for many things

including a gym and lunch room for the school and meetings such as public hearings. There is an art gallery within the building and a conference room. Another small room contains a bank of computers for public use. There is a large basement area that houses an archive room for the Long Island Historical Society, a room with heating equipment and an open space for future use. The library itself is about four times as large as the old library which was located in the basement of the school and features not only books but also videos and tapes. It has areas for reading and study. The Library is staffed by a group of volunteers who order books and man the library desk. The School /Learning Center is also designated as an emergency shelter for the island and is stocked with items such as cots, bedding, and bottled water to meet that need. A large generator that was purchased with funds from a Homeland Security grant has been installed to provide power during storms and power outages so that it can provide long term shelter if necessary.

Other Facilities

There are other facilities owned by the town. These include the old ferry wharf, Ponce's Landing, which was turned over to the town by the State when the new wharf, Mariner's Landing, was built. Ponce's Landing is used as a public landing with pedestrian access and by a number of commercial lobstermen who pay a fee to use it to load and unload their traps. Ponce's Landing is also the site of barge landings to transfer kerosene, oil and gasoline on to the island.

There is a large building located next to the fire station (the former generator house) built by the military to provide power for the pumps, motors, lights and other equipment in the tank farm as well as for other areas of the military base. This building is not currently being used but is being looked at for future uses such as an assisted living center or a gymnasium. This building has had the asbestos removed and a new roof installed to protect the structural integrity of the building.
.
There is also a landing for barges (called Boston Sand and Gravel for its use by that company during construction of military facilities on the island during World War II) that can unload large trucks such as dump trucks, cement trucks and lumber and many other needed supplies, and it also serves as a public boat launch. The landing was given to the town as part of the subdivision plan for the old naval fuel depot.

Sewer and Water Supply

There is currently no public sewer or water supply on Long Island. All sewage is currently handled by individual sub surface waste disposal systems. Water is currently supplied by individual drilled wells.

Electricity, Telephone, Internet, and Cable

There are no television or radio stations on Long Island. Central Maine Power Co. provides the electrical power and maintains our electrical infrastructure, and telephone service is provided by Fairpoint. Broadband internet services are available by way of fiber optic cables installed by the

phone company. There is no cable TV currently in use on the island, but a number of families have satellite TV systems. Wireless internet and cell phone service is limited on the island at this time.

Public Facilities Policy

1. It is the policy of the Town of Long Island to insure that island septic systems function adequately to protect the integrity of the aquifer in order to avoid the necessity of building a sewage treatment plant on the island.

2. It is the policy of the Town of Long Island that all pumped septic waste be transported off island to a disposal site located on the mainland.

3. It is the policy of the Town of Long Island to study alternatives such as an underwater pipeline or a saltwater desalination plant should local water supplies become unusable.

4. It is the policy of the Town of Long Island that all solid waste including household trash, demolition materials and recyclables be collected at the Transfer Station where they can be sorted and shipped off island

5. It is the policy of the Town of Long Island to explore alternative sources of power for both residential and municipal use.

Public Facilities Policy Implementation Strategy

1. The Selectmen will continue to pursue the study of any and all possible ways to insure that island septic systems function to adequately protect the integrity of the aquifer.

2. The Selectmen will see that systems are in place to insure that all pumped septic waste is transported off the island to a suitable disposal site.

3. The Selectmen and Planning Board will study alternatives to the local water supplies should they become unusable.

4. The Selectmen will continue to insure that the Transfer Station is adequately funded and operated and shall encourage residents to recycle.

5. The Planning Board will propose changes to the Land Use Ordinance to encourage and allow the use of both municipal and residential alternative sources of power.

3.12 Fiscal and Capital Investment Plan

Capital Spending

The terms of arbitration that settled the final issues of separation of the Town of Long Island from Portland in 1993 included a requirement that the Town pay to the City our share of the then outstanding debt. The original terms of settlement allowed the Town to pay the City a decreasing amount over 20 years. After year 10, the Finance Committee negotiated with the City of Portland to allow us to pay the remaining amount in a lump sum. People's Bank loaned the Town the money to pay the lump sum, payable over three years. This arrangement saved the Town approximately $13,000 and gave us control over the schedule of payments. In October 2005, all Separation Debt was paid. With the Separation Debt retired, all Capital Funds can be spent for island improvements, as approved at Town Meeting. The goal remains to keep taxes stable and to manage borrowing and reserves such that there will be no significant burden placed on future years' budgeting. All proposed Capital Spending Projects should continue to be presented to the Finance Committee, the Selectmen, and to the Town with complete documentation of the actual costs of the project and projected future operating costs.

Recommendations should be made for funding, and all avenues of alternate funding explored (grants, donations, and fundraising). We are unable to share capital projects with neighboring towns, as we are an island. However, we have received capital (ambulances, fire trucks, etc) from other towns when they no longer need them, and we have donated like items to other towns. The Finance Committee will continue to ask departments for 10-year Capital Needs projections so that Capital Spending can be planned and managed in a cost effective manner.

Exhibit 1: State and Local Valuations 2005-2008

	Local	State
2008	$ 38,883,477	$ 118,650,000
2007	38,272,723	100,150,000
2006	37,348,656	96,200,000
2005	37,348,656	77,350,000

Exhibit one shows the local and State evaluations for the town for the last 4 years. As we are reevaluating this year, the state and local evaluations should be essentially the same.

We have no tax incentive programs, we have no county and school administrative unit assessments or obligations, we have very little state funding, and do not see these issues changing in the future. LD1 has not had any impact on Long Island since it's inception, because we have not exceeded the limit of that legislation.

We do not see anything that would prevent the Town from meeting its fiscal Policy Objective.

Exhibit 2: Commercial Properties

	Valuation	New Valuation
Boathouse Beverage	97,400	493,118
CMP	451,000	950,000
Johnson's Boatyard	199,490	932,522
Long Island Store	114,570	476,518
Spar	180,000	538,640
Total	1,042,460	3,390,798
Total Island	$ 38,883,477	$158,513,189
	2.68%	2.14%

Exhibit two shows the major commercial property valuations. They represent less than 3% of the valuations. The major non-taxable properties are the town owned properties, the churches, the VFW, and conservation lands (including the conservation land in the former tank farm, Fowler's Beach, the state owned South Beach, and Wreck Cove) and the cemeteries.

Exhibit 3: Mil Rate History

2007-2008	$ 21.560
2006-2007	$ 21.674
2005-2006	$ 21.560
2004-2005	$ 22.405
2003-2004	$ 21.560

Exhibit three shows the last 5 years' mill rates as being stable.

Capital Spending Priorities

Capital spending to maintain essential town services. Roofs, repaving roads, crack sealing, replacement fire trucks and trash trucks, school boiler, replacement ambulance, and new rescue boat, are examples of this category of capital spending. This spending is financed by capital spending, grants, capital debt, or capital reserves. Most of this capital is funded by the town.

Capital to improve essential town services. Infrared vision system, 1000 foot fire hose, pumping system for the fire boat, computers for the school, school generator, and wireless for the school are examples of this category of capital spending. This capital is funded in the same manner as capital for essential town services, but a much higher percentage is financed by grants.

Capital to establish or improve nonessential services that make our town a better place to live. School library and function room, recreation center improvements, tennis court, parking lot paving, senior center, PP&C activities, and support for affordable housing, are examples of this category of capital spending. This capital is usually funded by grants, donations, and fund raisers, with encouragement and minor funding by the town.

The capital spending is addressed by the Finance Committee after the expense budget is established, and the Improvement Projects that are recommended are what are considered the highest priority, and those that can be funded within the constraints of a level tax rate or a minimal increase. Capital projects can frequently be reduced in scale or put off for a year or more. The only capital project identified by the Comprehensive Plan is the new salted-sand Public Works structure, and this will be prioritized within these guidelines.

The Long Island Capital Investment Plan for anticipated capital investment needs including estimated costs, and timing is as follows:

Capital Spending Priorities

2009-2010 Fiscal Year

Public Toilet - to be financed in two increments of $20,000 and $30,000 each over two years, Part 1	$20,000
Police Building Sills	$1,000

Water Study - four $1,000 increments over 4 years, Part 1	$1,000
Outboard motor for the Harbormaster's boat - to be funded in four increments of $3,000 over four years, Part 1	$3,000
Addition to the fire department building to accommodate another truck - to be done in 2 phases over two years, Part 1	$35,000
Replace cemetery casket lowering device	$3,500
Total 2009-2010 Capital Investment Projects	**$63,500**

2010-2011 Fiscal Year

Public Toilet	$30,000
Salt Shed	$25,000
Wave break at Mariner's Wharf to protect the emergency boat	$10,000
Water Study, Part 2	$1,000
Outboard motor for the Harbormaster's boat, Part 2	$3,000
Addition to Fire Department building, Part 2	$35,000
Community Center renovations, Phase 1	$20,000
Replace cemetery vault lowering device	$5,800
Total 2010-2011 Capital Investment Projects	**$129,800**

2011-2012 Fiscal Year

Police Building Door	$1,000
Town Hall Insulation	$5,000
Water Study, Part 3	$1,000
Generator Building Study	$10,000
Outboard motor for the Harbormaster's boat, Part 3	$3,000
Community Center Renovations, Phase 2	$100,000
Fire Department Tank 1 replacement	$50,000
Paving	$100,000
Replace funeral grass and side boards	$2,000
Total 2011-2012 Capital Investment Projects	**$272,000**

2012-2013 Fiscal Year

Water Study, Part 4	$1,000
Outboard motor for the Harbormaster's boat, Part 4	$3,000
Total 2012-2013 Capital Investment Projects	**$4,000**

2013-2019 Fiscal Years

Ponce Wharf Repairs	$25,000
Police Building Roof	$7,000
Road Crack Sealing	$20,000
School Alterations	$10,000
School Roof	$9,000
School landscaping and walkways	$9,000
School basement foundation work, waterproofing, window replacement, ground egress from basement at school	$13,000
50 grave addition to cemetery	$80,000
Total 2013-2019 Capital Investment Projects	**$173,000**

Capital Debt

We have used capital debt to help keep the tax rate level. The debt service is at about 6% of the budget that is a little high, but the projects are debt funded for only 3 years. Most towns debt finance projects for 20 years or more. If the town adopts a 20-year philosophy, the debt service would probably be below 1% of the budget.

The argument for debt financing is that the town can borrow money at a very low rate. If we did not borrow, the taxpayers would have to pay higher taxes. If taxpayers invested the higher tax in CDs they would earn more than the tax the town pays. Debt finance allows the town to enjoy the service provided years sooner, and the town can purchase the capital earlier before prices inflate.
The argument for funding projects with reserves, is that we only spend money we have, and we can somewhat flatten the capital spending by increasing or decreasing the reserves. To implement a reserve policy, we will have to put on hold for a number of years large capital projects.

The finance committee recommends continuing to debt finance, and to increase the term of the loans to 4 or 5 years.

Development Impact

New development over the last 5 years has been running just over 1% of the town valuation. The new development has not significantly added to town expense as the school population has not increased, and much of the development has been renovations as opposed to new homes. The year round population has increased less than 2% a year for the last 10 years. We do not anticipate a change in the development rate.

We have no tax incentive programs, we have no county and school administrative unit assessments or obligations, we have very little state funding, and do not see these issues changing in the future.

We do not see anything that would prevent the Town from meeting its fiscal Policy Objective.

Fiscal Capacity Policy

1. It shall be the continued policy of the Town of Long Island to promote long range fiscal planning and to avoid or minimize increases in property taxes.

Fiscal Capacity Strategies

1. The Finance Committee will continue to ask departments for 10 year Capital Needs projections so that capital spending can be planned and managed in a cost effective manner.

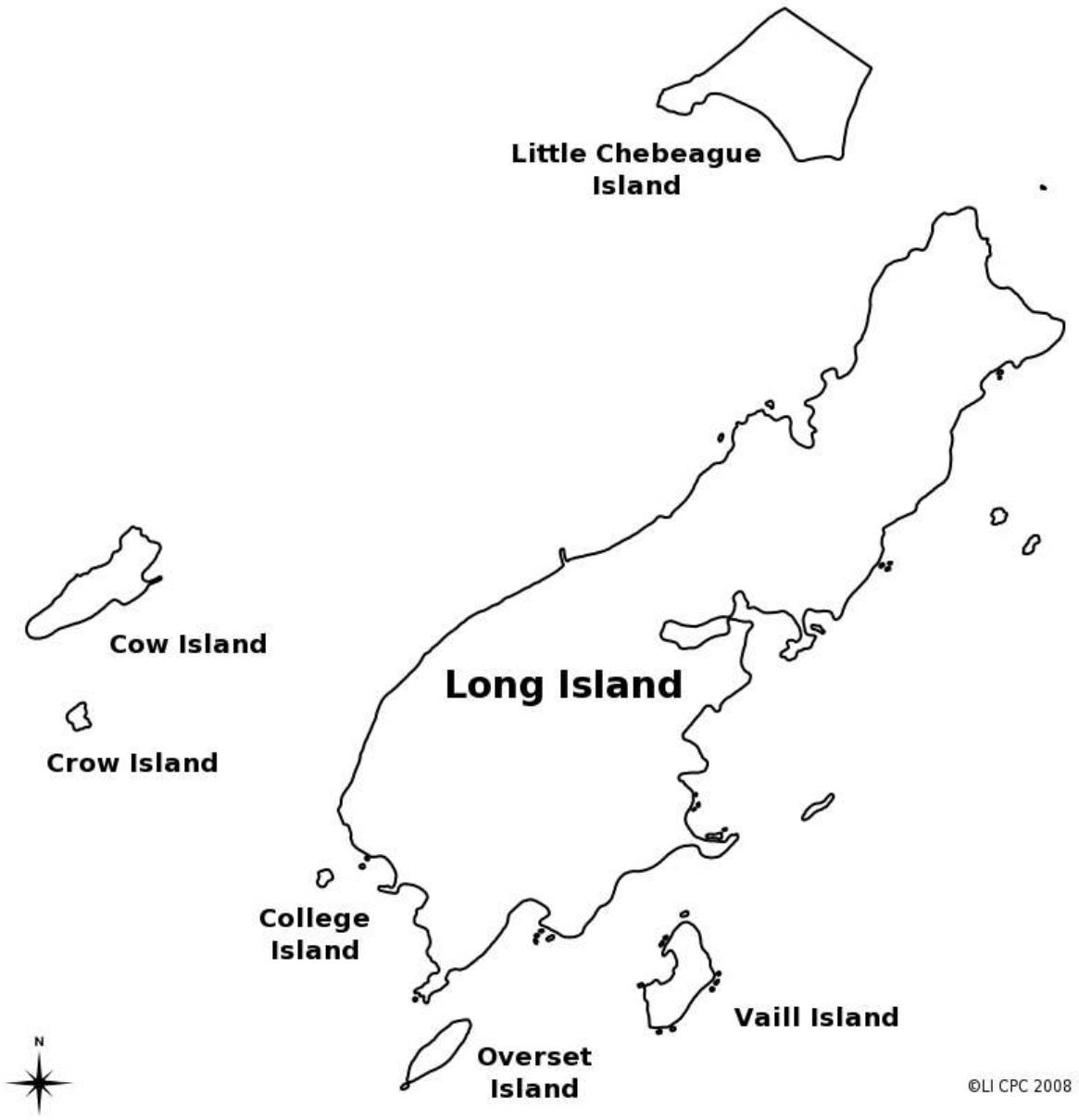
2. A 10 year Capital Forecast will be prepared for presentation at the annual Town Meetings.

3. The Department Heads that request Capital Improvements will explore grants available to assist in the funding of capital investments.

253.13 Existing Land Use

Overview

The Town of Long Island consists of Long Island, a large portion of Little Chebeague Island, Cow Island, Vaill Island (known locally as Marsh Island), Overset Island, College Island, Crow Island, tiny portions of a couple of islands lying within the boundaries of Chebeague Island and a number of other named and unnamed rocks and ledges, generally devoid of vegetation and some only exposed at low tide. Only the islands of Long and Cow within the territory of the Town of Long Island have any inhabitants year-round, seasonal or otherwise.



Town of Long Island

Land Use History

Until regular and reliable steam ferry service to the island became available in the early 1870s, Long Island was home to a small number of fishing and farming families. Between the 1880s and the early 1900s it experienced rapid growth in the form of seasonal cottages. Two large summer hotels were also built on the island during this period.

It was during this period that a number of large parcels of land were bought by Portland land development companies and subdivided into small (11,000 square foot) lots. The most desirable lots, primarily on the western, northwestern and northeastern shore of the island were sold and developed. Land in other parts of the island that was subdivided for development was laid out in grids, complete with roads (on paper). Although the subdivided lots were sold, many were not developed, and most of the roads were never built. The result of this activity is that there are a sizable number of privately owned very small undeveloped lots and a relatively large number of paper roads in the town.

This pattern of land use continued up until the early 1940s when the United States government took over a sizable portion of Long Island and all of Little Chebeague and Cow Islands for the war effort. There is little left of the military presence on Little Chebeague, but the surface of Cow Island was dramatically altered by the military, and there are many remnant structures from the military use on Cow Island. On Long Island the government took approximately 200 acres in the center of the island for use as a naval fuel depot. Smaller areas on the southern and eastern corners and in the center on both the southeast and northwest sides of the island were also taken. In these areas existing structures were either demolished or converted to military use. The government constructed a number of large underground concrete fuel oil storage tanks together with support and defense infrastructure consisting of piers, pipelines, pump and generator buildings, storage buildings, barracks, an infirmary and gun emplacements (to name a few). It should be noted that the need for gravel for the concrete used in the construction of the fuel depot resulted in the use of all the gravel resources on the island and in the process, making a number of acres of land on the island unusable.

When the war ended the fuel depot was no longer needed, although the government retained ownership and maintained it for twenty years. It was sold to King Resources in the late 1960s. These new owners proposed developing it as a fuel storage and processing facility until public opposition delayed those plans. Eventually the economics of such activities changed and these plans were never realized.

Most of the undeveloped property outside of the fuel depot area was sold to Northland Residential Corporation in the 1980s. They sold the small isolated lots, gave the ballfield and Fowler's Beach to the Long Island Civic Association and subdivided the property at the Southern end of Long Island into large residential lots with deed restrictions preventing further subdivision.

It wasn't until Long Island became an independent town in 1993 and the Maine Legislature established a Voluntary Response Action Program (VRAP) that Northland considered ownership of the fuel depot area. The VRAP allows applicants to voluntarily investigate and clean up properties to the DEP's satisfaction, in exchange for protections from Department enforcement actions. The VRAP is intended to encourage the cleanup and redevelopment of contaminated properties within the state. Northland Residential Corp. acquired the property in 1995, and after a cleanup supervised by the Department of Environmental Protection and which

satisfied the VRAP criteria, subdivided and sold the usable portions. The remaining area, approximately 117 acres, was unusable because of the presence of the underground fuel tanks and pipelines. This parcel was put into a conservation easement that is held by the Long Island Civic Association.

It had always been Northland's intention to transfer this parcel to the town but because of liability concerns this did not happen until 2007. In 2005 the town voted to create a limited liability corporation, Long Island Community Land Operation Company, for the express purpose of owning this property. In 2007 the corporation was formed and assumed ownership.

Current Use of the Town's Islands

As noted above, there are several islands and portions of islands within the boundaries of the town ranging in size from a fraction of an acre to 71 acres.

Little Chebeague Island is owned by the State of Maine and the Department of Conservation's Bureau of Parks and Lands has oversight responsibility. This is an undeveloped park where picnicking, camping and swimming are allowed, but no facilities are provided. Access to this island is by private boat or the tide dependent sand bar that links it to Chebeague Island.

Cow Island is owned by Rippleffect, a non-profit corporation, which runs an adventure based youth program on the island during the spring, summer and fall. Rippleffect has built some facilities and has plans for others needed to support its programs. The island is covered by a conservation easement held by Maine Coast Heritage Trust. This easement prevents most types of development and further specifies that a portion of the island be set aside for public access.

Vaill Island is owned by the State of Maine and comes under the purview of the Department of Inland Fisheries and Wildlife. It is accessible mainly by boat although it can be reached from Long Island's South Beach by wading when the tide is low. It has a small beach that attracts a boat or two on a nice summer's day, but rank poison ivy growth discourages access to the interior. Vaill Island is one of 20 locations in Casco Bay for which NOAA makes tide height and time predictions available.

Overset Island is privately owned and a home has recently been built there. At all but high tide it is attached to the southern tip of Long Island by a strip of rock rubble installed by the U.S. Government during World War II as part of the submarine defense system.

College Island is a tiny gull and seabird nesting site owned by Oceanside Conservation Trust of Casco Bay. Maine Island Trail provides stewards for the island who visit it several times each summer, assess the impact of any use and remove flotsam and jetsam which have come ashore. College Island is accessible only by boat, except at the very lowest tides when one can walk there from Long Island.

Crow Island is owned by the United States Government. The U.S. Coast Guard maintains a lighted navigational aid on this island.

Other named islands in the waters of the Town of Long Island are the Stepping Stones, Inner Green Island and Obed's Rock. Some of these are ledges and devoid of vegetation, but Outer Green Island is an important seabird nesting area.

Long Island Current Land Use

Land use consists primarily of seasonal and year round residential areas, two small areas zoned for business and a number of recreation and open space areas.

Public recreational land on Long Island includes a state owned beach on the south side of the island, a tennis court near the school that is owned by the Town and a 117 acre parcel that was part of the US Naval Fuel Depot built during World War II. As noted previously the former naval fuel depot parcel, called simply "The Area", is currently owned by a limited liability corporation called Long Island Community Land Operation Company, LLC. The use of this land is governed by a conservation easement held by the Long Island Civic Association. In addition to The Area, there is an 11.8 acre parcel on Wreck Cove that is owned by the Town and covered by a conservation easement held by Oceanside Conservation Trust of Casco Bay.

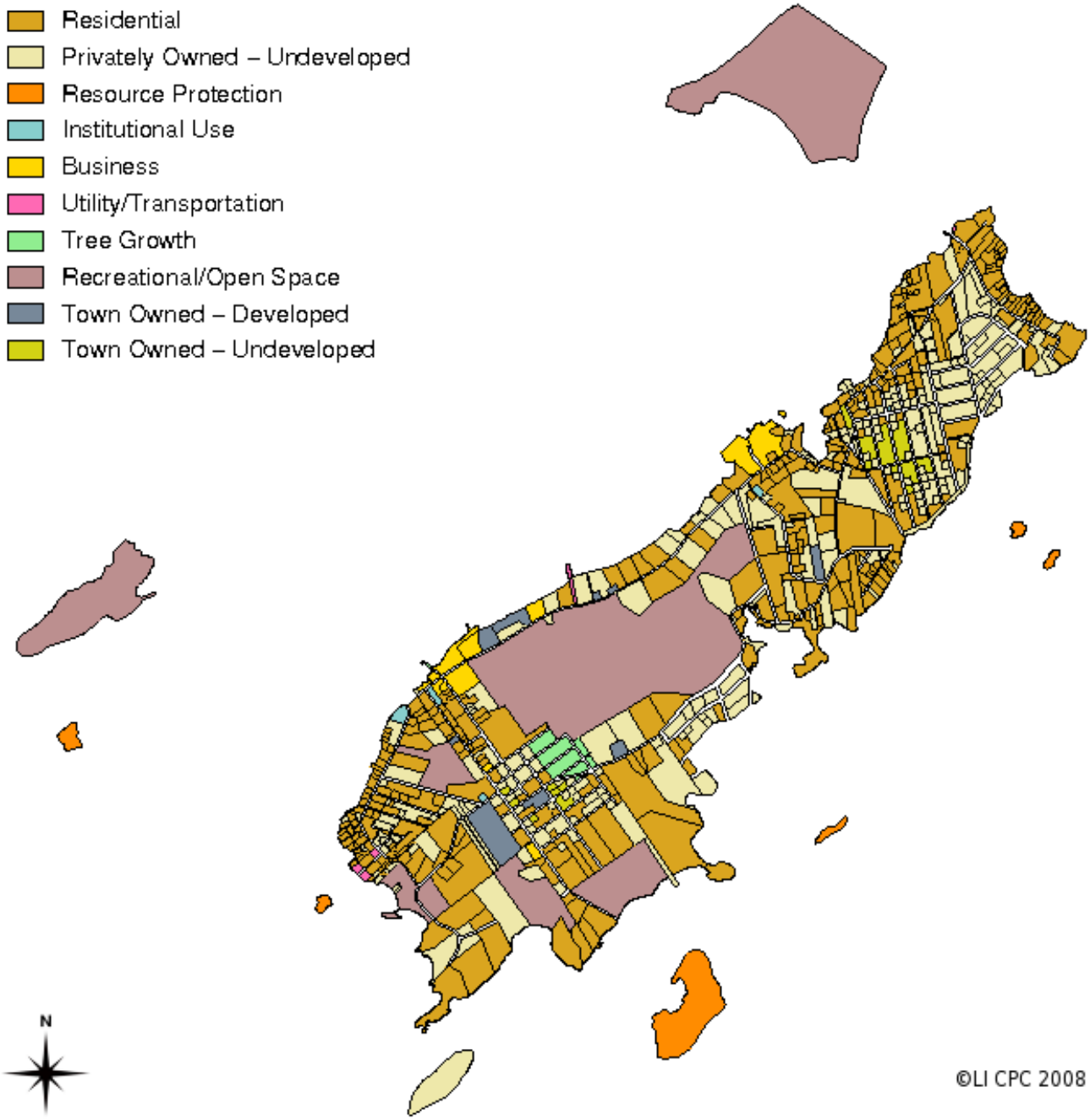
Quasi public land includes the 8.1 acre Fowler's Beach property and an 8.3 acre ball field**,** both owned by the Long Island Civic Association. Use of the Fowler's Beach property is controlled by a conservation easement held by Oceanside Conservation Trust of Casco Bay This easement prevents further development of this beach.

There are two portions of Long Island currently designated as business zones. Businesses currently operating in these zones include two general stores, a marina and boat yard, an auto repair shop, and Casco Bay Lobster that brokers lobsters and provides fuel and bait to fishermen. In addition to privately owned businesses there are four town owned buildings in the business zone. One houses the town offices, another the recreation center and local historical society exhibit space. A third building is rented to a local furniture maker. A portion of the fourth building houses the harbormaster's office and the remainder is rented to local businesses for storage. There are also four wharves in the business zone; Mariner's Wharf, the current ferry terminal wharf, a privately owned wharf used by the lobster and bait company, the town owned Ponce's Landing, currently used and maintained on a cooperative basis by island lobstermen and a privately owned wharf. There are also a number of residences in the business zone as well as a church, a VFW hall and a privately owned building which houses the town's post office.

Current Land Use Maps and Zoning

Current Land Use Map

The following map show how land is currently being used in the town.



Current Land Use

Current Land Use Analysis

	Total Area Acres	% of Total Area of Town	Number of Parcels	Ave. Parcel Size Sq.Ft.
Residential - Developed	315	36	351	39,100
Privately Owned – Undeveloped	208	24	274	33,000
Institutional Use	2	0	5	18,700
Business	18	2	12	67,000
Utility/Transportation	2	0	6	13,000
Tree Growth	8	1	3	110,000
Recreation/Open Space	256	30	7	1,600,000
Town Owned – Developed	15	2	9	73,000
Town Owned – Undeveloped	11	1	16	30,000
Resource Protection	29	3	8	15,600

Note: There are 43,560 sq.ft. in an acre.

Existing Zoning

The Town of Long Island currently identifies the following zones:

IR-1 Island Residential Zone 1

The purpose of the IR-1 zone is to provide for low intensity residential, recreational and rural uses in the less developed areas of the town. There are 468 parcels in this zone with an average size of 48,800 sq.ft.

IR-2 Island Residential Zone 2

The purpose of the IR-2 zone is to protect the character of existing developed residential neighborhoods on the island. There are 235 parcels in this zone with an average size of 15,600 sq.ft.

I-B Island Business

The purpose of the I-B zone is to provide limited areas on the island for retail and service establishments that primarily serve the needs of the local island market area. There are 24 parcels in this zone with an average size of 48,300 sq.ft.

R-OS Recreation and Open Space Zone

The purpose of the R-OS zone is to preserve and protect open space as a limited and valuable resource. It includes major parcels of both public and quasi-public property that are legally restricted from intensive use or development through conservation easements. There are 6 parcels in this zone with an average size of 38.5 acres.

R-RD Recreation and Resort District Zone

Only low impact passive recreational and educational uses are permitted in the R-RD zone. Currently there is a single 35.6 acre parcel (Cow Island) in this zone. This parcel is also protected by a conservation easement.

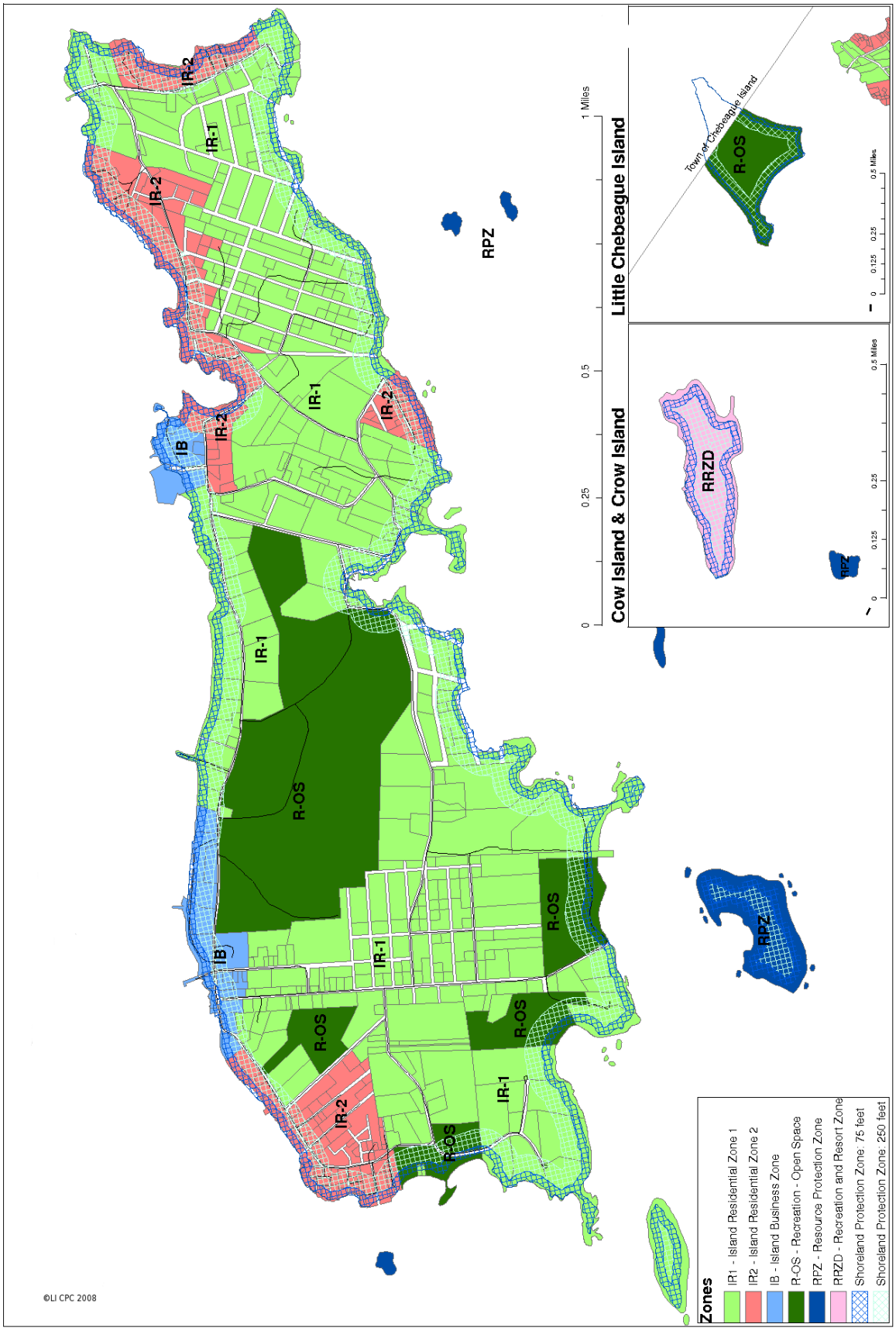
R-P Resource Protection Zone

The R-P district includes areas in which development would adversely affect water quality, productive habitat, biological ecosystems, or scenic or natural values. Use and development is severely limited in this zone. This is a state mandated zone. There are 8 parcels in this zone with an average size of 3.6 acres.

SPZ Shoreland Overlay Zone

The Shoreland Overlay Zone is a state mandated zone that is comprised of all land within 250 feet of the maximum spring tide level or the upland edge of a freshwater wetland or within 75 feet of the normal high water line of a freshwater stream. This is not a separate zone but rather it overlays the other six zones listed above where they fall within its definition.

The current Town of Long Island Zoning Map is shown on the next page.



Current Zoning Map

Analysis and Key Issues

The opportunity for subdivision in the town of Long Island is extremely limited. With the current minimum lot size of 60,000 sq.ft. for new construction there are only a small number of privately owned parcels in zones that permit residential construction that could be subdivided. As a result most development is occurring lot by lot. As can be seen in the map in the next section, new construction has occurred throughout the island but primarily in the IR-1 zone. This is consistent with the community vision statement.

Long Island residents consider their town to be a rural residential community, but not rural in the usual sense which one normally thinks of in term of farms, fields and undeveloped woodland. The town has no farms or fields but does have plenty of wooded and cleared open space in the five large parcels that comprise the Recreational and Open Space Zone. The island also has four more densely developed sections, comprising the Island Residential #2 Zone. These sections might be considered villages in a larger mainly rural town but are thought of here as neighborhoods. A factor that makes these neighborhoods feel less like villages than they might otherwise be is that more that half of the residences in each of these neighborhoods are seasonal.

The town has attempted to limit and direct growth by means of minimum lot size requirements. Currently 60,000 sq.ft. is required for new lots in both the residential zones, IR-1 and IR-2. Since only the IR-1 zone has new lots this large the effect has been that most new residential development has occurred in IR-1. This will not continue in the future since almost all of the large and most desirable lots in this zone have been developed. Sadly, the legacy of the turn of the century building boom, which resulted in the large number of 11,000 sq.ft. grandfathered lots will mean that most future development will take place on these lots since the current land use ordinance allows any grandfathered lot of 10,000 sq.ft. or more area to be developed provided they can meet state subsurface waste disposal rules.

Based on the residential development that has occurred in the past ten years and the factors driving it, we should expect an average of three or four new residences to be built each year for the next ten years. Again, based on the past we can expect two-thirds of these new residences to be for seasonal use only and that most of the growth will be in IR-1 since that zone contains the most desirable lots.

We expect no institutional or industrial growth and very minimal commercial growth in the next ten years. Long Island has limited potential for commercial development. In the past ten years there has been only one commercial building started, and that has not been completed.

With the recent change in the Land Use Ordinance to allow multi-family structures in the IB zone it is possible that we may see some condominium construction, but the potential for this type of development is very limited due to the number of parcels in the IB zone, area requirements for subsurface waste disposal and shoreland zone requirements.

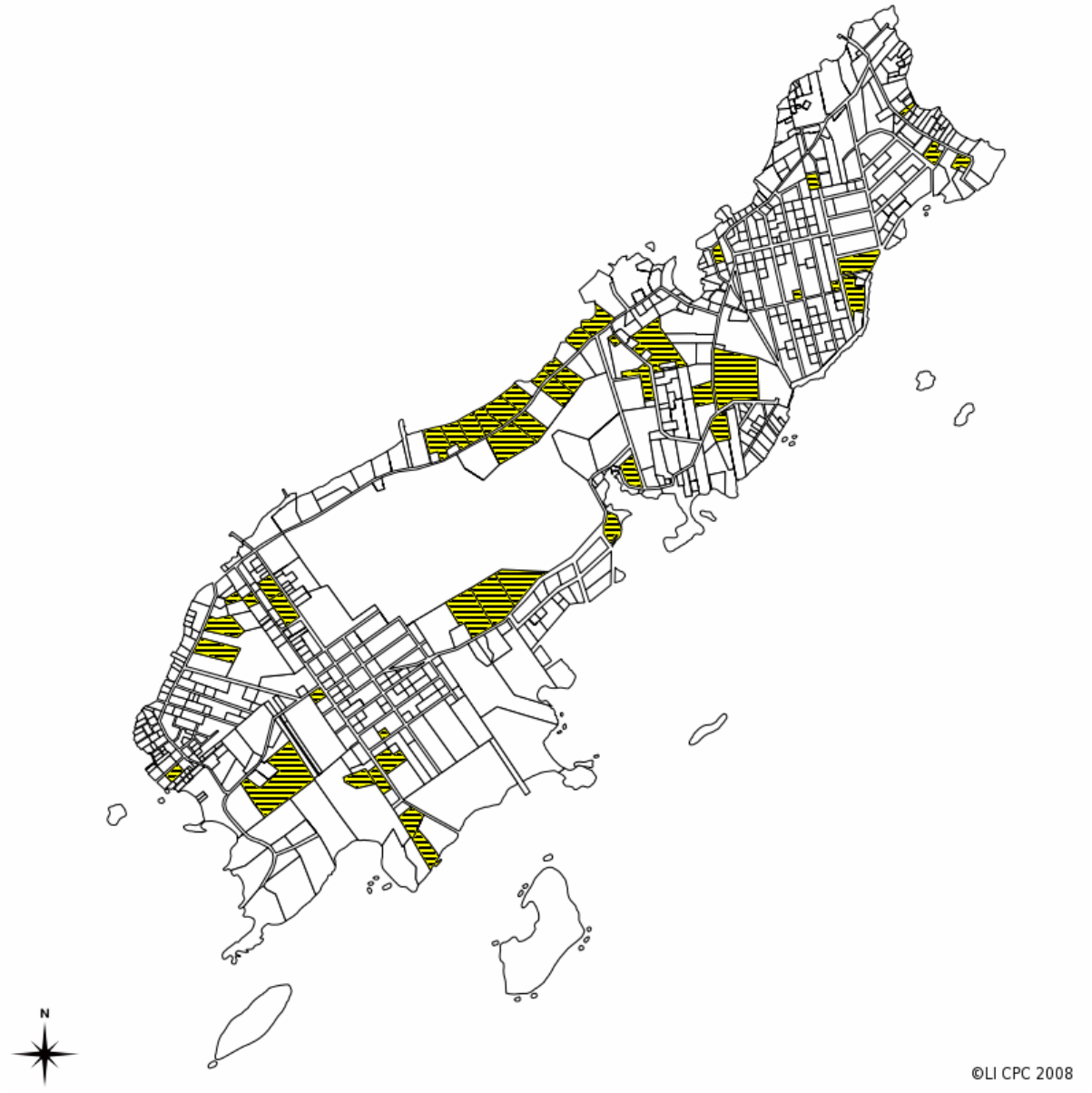
Since the only sources of water on the island are wells, a particular concern regarding land use is the issue of subsurface waste disposal and the safety of our drinking water. The Land Use Ordinance addresses this issue by permitting the enlargement of existing structures or new construction only on parcels that can support the disposal of waste for the proposed structure's use. In addition, septic system inspections are required any time the title of a developed property is transferred to a new owner. Nonetheless, it is imperative that this issue continue to receive

attention. To that end, the town has an active planning board and employs a professional code enforcement officer.

Conditions and Trends

Pace and Pattern of Development in the last 10 Years

The following map shows the lots that have been developed in the past ten years. Much of this growth was fueled by the fact that 24 parcels of land that were formerly part of the World War II naval fuel depot and owned by Northland Residential Corporation were put on the market in 1996. Many of these lots were very desirable shore front lots and were quickly sold and developed.



Lots Developed in Past Ten Years

After the initial surge the rate of development slowed although it has once again increased as island property of most any kind has become more desirable. The table below shows the number of building permits for new development issued each year since 1997.

Year	Number of Permits
1997	4
1998	6
1999	8
2000	4
2001	4
2002	2
2003	5
2004	2
2005	8
2006	1
Total	44

Development Projections and Constraints

Residential Development Projections

Looking at the development that has occurred in the past ten years we see that thirty-four lots that were not part of the Northland subdivision were developed. With one exception the developed lots were located in the IR-1 zone. Of the original 17 Northland parcels 7 remain undeveloped. There is currently no reason to presume that this pattern will not continue for the next ten years. This assumption means that we can expect approximately 34 residential lots to be developed in the next ten years.

To this we must add the potential for multi-family development. This type of development has only been possible since 2007 when the town voted to allow multi-family dwellings in the IB zone. Since the number of lots, both currently developed and undeveloped, in this zone is limited, the potential number of multi-family units is also limited. Our projection for this type of development in the next ten years is 15 units spread over five parcels.

The combined single family and multi-family unit projection is thus 49 units located on 39 parcels. We expect the use of these units to follow the current pattern, that is that approximately 32 would be seasonal and the remaining 17 year-round.

Commercial Development Projections

As noted previously, the potential for commercial development on Long Island is limited to seasonal retail, restaurant and lodging, building construction and repair, and fishing related enterprises.

In the past ten years there have been approximately a dozen lodging type units created on the island to replace a loss of 5 units. As a result of the island's only year-round store being converted to seasonal operation a second, year-round, store opened in 2004. Finally, the only seasonal restaurant on the island closed in 2006. With the exception of a new seasonal restaurant

and possibly some additional lodging units there is little reason to expect any growth in this type of commercial activity on the island. Since all of this type activity that has occurred in the past ten years has taken place on previously developed parcels we expect the impact of growth in this area on land use to be minimal, at the most leading to two or three undeveloped parcels being developed.

As far as the construction business is concerned there are currently a couple of businesses in operation on the island. Together with the non-island companies doing business here the demand for construction and repair services is being met. Since we do not see an increase in the pace of construction and since these type businesses typically have very little impact on land use we project that there will be no impact on land use from this activity in the next ten years.

Finally, the number of lobster fishermen on the island has remained stable during the past ten years. Additionally, this type activity has very little impact on land use requiring, for the most part, only access to the water in the form of wharves and landings. Water access has not been a problem in the past ten years and we do not project any additional land use for this purpose in the next ten years.

Development Constraints

Map of Undeveloped Parcels in Zones IR-1, IR-2 and IB

The map shown above indicates the currently undeveloped parcels in the IR-1, IR-2 and IB zones. These are the only zones in the Town of Long Island in which residential or commercial development is allowed.

The primary constraint on any development on Long Island is the modest ground water resource and the soil conditions which limit our subsurface sewage disposal options. The Water Resources section of this report is found on pages 50 - 71, and it quotes at length the Island Ground Water Management Study done in 1986 by Robert Gerber which gives detailed information about our aquifer. The report found that over 1/3 of the wells studied "had nitrate-nitrogen concentrations significantly above what would be typical of uncontaminated ground water. It appears that high densities of subsurface sewage disposal systems and/or malfunctioning systems have caused this degradation of ground water." To protect both the quantity and quality of the island's water resource the Gerber Report recommends an overall density of about 1 dwelling unit per acre. However, many of our existing homes were built on lots which are very much undersized by that standard, and the result is that "density of subsurface sewage disposal systems" which is a contributing cause of the contamination of many of our wells. Additionally, old subdivisions, particularly in the IR2 zone, have left us with undersized grandfathered lots which if developed may increase the contamination problem as well as create an excessive draw down of the local water resource and impair the recharge of existing wells. The study finds that we do not have environmentally suitable locations that would justify creating new lots less than 40,000 sq. ft. In order for the combined average size of newly created lots and the existing undersized lots to move toward that recommended 40,000 sq. ft. per dwelling unit recommended overall density standard, the standard lot size for new lots in all zones is 60,000 sq. ft. As far as the type of residential housing to be built is concerned the town land use ordinance does not distinguish between stick built and manufactured homes.

Based on the projected development of 49 residential units in the form of single and multi-family residences on 39 parcels of land, 3 parcels developed for commercial purposes and the average lot size in the area where this development will occur, the minimum amount of land needed to accommodate this growth is 40 acres comprising about 14 percent of the land available for development.

Existing Land Use Regulations

The town has a Land Use Ordinance that was adopted on July 1, 1993, the day the Town of Long Island came into existence. Over the years since adoption it has been reviewed several times and several changes have been proposed and subsequently adopted by the town at the annual town meeting. The most recent change was made in 2007.

The Land Use Ordinance is made up of the following fifteen articles:

1. Preamble
2. Definitions - general definitions related to terms used in the Land Use Ordinance.
3. Zoning District Standards - establishes the six zones currently used in the Town of Long Island, describes their purpose, specifies permitted uses, conditional uses, prohibited uses, dimensional requirements and other requirements and performance standards.
4. Shoreland Zoning District Standards - this article was created using the State of Maine Guidelines for Municipal Shoreland Zoning Ordinances and has been found to be in compliance with the requirements of the state guidelines by the Department of Environmental Protection.

5. General Provisions - specifies requirements related to buildings, lots and zone boundaries related to all structures and zones in town.
6. Non-conforming Structures, Uses and Lots -addresses the issues related to non-conforming lots, structures and uses and how the current land use ordinance requirements are to be interpreted regarding their use, development or expansion.
7. Town wide Performance Standards - a listing of performance standards related to structures and general land use issues, such as sub-surface waste disposal, applicable throughout the town.
8. Administration -discusses the role of the Code Enforcement officer in the administration of building permits and the enforcement of the provisions of the Land Use Ordinance.
9. Changes and Amendments- establishes fees for zone change requests.
10. Site Plan Review - specifies the applicability, administration, submission requirements and criteria and standards for the Site Review Process.
11. Subdivisions -establishes the applicability, procedure for approval, submission requirements, general requirements, technical and design requirements, performance guarantees and other details related to the approval of subdivisions.
12. Floodplain Standards - establishes a floodplain development permit and review procedure for development activities in the designated flood hazard areas of the town.
13. Zoning Board of Appeals -establishes a zoning board of appeals and specifies how hearings are to be conducted and the authority the board has to grant variances and conditional uses.
14. Planning Board -creates a seven member planning board.
15. Wireless Communications Facilities - specifies definitions, review, approval authority and requirements related to wireless communication facilities.

Summary of Current Lot Dimensional Standards

IR-1 and IR-2 Island Residential Zones

1. Minimum lot size - 60,000 sq. ft.
2. Minimum street frontage - 100 ft.
3. Setbacks - front 30 ft. , rear 30 ft. and side 20 ft.
4. Maximum lot coverage - 15%
5. Minimum lot width - 150 ft.
6. Maximum structure height - 35 ft.

RRD Recreation and Resort Zoning District Zone

1. Minimum lot size - 120,000 sq. ft.
2. Minimum shore frontage - 100 ft.
3. Setbacks - front 30 ft. , rear 30 ft. and side 20 ft.
4. Maximum lot coverage - 15%
5. Minimum lot width - 200 ft.
6. Maximum structure height - 35 ft.

R-OS Recreation and Open Space

1. Minimum lot size - 2 acres
2. Setbacks - front 25 ft. , rear 25 ft. and side 12 ft.
3. Maximum lot coverage - 25%

4. Maximum structure height - 35 ft.

I-B Island Business Zone

1. Minimum lot size - 60,000 sq. ft.
2. Minimum street frontage - 40 ft.
3. Setbacks - front 20 ft. , rear 10 ft. and side 10 ft.
4. Maximum lot coverage - 20%
5. Minimum lot width - 40 ft.
6. Maximum structure height - 35 ft.

Shoreland Zone

1. Minimum lot size
   Residential Development -60,000 sq. ft.
   Commercial/Industrial Development - 40,000 sq. ft.
2. Minimum Shore Frontage
   Residential Development - 150 ft.
   Commercial/Industrial Development - 200 ft

2008 Long Island Comprehensive Plan Committee

Brad Brown
Shirley Conner
Kim MacVane
Chris McDuffie, Chair
Curt Murley
Judy Paolini
Linda Papkee
Ruth Peterson
Jim Wilber

Many people in the Long Island Community who are not on the Comprehensive Planning Committee have also participated in this effort, and we appreciate their volunteered input and their knowledge answering our many questions. We would especially like to acknowledge the particular contributions of Mark Greene, Dickie Clarke, Nancy Jordan and Joe Oldfield all of whom gave advice and information generously the many times we asked. Photo credits: Missy Brown, Carolyn Gaudette, Rod Jacobs, Lynn Johnson, Jacqueline O. Lunt, Dan Morelli, Christie Muesse, Nancy Noble, Eric D. Wallis, Carol Ward, Carolyn Wagner and many others.