

Town of Chebeague Island Comprehensive Planning Committee

NATURAL RESOURCES OF THE TOWN OF CHEBEAGUE ISLAND

The islands' natural resources have fundamentally shaped the life of the community since its first settlement. The waters of Casco Bay and land of the islands have provided, and still provide a livelihood for many residents. The natural resources have shaped where and how we built our houses and businesses. Now, more than in the 19th century we understand the relationship between the soils, the surface and groundwater and the waters of the Bay so that we recognize the need to be thoughtful about things like waste disposal, pollution and the need to insure the quality of our drinking water. If we pollute the groundwater, we pollute our drinking water. If we pollute the Bay, we harm our marine resources. They are a major source of our livelihood, and fishing defines much of the nature of our town.

The natural resources – the ground and surface water, the Bay and the land – also lie at the heart of residents' images of the Town as a “rural” place. “Ruralness” is a function of having “enough” open space, both water and land to allow people and wild animals to coexist, and to allow people to pursue traditional “extractive” industries such as fishing, farming and logging that are based on the use of natural resources.

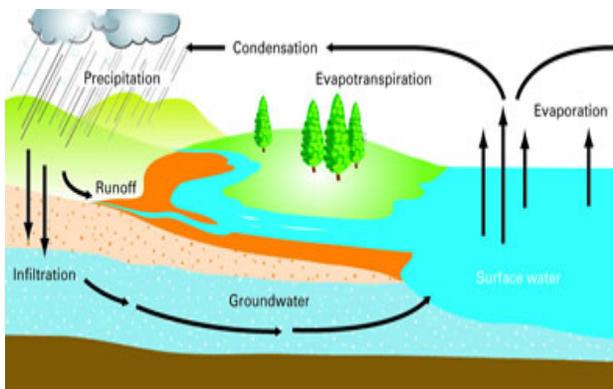
WATER RESOURCES

Erno Bonebakker, Beth Howe, Carol White and Thea Youngs

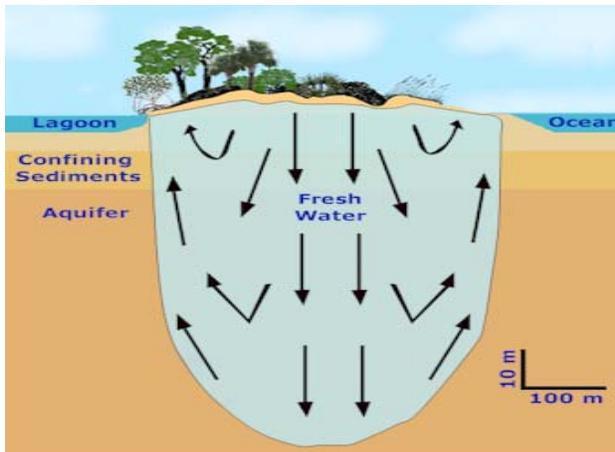
Chebeague's water resources are made up of two systems. One is surface water such as streams, ponds and drainage ditches. Stormwater runoff is the major issue here; the second is groundwater where the central concern is recharge of the aquifer that provides fresh water to the island. Water is

intertwined with many related topics -- climate, vegetation and waste disposal. High quality fresh water supplies are essential to our way of life. It is essential to understand the hydrologic cycle which describes how water flows through our environment. The quality and quantity of fresh water are the big factors. The research shows that there is plenty of water for any expected development. So quality is our big concern.

This is especially important because all of Chebeague's fresh water comes from a single source aquifer- a single lens of fresh groundwater water under the island floating on the heavier sea water surrounding it. Any pollution of the surface or groundwater potentially could damage all of it.



The Hydrologic Cycle



An Island Aquifer

Certain kinds of soils that allow larger amounts of rain and snow to percolate down into the ground are called “aquifer recharge areas”. These particularly need to be protected from sources of pollution.

The major water quality issues in the Town are:

- Oil and gasoline. Oil in the groundwater is expensive to clean up. The average cost of cleaning up a heating oil tank leak is \$500,000. Despite a state-funded program to replace heating oil tanks with problems, Chebeague has had five significant oil spills in recent years.
- Septic wastewater. In 2000, the water quality of 102 wells on Great Chebeague were sampled, somewhat over-selected for areas that might have problems. Half tested positive for bacteria from things like leaves or a dead mouse, and five, in fairly densely populated areas, tested positive for e coli which comes from septic systems. In 2004 56 wells were retested and a similar though reduced pattern was found.
- Salt: from seawater intrusion which is an issue on Rose, Deer and Division Points. Salt from the roads can also get into the groundwater.

- Toxics: herbicides, pesticides, drugs, chemicals.

These sources of pollution are threats to the well-water we draw from the aquifer and use at home. In addition, because stormwater runoff over the land picks up oil, salt, herbicides, pesticides and soil, the quality of the islands’ waters affect marine resources, especially in near shore areas.

- Pathogen contamination, can result in shellfish closures
- Toxic runoff– such as spraying of dimilin to control brown tail moths
- Excess nutrients may increase the incidence of red tide and other algal blooms
- Sediment in runoff may smother marine life but also nourish mudflats

Recharge of the island’s aquifer depends on having rainwater permeate into the ground. But there is no harm in having some rain run off into the Bay as stormwater. The issue with stormwater is that it must be not be allowed to pollute the Bay. The farther it runs over the surface of the ground, the more it is likely to pick up pollutants. This can be minimized by:

- Minimizing “impervious” surfaces such as roads and parking lots which collect pollutants that are then picked up by runoff.
- Slowing runoff down so that sediments can settle out, often carrying other pollutants with them.
- Maintaining vegetated buffers that slow and treat runoff as it trickles through them.

Issues and Policy Ideas

Groundwater

- Institute a well registration requirement.
- Minimize saltwater intrusion by requiring more analysis when houses

are built, or requiring new wells to be a set distance back from the shore.

- Apply to EPA for sole source aquifer designation.
- Review the aquifer protection provisions of the Zoning Ordinance.
- Have higher standards for petroleum storage tanks – doubled walled tanks, filter protection, or containment pad.
- Require water conservation measures for new construction
- Protect aquifer recharge areas from intensive development
- Septic system registration and inventory.
- Consider adopting a groundwater ordinance.
- Have a system for taking the fluids out of and removing junked cars

Surface Water

- Reduction of use of salt on roads in the winter.
- Public education on the Shoreland Zoning Law and active local enforcement of its provisions.
- Using Best Management Practices for roadwork to reduce sediment in the runoff.
- Retention ponds might also be used as fire ponds or even agriculture.
- Minimize impervious surfaces.
- Encourage the use of natural drainage to slow and treat runoff.
- Monitor the quality of the runoff in areas of significant impervious surface near the shore.

Understanding the island's water resources and their issues, monitoring the condition of the resource, and planning to preserve water quality will insure that good water and healthy upland and marine resources are available in the future.

MARINE RESOURCES

Ernie Burges, Beth Howe and Thea Youngs

One of the most unusual characteristics of the Town of Chebeague Island is that most of its area is sea rather than land. The town covers 12,701 acres, 10,482 of which are water. The Bay is one of the Town's major resources, one that it needs to protect. But Chebeague is only one of many players in this effort. They include other towns, nonprofits concerned with Casco Bay, and the State and Federal governments which play the major role in regulating the use of the resource.

Unlike much of the open Atlantic, the Gulf of Maine is a very productive "garden" rich in microscopic, single-celled phytoplankton. These phytoplankton are eaten by zooplankton or tiny animals, which, in turn, are eaten by larger fish and shellfish. Shoreline areas, including islands, are particularly productive areas. Large tides create more intertidal habitat for animals like clams and mussels. Water near the shore where waves break is more oxygenated. And the shore itself creates areas where there can be up-wellings of nutrient-rich deeper water.

The down side of the high marine productivity is that it can be, in effect, too productive. Nutrients such as phosphorous and nitrogen are necessary for photosynthesis. However, if too many nutrients flow into the Bay from sources such as sewage treatment plants, farm fields, fertilized lawns and street runoff, photosynthesis can run amok, producing large amounts of phytoplankton and green algae. When these plants die, they are attacked by bacteria that consume much or all of the dissolved oxygen in the water, killing all other forms of life. This is called "eutrophication".

The water quality monitoring done by Friends of Casco Bay throughout the Bay from 1993 to the present, including on Chebeague, indicates that the water quality of the Bay is generally good.. There is

relatively little sign that there are enough nutrients flowing into the Bay to cause eutrophication. But there is a lot of variation in water quality seasonally, over the years, and in different parts of the Bay. To capture this variation FCB developed a Casco Bay Health Index (Map 1) based on water monitoring readings all over the Bay between 1993 and 2004. The two variables used in the index are the dissolved oxygen saturation and the clarity of the water. The index has a range from .60 to 1.35.

Despite the generally good water quality in the Bay and specifically in the Town of Chebeague Island's waters, in late summer Chebeague's most productive clam beds have areas covered with green algae. This algae kills the marine animals beneath it. This is a sign of nitrogen pollution from waste-water treatment plants and fertilizers. Some of this may reach Chebeague from the Royal River. But Chebeague is also putting fertilizer into these waters.

Chebeague's waters include a wide range of marine habitats that are inhabited by different animals and plants. The two primary human uses of Chebeague's waters are fishing and recreation. Most of Chebeague's waters are listed by the U.S. Fish and Wildlife Service as highest value habitat for declining species such as Atlantic salmon, blueback herring, bluefish and winter flounder. These are not fish that are of economic importance to Chebeague's fishermen, but their habitats overlap entirely with species that are (see Map 2).

Softshell clams are one of the species that have always been harvested on Chebeague. The island has geology that is suitable for clam flats: sand beach and muddy tidal flats, around much of its shoreline. But clamming has declined on Chebeague as it has in the rest of the state. Clams are vulnerable to many predators. Tiny clams are eaten by many small animals. Eider ducks and moon snails eat them. The most

significant predator is the green crab. One adult crab can eat 15 clams in a day.

People who eat clams are subject to diseases caused by water pollution that is taken in by the clams in their filter feeding. The State requires the Shellfish warden to test the water in any area that will be open to commercial clamming. In addition to overboard discharges and sewage plants on the mainland, local factors that can affect the water quality include boats with heads that flush into the Bay, or the presence of many waterfowl.

Eelgrass beds occur in shallow water where the grass is exposed to lots of sunlight. The many blades of grass provide good shelter against predation for juvenile animals including scallops, mussel seed, winter flounder and lobsters. The eelgrass traps suspended sediments and so helps to clear the water and let the sunlight penetrate. It also provides food for sea and shore birds.

Eelgrass is sensitive to excessive nutrients and disease. It is now recovering from a long period of slime mold wasting disease. In addition wharves shade the eelgrass and anchors can damage it by the movement of the mooring rope as the tide changes.

Lobsters in Casco Bay appear to be abundant, though in recent years the catch has fluctuated. Statewide lobster landings rose sharply in the 1990s and into the new millennium from about 40 million pounds in 1995 to over 70 million pounds in 2005. It then fell back to closer to 60 million pounds in 2007. On Chebeague, poundage landed by Dropping Springs, LLC rose from 2004 to 2006, and then dropped off five percent in 2007, less than the state average decline.

Maine's lobstering regulations, going back many years, are designed to protect the resource. Even with these regulations, the collapse of other fisheries such as groundfish and sea urchins makes people

nervous about the future of a fishery with such large catches every year. However, monitoring of juvenile lobsters in the Gulf of Maine suggests that catches in seven to ten years may be quite abundant. DMR considers 1 lobster per square meter to be a high density. Densities of juvenile lobsters at Chebeague's Bennett Cove have risen steadily from .06 lobsters per square meter in 2000 to a peak density in July 2008 of 1.9 lobsters per square meter. Growing numbers of juvenile lobsters have also been seen in all other juvenile lobster sampling areas in Casco Bay.

On the other hand, the summer and fall of 2008 produced a crisis in the lobster industry that had nothing to do with the supply of lobsters. Instead, high energy costs raised the cost of lobstering. Then worldwide credit and economic problems disrupted the demand for lobster, both from processing plants and from live sales by reducing the wholesale price to less than the cost of fishing. This will be explored more in the section on the economy.

Scallops can occur on the bottom in many areas of Chebeague's waters. They are fished by dragging or by scuba diving. Statewide, the pounds of scallops landed peaked in the early 1980s at over 3 million pounds. Since the early 1990s it declined consistently down to less than 22,000 pounds in 2004 and 2005. Due to the overfishing the State Legislature, DMR and the Federal government have all been moving toward limiting scalloping in an effort to create a more sustainable harvesting program.

Mussels live in shallow water and the intertidal zone. However, farmed mussels are suspended in the water column from mussel rafts. The waters around Chebeague have the potential to be excellent aquaculture sites and the Town of Chebeague Island has one commercial mussel farm. The Chebeague fishermen are

concerned about the impact of this fishery on access to places where they set their traps. Mussel farming may also be polluting by introducing excess nutrients into the water.

Issues:

- Jurisdiction: The State and Federal governments regulate all the fisheries, requiring permits and bottom leases and setting harvesting regulations, seasons and quotas for various kinds of fish and shellfish. In the intertidal they also regulate clamming. The issue for the Town may be how to increase the Town's role in this state and federally-controlled system.
- Pollution: Reduce nitrogen pollution from Chebeague to clam flats; monitor green algae. Work with Friends of Casco Bay, the Casco Bay Estuary Project.
- Clams: To increase numbers and size of clams, manage flats; close flats to recover. Is there any way to reduce predation by birds and green crabs?
- Mussels: Should the Town have a plan which would identify areas unsuitable for mussel farming, and/or require a local mooring permit to have a mussel raft?
- Lobsters: Work with Zone F to protect the resource. Protect and encourage eelgrass beds – pollution and disease. Should baby lobster habitat in the intertidal be protected?
- Scallops: Provide input into new regulations being developed by the State.

FOREST RESOURCES

Leila Bisharat, Mabel Doughty, Specs Eaton, Philip Jordan, Sheila Jordan, Peter Olney, Rob Prescott, Thea Youngs, Chuck Varney, John Wilson
Resource People: Ken Canfield (Maine State Forester, Gray), Richard Morse

(Maine Forest Service Augusta), Roger Berle, Dick Calder, Tom Calder, Dickie Clark (Long Island), Nancy Jordan (Long Island) Shey Conover (Island Institute)
Photographs: Cathy McNeill

Resources: There is extensive tree growth across the Town of Chebeague; many trees have reached the maturity of 100 years or more. Here there is also an exceptional island woodland ecology of mosses, wildflowers as well as trees that deserves protection for pleasure and its place in our fragile island ecosystem of water and soils. Natural succession is slowly transforming many evergreen areas into hardwood stands. There are historic trees, especially maples, beeches and horse chestnuts as well as heritage fruit trees that deserve an inventory and protection.

Stockman is protected by the Chebeague and Cumberland Land Trust and the State owns Little Chebeague, Bangs and Jewell. Stave, Ministerial and Bates are only subject to the Tree harvesting restrictions of the Shoreland Protection Zone.

Assets: Local knowledge of woodland vegetation and trees is extensive; some skills and equipment are available and there is knowledge of additional equipment needed; local use of forest products survives in boatbuilding, wharf and float construction, handicrafts, house building, and firewood sale; demand for tree management exceeds capacity.

Current work in tree management could be expanded with more skilled on-island foresters and arborists, with a saw mill, low-technology, forest-friendly harvesting equipment and processing for on-island use. The Town of Chebeague has sufficient need and demand, if well managed, to make one such operation marginally profitable;

Dangers: Many of the trees have reached their maturity and are prone to fall unless

there is selective cutting. Fire hazard is there, but is moderated by our water-rich, deep soil woodland environment. Bittersweet and other invasive species are increasingly choking and killing trees and woodland vegetation.

Constraints: Few property owners can manage current tree growth and invasive species on their own. Present on-island harvesting capacity cannot manage the extensive need for selective cutting. The Town of Chebeague's budget and staff are insufficient to meet needs for selective cutting on town-owned land and roads.

Opportunities: A proactive move to assess and manage forest resources across the island is needed now, before we progressively lose the assets we have and/or suffer damage from extensive blow-downs.

There are benefits in managing tree growth for safety, energy, and economic return on forest products. This would also protect exceptional island soils, water resources and woodland ecology. Opening the woodland canopy would improve the quality of trees and accelerate their growth.

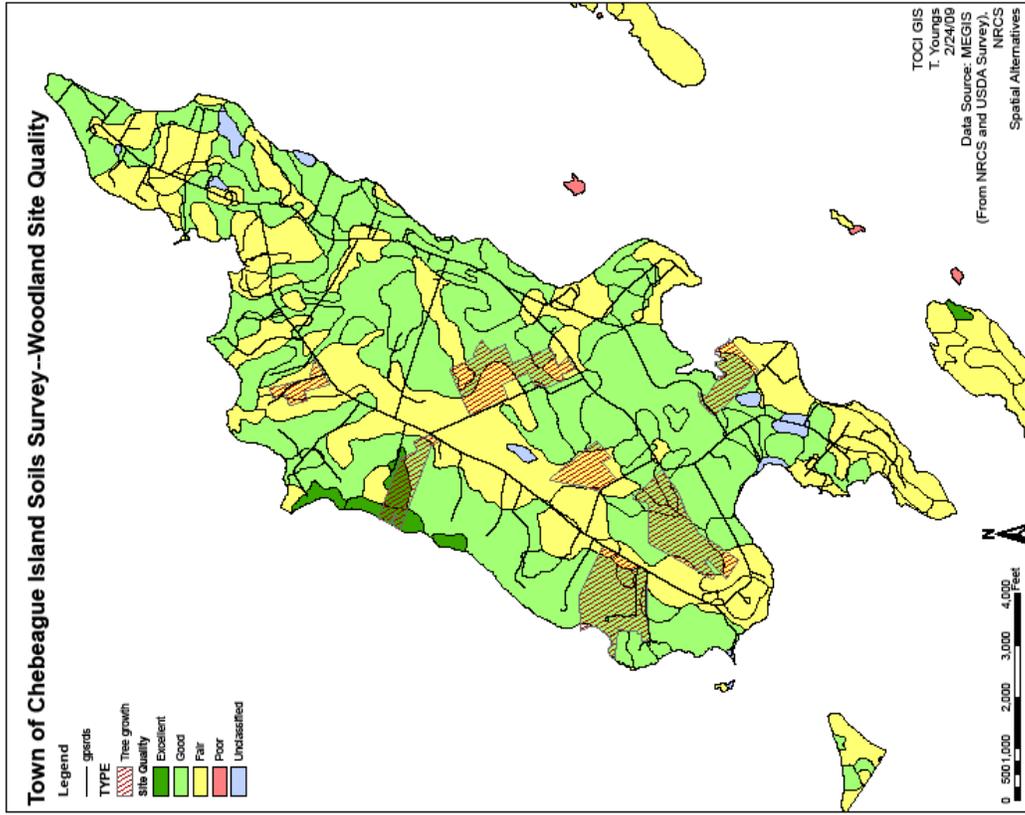
The demand for forest management on the island exceeds local capacity to respond. Increasingly people import these high-end skills and services from off the island.

New, high-energy wood-burning furnaces can use softwoods and chips as well as hardwoods. There are opportunities for more job creation and energy-savings if such furnaces were used in public buildings as well as homes.

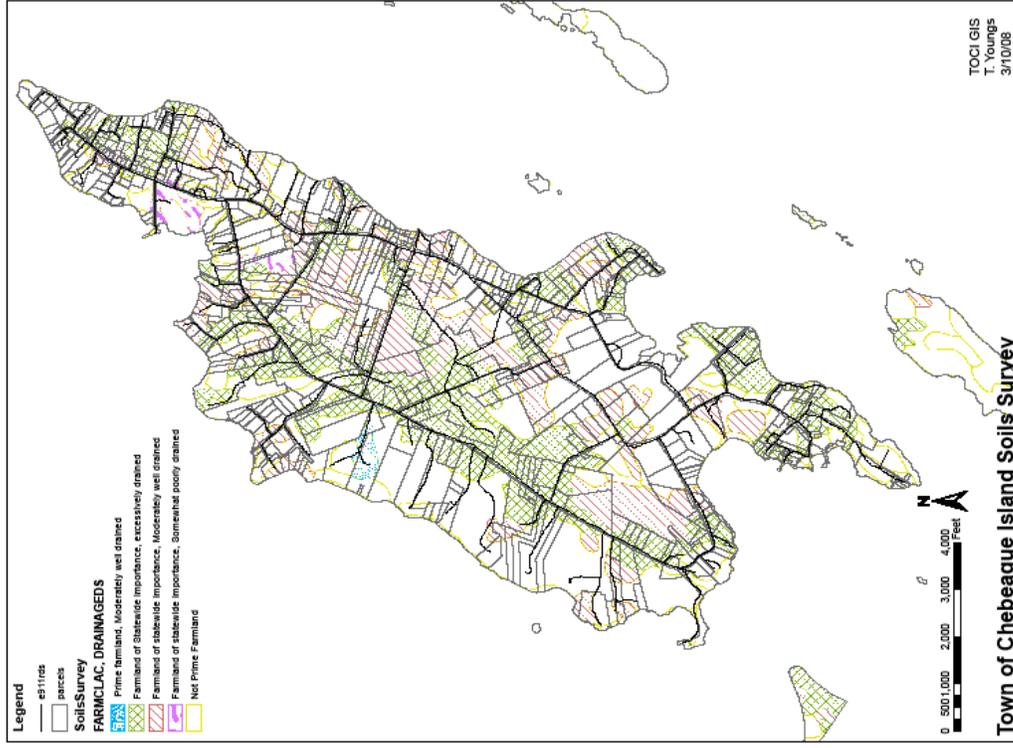
Planning issues:

Woodland areas cover some of the island's best agricultural soils. Great Chebeague has agricultural soils of statewide importance. Forestry protection should not eliminate potential agricultural use where feasible. Limited woodland acreage on Chebeague is

Map 3:
Soils Suitable for Forestry and Land in State Tree Growth Program



Map 4:
Soils Suitable for Farming



currently protected from clear cutting. Major effort needed to manage tree growth well.

- Tree Growth Area (Map 3) The State's Tree Growth Program offers reduced-taxes for woodland parcels of 10 acres or more that are harvested under a forest management plan. Only 8 percent of the acreage in the Town is in this program. Private property owners can remove lots from tree growth at will by paying tax differences to the Town. This means that tree growth designation does not provide protection of woodland areas in perpetuity.
- Conservation Easement Areas. Conservation easements held by the Chebeague and Cumberland Land Trust currently protect tree growth on Deer Point and at Chandler's Cove in the Belvin easement. These are in perpetuity..i.e. forever..
- Town-owned Chandler's Cove has a woodland area designated by the donors for protection;
- Shoreland Zone designated by the State around all the coastline of the Town of Chebeague severely limits the harvesting of trees to reduce runoff and erosion by protecting the vegetative cover. No clear-cut openings can be made within 75 feet of the high water line.

AGRICULTURAL RESOURCES

Bob Earnest, Jane Frizzell, Peter Olney and Thea Youngs

Chebeague has very little agriculture now. Land that used to be farmed has mostly grown up in trees. What we have is mostly of the home garden variety. Only Second Wind Farm is trying to make an economic go of it. We do have a cultural memory of farming – a mixed economy of farming and fishing and a tradition of a relatively self-sufficient island economy.

Farming requires investment in land, buildings, machinery and animals, plants and seeds. The scale of the farming to produce income on an island is likely to be different from farming on the mainland and so is the need for things like machinery. The Amish manage with less because they have less capital investment. But if we wanted to process farm goods – for example milk into products like cheese – we would need more equipment. Also, since farming ended on Chebeague in the 1960s and by that time land had come to have value largely for housing, our land is very expensive and there are not large, contiguous areas that could be turned into farms. But we could be ahead of conventional wisdom by trying to make small-scale farming work on an island.

History of Farming on the Islands

Since 1780 it appears that almost the entire island of Great Chebeague was used for pasture, for haying and for growing vegetables and maintaining livestock. Many photos and stories give testament to the many views of the bay and surrounding islands provided by farm fields.

Other parts of the town such as Bangs and Stockman Islands were used for pasturing sheep and cattle. The Jenks were using Bangs for cattle pasture into the 1890s. Land continued to be cleared for agriculture into the first quarter of the 20th century.

Then, between 1900 and 1920, many farmers subdivided their open land for the construction of summer houses. Subdivisions along the shore at the East End and along the new “Cottage Road”, for example became neighborhoods in themselves. Even so, in 1902 there were still 22 farmers, but by 1950 the census listed only one.

A Revival of Farming?

We need to think about what the goals are of bringing farming back to Chebeague and

what is the best way to get started. What land is available that is cleared? What could be farmed on forested land? What would it take to clear more land?

Because of the moderating effect of the Bay's waters, Chebeague is two growing zones warmer than areas at the same latitude but inland. This means that the growing season is longer.

The soils map (Map 4) indicates that Chebeague has a lot of good land. This is unusual for a Casco Bay island. Most of the others have very sparse soil. Large areas in the middle of the island are "farmland of state wide importance", though excessively drained which suggests that irrigation might be needed. Much of the rest is "farmland of statewide importance, moderately well drained". All this land is privately owned and has no particular protection as good farmland.

Of course, the land in the middle of the island is largely forested. But two sizeable fields in this area with land of statewide importance have recently been cleared for farming. Several other parcels of land that are open also might be used for crops. It is possible to grow vegetables on plots of one to ten acres. It is also possible to have modest numbers of cows, sheep or goats. Several of these fields also have a southern exposure, so that they get stronger light.

Some kinds of crops can be grown on forested land, and work is being done on exploring this. Cutting trees is hard work and stumps are not allowed in our brush dump. We would need to have an economically viable use for the wood to make it attractive to clear land for farming.

So vegetables grown outdoors and in greenhouses, cows, sheep, goats, chickens, turkeys, orchards, small fruits like raspberries, blueberries, strawberries and maybe cranberry bogs are all feasible crops.

A major problem is that land on Chebeague is very expensive. But farming can be mutually useful to the farmer and the land-owner. Grazing, for example improves pasture. Goats eat bittersweet and poison ivy. Conservation easements can allow farming and this might make some land available at an affordable price.

Issues

- Do Chebeague residents want a return to agriculture as a part of Chebeague's real economy?
- What kind and scale of agriculture – animals, cropland, both?
- How would this fit into the definition of rural areas and open space in the Plan?
- What policies would the Town need to make this an attractive economic opportunity for farmers?
- How could this get started without major investment in land?
- What other investments would be needed. Should the Town help?
- What would it take to clear more land?

CRITICAL NATURAL AREAS

Mabel Doughty, Beth Howe and Thea Youngs

The Town of Chebeague Island is rich in natural habitats, including ones defined by state law as "critical" because they are essential to wildlife, particularly rare and endangered species. These areas and the animals, birds, and plants in them have intrinsic worth. They also have value as beautiful places for people to enjoy. The Town's islands also have many different kinds of natural habitats from mixed evergreen and hardwood forests to open meadows, beaches, wetlands, and sea bird nesting islands. It is because of these diverse natural areas that we think of Chebeague as "rural."

Shorelands:

The place where the ocean meets the land is a complex natural area. It includes land in the tidal zone and land above high tide. Use of the land 250 feet horizontal distance from the upper edge of the tidal zone is regulated by the State's mandatory Shoreland Zoning Law. Its purpose is to protect both the fragile natural habitats and the commercial fishing uses along the shore.

Beaches: Beaches are a very dynamic environment. Their shapes change with the winds and storms of the changing seasons. Chebeague does not have large sand dunes, but any beach has a frontal dune ridge at the upland edge of the beach. This dune needs to be stabilized with vegetation. Beaches provide habitat particularly for piping plovers and least terns.

Coastal Wetlands: There are three different kinds of wetlands in the shoreland area:

Tidal Wetlands are found in intertidal areas. They provide control of runoff and provide eelgrass, finfish, and shellfish habitat.

Tidal Marshes, such as Johnson's Cove. The cove currently provides the town's best habitat for clams.

Coastal Freshwater Wetlands which are typically found behind the frontal dune of a beach at Springettes, Rose Point, Sandy Point, and Bennett, Chandler's and Indian Point Coves. They provide places for sediments to settle out of stormwater and are habitat for shore and wading birds.

Rocky Shores and Coastal Bluffs: State maps of our coastal bluffs indicate some "highly unstable" areas on the island. Some of these bluffs also contain shell middens.

The Outer Islands: All of the smaller islands are completely within the Shoreland Zone since they are less than 500 ft wide. Many are important seabird nesting sites.

Upland Areas:

Wetlands: The word "Chebeague" is said to mean "land of many springs" in Abenaki, and Chebeague has many springs and areas of hydric soils that can be indicative of wetlands. By State law wetlands can be only minimally filled and only by permit. The National Wetlands Inventory maps show sizeable areas of wetland in the middle of the island, on Rose's Point, and in the area around Jenks Rd. Much of this is forested land. These larger, and the many smaller, wetlands provide recharge for our aquifer, provide habitat for wildlife, and help clean the water that flows into the Bay.

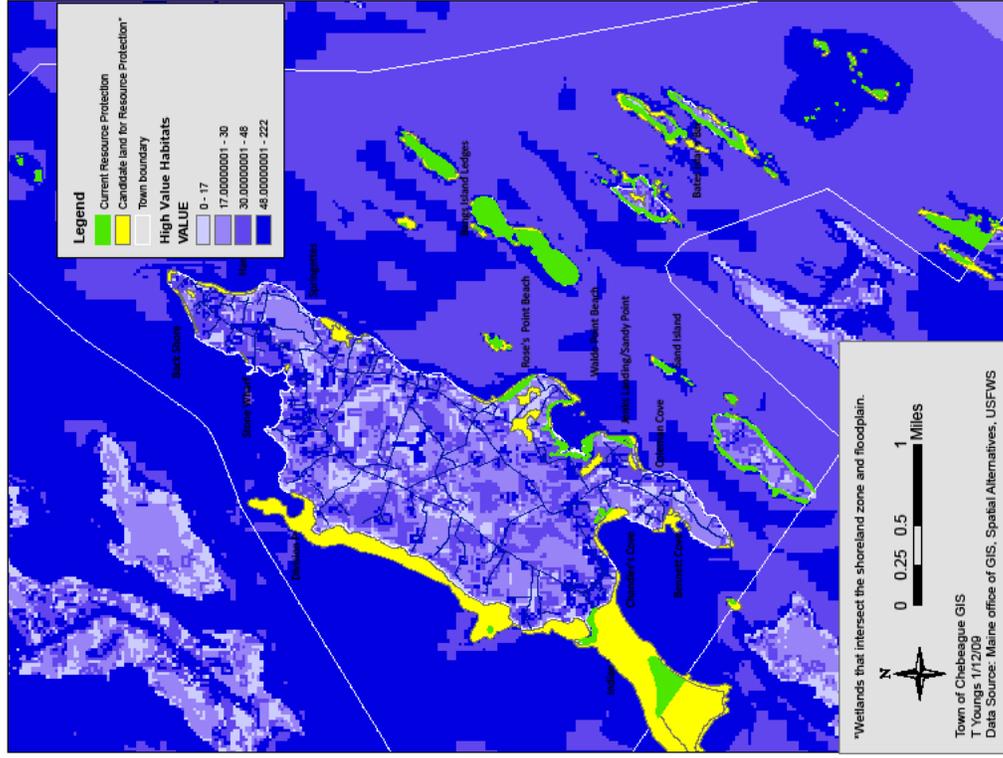
Vernal Pools: It is likely that Great Chebeague has some vernal or seasonal pools; however, no survey has been undertaken at this time. Frogs and salamanders lay their eggs in these pools.

Forest: Chebeague forests are made up of a mix of conifers of the northern boreal forest and conifers and deciduous trees of more moderate climates. There is very little old growth forest as Great Chebeague and many of the outer islands were cleared for agriculture in the 18th and 19th centuries. These woodlands provide much habitat for wildlife.

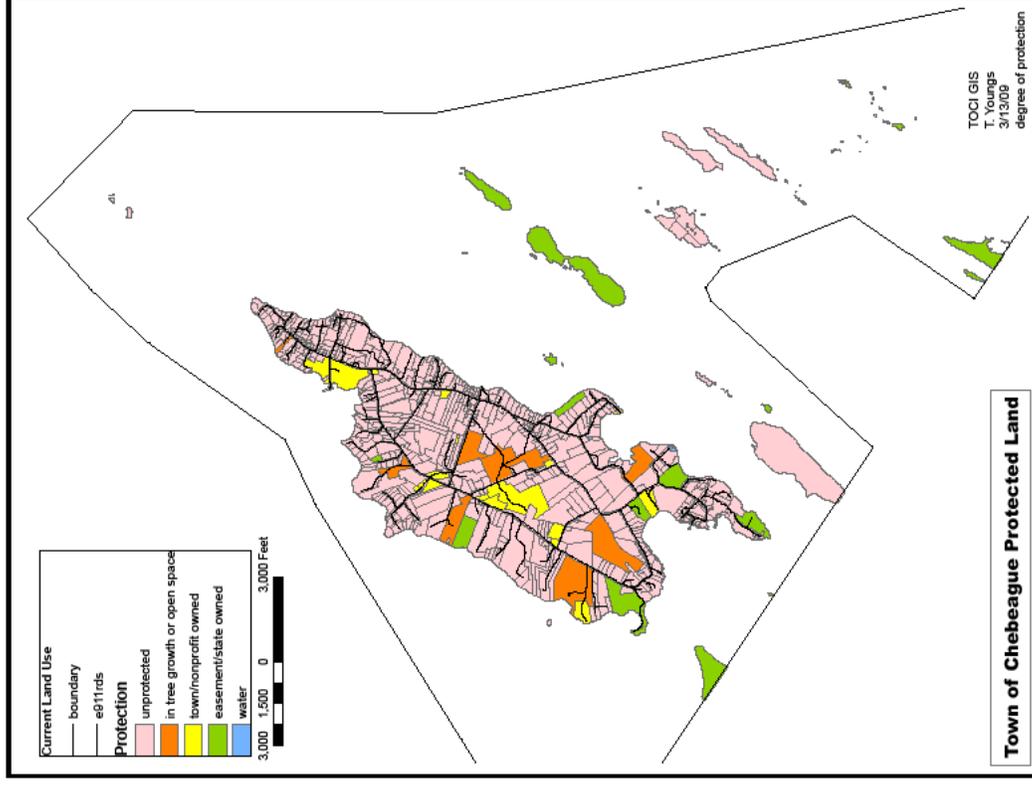
Animal Habitat Blocks: At 1,926 acres Great Chebeague is not very large for animal habitat. In spite of its small size, it has many wooded areas between houses; and it has 436 acres between North and South Roads and Firehouse and Schoolhouse Roads which are broken only by the Roy Hill and Littlefield Roads. Since Chebeague is an island, it has fewer species of mammals, amphibians, and reptiles. Several species has been brought over from the mainland. The outer islands have even fewer terrestrial species such as raccoons, and are therefore prime bird habitat.

Plants: The State Beginning with Habitat maps do not show any endangered plants on the islands. This may be because they have

Map 5:
Coastal Wetlands in Resource Protection and Not Protected



Map 6:
Degree of Protection of Open Space



not been seriously surveyed. Preservation of plants would go hand in hand with the preserving of various kinds of habitats. We need also to ask the question of what introduced plant species, such as bittersweet, are harmful to island habitats.

Scenic Vistas: In a deep sense scenic places and vistas are important to all Chebeague residents and visitors. They are one of the reasons we choose to live here. Loss of these scenic vistas and historic places would significantly change the rural character of the islands.

Issues:

- Will a continuation of the present pattern development threaten the existence of natural habitats and scenic features?
- How important is the preservation of natural habitats and scenic features? What is their economic and/or aesthetic importance?
- What mechanisms are available for preserving open space, scenic areas and vistas? At what cost and to whom?
- Shoreland Zone: Should currently undeveloped freshwater wetlands that are in the 100yr floodplain be designated Resource Protection areas? Should areas of steep slopes and unstable bluffs in the shoreland zone be designated Resource Protection areas?
- Inland Areas: What might be done to preserve sizeable animal and plant habitat blocks? Policies about surface water/drainage may encourage wetland protection.
- Outer Islands: What kind of management, if any, should the Town provide? What kind of usage should be allowed?
- Plants: Would it be useful to consider any public policy to lessen the threat posed by invasive species?

OPEN SPACE

The entire Comprehensive Planning Committee and staff

We think of Chebeague as a rural place. It has development, in fact, quite a lot of it. But as the introduction to this section said, “ruralness is a function of having ‘enough’ open space, both water and land to allow people and wild animals to coexist, and to allow people to pursue traditional extractive industries such as fishing, farming and logging that are based on the use of natural resources.”

The idea of open space is closely connected to the idea of “access”. People have physical access to public open space. But sometimes, as in the case of farmland or a conservation easement, access may be limited – to the view across it, or for certain purposes, for example. Chebeague has a long tradition of people being able to go wherever they want on the island. But though this tradition lives, access is becoming more formalized.

In addition to Casco Bay, open space is land that is kept completely or only moderately undeveloped because it has value for the community as a whole as undeveloped land. The functions it serves that give it value are ones that have been discussed in the preceding natural resource inventories:

- The function of cleansing the water percolating into the aquifer and running into the Bay. Aquifer recharge areas and wetlands are the highest priority here. Land left open for this purpose may be, but is not necessarily, left in its natural state. It also has aesthetic value.
- The economic function of providing crops and forest products. Land used for farming and forestry is not left in its natural state but it continues to have aesthetic value as well.

- Casco Bay also has both economic and aesthetic functions. It is a place for fishing and it is a source of unique natural beauty.
- The function of providing places for people to play. Areas like the Golf Course, ballfield, Sanford's skating pond and the Chandler's Cove beach and the waters of Casco Bay are all used for active recreation. All of these uses have economic value, whether or not the use is free. An area used for active recreation is sometimes far from being natural open space.
- The function of providing animal habitat. Before there were people on Chebeague there were animals on the land, birds in the air and creatures in the sea. Obviously they can have economic value to people – we hunt and fish for them. But they have value in and of themselves. If you want to go lobstering, hunt deer, watch the turkeys cross the road or a fox dive for a vole in a snowy field, you have to provide habitat for those animals.

What Open Space Does Chebeague Have?

How much land is in open space on Great Chebeague depends on the definition of open space. Here the primary considerations are whether they provide access to the public and how much protection the land has from future development.

In the past, the issue of protection was not so important. There was lots of undeveloped land, residents were often related and, in any case, knew each other. Keeping others off your land was not an issue. Until after the Civil War there were no public roads on Chebeague and islanders wore farm roads and informal paths across other people's properties.

This kind of informality has become less common. Some insist on their rights to keep others off their property. As land changes hands, the historic uses of the property may be unknown to new owners, which may cause conflicts. Extensive research is often necessary to determine who owns rights in a property, particularly a shore access. Each case may be different. While Colonial law guarantees fishing, fowling and navigation rights in the intertidal zone, the courts have not extended these rights to include recreation. Each parcel of coastal property has its own history of use and deed construction. An understanding of both is necessary to determine who has access. Retaining traditional access to the woods and shores of Great Chebeague continues to be a community concern.

Map 4 shows the Town's open space, ranked from land that has little protection to land that has strong protection from future development.

- *Undeveloped land* – This includes all parcels of land without a building that are not in one of the categories below. It is land that is zoned for 1.5 acre lots. This miscellaneous collection has no particular function as open space, though some individual parcels may have value for some open space function.
- *State Tree Growth Program*: Land can be taken out of Tree Growth as long as the landowner pays the state the taxes that were forgone while it was in the program. Several sizeable parcels of land on Chebeague have been taken out of the Tree Growth program. Access is at the pleasure of the owner.
- *State Open space Program*: Two parcels are in this program. The tax benefit to the owner increases as public access to the land and the

permanence of its protection increase.

- *Town-owned land:* The town owns land for a variety of reasons: land that is taken for non-payment of taxes, land that is used for Town functions such as the Firehouse and the School and ballfield. It also includes public open space such as Chandler's Cove Field and Beach and other rights of way to the shore. Land owned by the Town can be sold after an evaluation of its usefulness to the Town, and the proposed use. This requires a vote in Town Meeting.
- *The Golf Course:* This land is owned by the Golf Club and has been used for recreation by its members and the paying public for many years. There is no reason to expect a change in this status, but if the club found itself in financial trouble, the land is its primary asset and could be sold.
- *Land owned by the State of Maine:* The State owns several of the outer islands. Like Town land, they might possibly be sold, but there is no indication that this will happen.
- *Land zoned as Resource Protection in the Shoreland Zone:* The shoreland zone is governed by state law and the land zoned for RP meets criteria defined in the state law.
- *Land under Conservation Easement to the Chebeague and Cumberland Land Trust:* Each conservation easement is a specific legal agreement between the land owner and the Land Trust. They require that the land be kept open in perpetuity. However, easements do not necessarily provide for access or use by the public.

- What land should be kept as open space in the future?
- How should it be so defined? By public ownership, by Land Trust easements, by the owner who uses it for a purpose that keeps it in open space?
- Are there priorities concerning what land should be kept formally and perpetually in open space?
- How should these decisions be made?

Members of the Town of Chebeague Island Comprehensive Planning Committee are:

Sam Ballard	Sam Birkett
Leila Bisharat	Erno Bonebakker
Ernie Burgess	Donna Damon
Mabel Doughty	Bob Earnest
Bob Earnest	Jane Frizzell
Beth Howe	Sheila and Phil Jordan
Andy LeMaistre	Peter Olney
Al and Vail Traina	Carol White
Staff: Thea Youngs	

March 2009

This packet includes the Natural Resource Inventories for The Town of Chebeague Island Comprehensive Plan. The Comprehensive Planning Committee will hold a Public meeting to discuss the issues in these reports and set Natural Resource Goals for the Plan. The meeting will be on:

Sunday March 22 from 1:00 to 4:00 at the Hall.

Refreshments

Childcare will be provided by the CPA
at the Rec Center during the meeting

Comprehensive Planning Committee
Town of Chebeague Island
192 North Road
Chebeague Island, ME 04017

**Postal Patron
Chebeague Island, ME
04017**