

Town of Truro Massachusetts

OPEN SPACE AND RECREATION PLAN

2009-2014



TRURO OPEN SPACE AND RECREATION PLAN

2009-2014

*Prepared by
The Truro Open Space Committee
and
MapWorks*

*For the
Town of Truro Massachusetts*

May 2009

MapWorks

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May 22, 2009

Herb Heidt
Mapworks
P.O. Box 1505
Harwich, MA 02645

Re: Open Space and Recreation Plan

Dear Mr. Heidt:

Thank you for submitting Truro's Open Space and Recreation Plan to this office for review for compliance with the current Open Space and Recreation Plan Requirements. I am pleased to write that the plan is approved. This final approval will allow Truro to participate in DCS grant rounds through March 2014.

Congratulations on a great job. Please call me at (617) 626-1171 if you have any questions or concerns about the plan.

Sincerely,

A handwritten signature in cursive script that reads "Melissa Cryan".

Melissa Cryan
Grants Manager

cc: Board of Selectmen
Recreation Department
Conservation Commission

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Looking west from Pamet Park. F. McClennen

SECTION 1 - PLAN EXECUTIVE SUMMARY

The 2009 Truro Open Space and Recreation Plan is a five year planning document. The text and maps were developed in conformance with the requirements of the Massachusetts Executive Office of Energy and Environmental Affairs, Division of Conservation Services. The Truro Open Space Committee, with sincere thanks to the authors of previous editions, is pleased to present this revision to the Plan, which may be viewed as a companion document to the 2005 Truro Local Comprehensive Plan.

Truro is a community of many unique environments; from ocean bluffs to bay side beaches and marshes to interior woodlands and fresh water wetlands. While approximately 70% of the Town is included in the Cape Cod National Seashore, Truro must still work to protect its natural resources and continue to meet the Open Space and Recreation needs of the community. Changes in both demographics and the real estate market provide special challenges to Truro and its unique environment.

This Plan includes an overall description of the Town with its geography and physical features, followed by an historical overview, demographics, and facets of infrastructure (Section 3). Considerable emphasis is given to physical resources (Section 4), especially water and protection of the aquifer, of which the ponds are such an important part. Similarly, the protection of plant and animal habitat has been receiving growing attention in recent years. Inventories of plants, animals, historic sites, beaches, and special areas are presented, followed by expressions of needs, goals, and planned actions. Lands of Open Space and Recreation interest are tabulated and mapped (Section 5).

This 2009 Open Space and Recreation Plan seeks to address issues and provide suggestions for meeting the sometimes conflicting needs and expectations of its full time and seasonal residents. The Plan provides a vision for natural resources protection, historic preservation and enhanced recreational opportunities. The Open Space and Recreation Survey made clear some basic goals that were priorities of Truro Residents. The following four areas of concern represented the highest priorities for survey respondents.

- Protect Truro's Water Resource Aquifer
- Protect Truro's Visual Character and Historic Resources
- Protect Truro's Varied Environmental Habitats
- Improve Access and Opportunities for Passive Recreation

The Five-Year Action Plan (Section 9) provides specific actions to allow Truro to meet these goals.



Bayside, looking Northwest from Hopper landscape. F. McClennen

SECTION 2 - INTRODUCTION

A. STATEMENT OF PURPOSE

This 2009 Truro Open Space and Recreation plan is a revision of the 1989 Open Space Plan that was partially updated in 1995 and again in 2001. The 2009 Plan has been developed by the Open Space Committee, with the assistance of Herb Heidt, dba MapWorks and his team of open space specialists. The Recreation Commission and various other groups and interested citizens have also participated in the process.

In conjunction with the 2005 Truro Local Comprehensive Plan (LCP), this plan will help Truro address the pressures of growth and the constraints of its environment to meet the varied needs of its citizens. The possibility of benefiting from the Massachusetts Division of Conservation Services grant programs will allow Truro to plan for and carry out open space purchases not otherwise possible.

The Town of Truro, like other coastal communities, continues to feel the pressure of development. This was heightened 47 years ago when some 70% of the town's area became part of the Cape Cod National Seashore (CCNS). The remaining land outside the Seashore became under more intense building pressure, as was predicted in the first edition of this plan in 1984. While there is now large acreage within the National Seashore, that land is not "Permanently Protected Open Space." There are private in-holdings that are subject to "tear-downs" and expansion that potentially can damage the visual landscape and natural environment of this theoretically protected area. Building projects in private in-holdings in the Seashore warrant very close attention, since the Seashore is limited in its ability to enforce its own regulations about expanded residences.

Citizens of the town owe it to themselves and to subsequent generations to see that the wisest possible decisions are made now and in the next few years for the utilization of the remaining land. The little undeveloped acreage left in the town, outside of the CCNS, could easily be oversubscribed or fall into mismanagement unless great care is taken. Moreover, Truro's coastline is subject to dynamic natural phenomena such as flooding, erosion, accretion and other processes. Future land use must take these factors into consideration. The great natural beauty and rural atmosphere of Truro are among its priceless assets. Future land use must respect these qualities so that the town's scenic beauty and quiet ambiance are preserved for future generations, while at the same time property values (the tax base) are maintained for all time.

Truro has a rich, colorful history, and many buildings and sites of historic value remain as important legacies of the past. Any plan for the town must consider this history and collaborate with the Historical Society and Historical Commission to preserve and make optimal use of land and buildings of historic value. As Truro seeks to maintain its rural character through historic and open space preservation, attention must also be given to providing affordable housing for Truro residents. This will be a continuing challenge as property values rise.

With these and other considerations in mind, it is necessary to review and revise plans for the future, to set goals which harmonize human needs with the requisites of the ecosystem in which we live, and thereby plot a future that is as sustainable and as livable as possible.

B. PLANNING PROCESS AND PUBLIC PARTICIPATION

The Consultants and Committee members began working together in the late spring of 2007. A meeting was held on May 23, 2007 with Truro Boards and Commission members and interested citizens to discuss changes in Truro since 1995 and discuss visions and hopes for the future. A variety of opinions and ideas were discussed to provide a good overview of Truro's "state-of mind."

In July of 2007, an Open Space and Recreation questionnaire was designed and mailed to 1855 Truro/North Truro Post Offices boxes, which is the only mail delivery in Truro. There were 216 responses, which provided an 11.6 percent return. Representatives of the Town and the consultants worked together throughout 2008. A formal public presentation of this plan was made on January 23, 2009 at the Truro Town Hall.

This plan has been prepared by MapWorks, a small Open Space Consulting group based in Brewster, MA. MapWorks was contracted by the Town of Truro and worked closely with the Open Space Committee and Assistant Town Administrator/Planner. The following people played an integral part in its preparation.

Truro Open Space Committee

Brenda Boleyn, Chair	
Kenneth Brock (former member)	Janice Parky
Janice Johnson	Claire Perry
Fred Gaechter, Selectman Liaison	

Town of Truro:

Charleen Greenhalgh, Assistant Town Administrator/Planner

MapWorks

Herb Heidt, Principal
Alan McClennen, Jr. FAICP, Land Use Planner
Eliza McClennen, Cartographer
Photography by Fran McClennen

Special Thanks to Richard Whalen, historian

Three town committees play key roles in the implementation of Open Space and Recreation opportunities for Truro citizens: Among its duties to secure and protect open space in Truro, the **Open Space Committee** is specifically charged to "Update the Town's Open Space and Recreation Plan; submit for approval as required." The **Recreation Commission** works "in cooperation with the Recreation Director" to develop programs for citizens of all ages, offer guidance and support, and make recommendations to the Board of Selectmen. A member of the Recreation Commission also serves on the Open Space Committee. In cooperation with the Beach Supervisor and the Dept. Public Works, the **Beach Commission** is charged "to review and evaluate all policies and fiscal matters pertaining to and governing the operation of the Truro town beaches." Two other committees, not to be overlooked, are the Golf Course Advisory Commission and the Shellfish Advisory Committee.

The following acronyms are used in the text:

CCC	Cape Cod Commission
CCNS	Cape Cod National Seashore
CPA	Community Preservation Act
CR	Conservation Restriction
DCR	MA Department of Conservation and Recreation
DCS	MA EEA Division of Conservation Services
DEP	MA Department of Environmental Protection
DFG	MA Department of Fish and Game
EOEEA	MA Executive Office of Energy and Environmental Affairs
FEMA	Federal Emergency Management Agency
IMA	Inter-Municipal Agreement
LCP	Local Comprehensive Plan
MEP	Massachusetts Estuaries Program
MESA	Massachusetts Endangered Species Act
NHESP	Natural Heritage and Endangered Species Program
NPS	National Park Service
ORV	Off road vehicle
PLOG	Pamet Lens Oversight Group
PWC	Personal water craft
TCT	Truro Conservation Trust
TNRTA	Truro Non-resident Taxpayers' Association
USGS	United States Geological Survey



Ballston Beach Bluffs. F. McClennen

SECTION 3 - COMMUNITY SETTING

A. REGIONAL CONTEXT

General Physical Location

Truro is a rural town on the outer portion of Cape Cod (**Map 1**), a 70-mile-long peninsula extending off southeastern Massachusetts, possessing outstanding and diverse natural beauty and historical significance. Although the Cape is a peninsula of the mainland, its geological genesis and current character are very different from adjacent New England.

Truro is situated approximately 115 miles southeast of Boston, 140 miles east of Worcester, 115 miles east of Providence, RI and 290 miles northeast of New York City. Access to the Cape from Metropolitan Boston and regions north and west of Boston is by Routes 128, 3 and 6 (the Mid-Cape Highway) or I-495, Routes 25 and 6. Access from the Providence, RI, New Haven, CT and New York areas is by I-95, I-195, and Routes 25 and 6.

As a political entity, Truro is part of Barnstable County, and is the least populated of the county's 15 towns. It occupies 22 square miles of the Outer Cape land, with 67% of its area included in the Cape Cod National Seashore. Truro is bound on the northwest by Provincetown and on the south by Wellfleet. It is bordered by Cape Cod Bay on the west and by the Atlantic Ocean on the east. Parts of Truro are quite hilly, similar to the rolling hills of central Massachusetts, while other portions such as in the Beach Point area are very flat.

In contrast to the Upper Cape (nearer the mainland), the Outer Cape, where Truro lies, is especially fragile and vulnerable to the forces of nature and the negative impacts of population growth and inappropriate development. Land-use decisions by other Cape towns and by the state may indirectly but significantly affect population, land use and economic development in Truro.

Resources Shared with Neighboring Towns

Of all shared resources, water is the most important. Provincetown and Truro have an inter-municipal agreement with respect to use of water, with Provincetown getting all of its potable water from well fields located in Truro. Currently, all Truro and Provincetown public water supplies come from the Pamet Lens, one of six ground water supply lenses that form the Cape Cod aquifer. The water resources of the Pamet Lens are under the stewardship of the Pamet Lens Oversight Group (PLOG), which was established as part of the Inter-municipal Agreement (IMA) between Truro and Provincetown. In September 2008, the Cape Cod Commission Water Resources Program produced a Draft of a "Plan for Watershed Management for the Pamet Groundwater Lens" for PLOG.

This plan represents a joint effort between the Towns to establish an approach for protecting the drinking water aquifer in Truro for both current and future generations. It is arguably the most comprehensive and complete summary of lens-wide planning and investigative effort for the region. The plan is a working document that will evolve over time. There are several recommendations in the plan covering a wide range of topics, including both short and long-term priorities as well as recommendations for the siting of new municipal water supply wells and management of supplies such that impacts on water quality, water levels and habitat are minimized. It also suggests the adoption of appropriate land-use planning guidelines, policies, and regulations that address water-quality concerns.

Although Truro has a small year-round population, many visitors from other Cape Cod towns and beyond enjoy activities and locations within the Town. Ponds and beaches within the confines of the Cape Cod National Seashore are very popular. Non-residents can obtain shellfish permits that

allow public access when the shellfish beds are open each year. In 1999, Truro joined the towns of Wellfleet and Provincetown in funding a regional skateboard park built in Wellfleet, which has been used by young people from surrounding towns.

The Cape Cod National Seashore

The Cape Cod National Seashore (CCNS) is a major land use feature of Truro; covering approximately 70% of the Town (14.64 square miles). It was established by an Act of the United States Congress on 7 August 1961, and is administered by the National Park Service, U.S. Department of the Interior. A total of 43,600 acres of the Outer Cape, including tidelands that extend one-quarter mile from the shoreline into the bay and ocean, are within the officially designated boundary of the CCNS

The establishing legislation specifies preservation as the primary goal:

“In order that the Seashore shall be permanently preserved in its present state, no development or plan for the convenience of visitors shall be undertaken which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions flow prevailing or with the preservation of such historic sites and structures. (P.L. 87-126, 75 Stat. 284)”

However, the legislation does allow the director of the National Park Service latitude to:

“...provide for the public enjoyment and understanding of unique natural, historic and scientific features of Cape Cod within the Seashore by establishing such trails, observation points, and exhibits and providing such services as he may deem desirable for such public enjoyment and understanding (and) may develop for appropriate public uses such portions of the Seashore as he deems especially adaptable for camping, swimming, boating, sailing, hunting, fishing, the appreciation of historic sites and structures and natural features of Cape Cod and other activities of similar nature. (P.L. 87-126, Stat. 284).”

Within the 9,366.53 CCNS acres in Truro, there are 241 private residential parcels (589.97 acres) and 35 private vacant parcels (50.35 acres). 27 parcels (64 acres) are municipal properties, with 24 belonging to Truro (45 acres) and 3 to Provincetown (19 acres). There are also 12 commercial properties, which include 2 motels and three campground parcels. Three of the Truro Conservation Trust properties (2.23 acres) are within the CCNS. The CCNS has been significant in protecting open space in Truro, but the privately held parcels within the CCNS boundaries are vulnerable to development, since parcels of more than 3 acres may be built upon.

Within the total designated Seashore boundary area of 44,600 acres, the Town of Truro occupies 9366.53 acres, including approximately 1,800 acres of tidelands. Since 1 September 1959, persons buying land and erecting houses within the Seashore technically have such property subject to acquisition by the CCNS. While such acquisition and construction are discouraged in accordance with the CCNS goal of preserving land within the Seashore in its natural state, the reality is that new homes are being constructed and small older cottages are being torn down and replaced by larger and more visible structures. New construction must follow Truro Zoning. Increases to an existing dwelling footprint of 1,000 square feet or more or the addition of a second floor triggers the Site Review Process by the Planning Board. Ironically, construction of a new dwelling does not trigger Site Review. These building thresholds are being reviewed by the Truro Planning Board for a possible zoning amendment.

Communication and cooperation between The Town of Truro and the CCNS will always be important for the protection of these important environmental and scenic resources.

Truro Center for the Arts at Castle Hill

Truro Center for the Arts at Castle Hill was founded in 1971. Over its 37-year history, it has offered Outer Cape residents and visitors a wide array of art instruction and programs by an impressive group of faculty and visiting artists. Castle Hill's offerings are multidisciplinary and span the visual, literary and craft arts.

Castle Hill's Mission Statement is "to foster the arts and crafts by providing a wide range of instruction for adults and children." Castle Hill holds exhibitions, lectures, forums, concerts and other similar activities in order to promote social interaction among artists, craftsmen, laymen, and the community at large.

Each year Castle Hill serves art students from across the country. Currently approximately 800 adults and children take summer classes and the numbers continue to increase. All of this is accomplished by a small committed staff, a dedicated Board of Directors and a devoted group of volunteers.

The Highlands Center at Cape Cod National Seashore

The Highlands Center is located at the old North Truro Air Force facility. In December 1994, the Air Force Station was split between National Park Service (NPS), to be administered by Cape Cod National Seashore, and Federal Aviation Administration, for continuing its radar operation identifying and tracking aircraft. NPS, working with outer Cape communities and agencies as well as regional organizations, identified the issues and opportunities associated with reuse of its 110 acre portion. This extensive community outreach and planning resulted in a clear mandate that reuse of this valuable site should stimulate local economy, respect and preserve the environment, foster the local tradition of working artists and craftspeople, provide year-round programming and expand environmental education opportunities.

These principles are outlined in the Park's 1998 *General Management Plan* and a 1999 *Site Plan and Environmental Assessment* prepared by NPS. Useful buildings and approximately 80 acres of open space would become Highlands Center at Cape Cod National Seashore, a collaboration of organizations where creative people can work, communicate, and learn, with inspiration from the surrounding community, local history and culture, and the striking landscape setting of North Truro Highlands.

Highlands Center, Inc. (HCI) serves as "Management Partner." and is a non-profit, community-based organization. It was created to support the mission of Highlands Center at Cape Cod National Seashore, which is to foster the unique cultural and natural heritage of Cape Cod by facilitating scientific research, the arts tradition, and educational programs atop the dramatic sea cliffs of the Atlantic Ocean.

Highlands Center programs support the mission of Cape Cod National Seashore through public and private partnerships. Inquiries and proposals for cooperative ventures from non-profit organizations, government agencies, and educational institutions are welcomed. The National Park Service provides basic infrastructure rehabilitation and will oversee design approvals, utility

maintenance, leasing and site management activities. The "Management Partner" and selected "Program Partners" from the private sector fulfill the remaining needs of the Center, such as custom building rehabilitation, utility hookups, facility maintenance, public programming and day-to-day activities.

To date, National Park Service has selected several Program Partners to reside at the Center.

- **Barnstable County's AmeriCorps Cape Cod (ACC)**, part of a national network of service programs, which pairs college educated service-minded volunteers with citizens, educators, scientists and environmental professionals to promote land and water conservation, environmental education and disaster preparedness.
- **Fine Arts Work Center (FAWC)**, where artists and writers in the early stages of their careers are nurtured in a seven-month residency program, inspired by professionals and the Cape Cod environment.
- **Payomet Performing Arts Center in Truro (PPACT)**, provides affordable, professional-level theater, art and music experiences, educational programs and professional training for residents and visitors to Truro and the Outer Cape.
- **Truro Center for the Arts at Castle Hill** has agreed to oversee the operational management and facilitation of a wood burning kiln, performing such services as constructing the actual kiln, and operating open pottery programs at the site. The installation of a wood burning kiln in partnership with HCI will advance the Highlands Center mission, constituting a joint effort that will foster benefits to local artists and craftspeople, attractiveness to visitors, and a unique form of artistic education in the community
- **CCNS North Atlantic Coastal Laboratory** has operated at the site for a number of years and, while not an official Program Partner, is actively involved in the collaboration. The mission of the Atlantic Research Center (ARC) is to promote research and information exchange on the physical and biological systems within or affecting Cape Cod National Seashore. ARC is part of a network of National Park Service Research Learning Centers throughout the United States.
- **Provincetown Center for Coastal Studies** researchers investigate coastal processes from an observation shed on site. Such studies provide valuable insight into coastline erosion and sediment movement.

B. HISTORY OF COMMUNITY

The Town of Truro has a rich history that goes back more than four hundred years. No town of its size can boast a more remarkable history. In the summer of 1603, English explorers spent two months at the town's Pamet Harbor, pre-dating by four years the arrival of the English at Jamestown. They saw scores of Indians, who would be known as the Pamets, and had peaceful interactions with them. Over the centuries, hundreds of Indian artifacts and huge piles of their oyster shells have been found in Truro. The town has been one of New England's major archeological sites.

The Pilgrims thought first of settling in Truro. The *Mayflower* dropped anchor off Provincetown in 1620, but the men spent five days and nights in Truro looking for a place to settle with their families. In a close decision, however, they decided to move on to Plymouth. William Bradford left a detailed record of the Pilgrim's explorations in Truro that can be followed to this day.

The land that would become Truro was settled in the 1680s by descendants of the Pilgrims and other English men and women who arrived later in Boston and Salem. Thomas Paine (not to be confused with the Tom Paine of Boston) was the founding father of Truro. He became the leading landholder and most influential citizen. In 1709, he negotiated with the legislature in Boston and secured township status for what had been the Pamet lands. Truro had about forty families. The governor named the new township Truro, after the Truro in Cornwall, England. The geography of the two towns is similar.

During the 1700s, Truro was a town of pioneer whaling men. Captain Henry Atkins was a major figure in the history of American whaling and the first to hunt in Davis Strait off Greenland. At home, Truro men and boys hunted whales in Cape Cod Bay.

The town almost had its own "Boston Tea Party" when one of four British ships loaded with tea and headed for Boston harbor was wrecked off Cape Cod. What Truro men did with the salvaged tea became quite controversial. During the Revolutionary War, the town's tiny militia of three or four men took 460 British prisoners after their warship was wrecked in a storm. The prisoners were marched town-by-town to Boston.

After the war, in 1797, the first of three lighthouses was built at Highland on the Atlantic Ocean. Today's Highland Light, built in 1857, is a major tourist attraction.

From about 1830 to 1855, Pamet Harbor was the center of a booming fishing industry, with more than sixty sailboats bringing in fish from the Grand Banks and other fishing spots. It was dangerous work. Over the years, almost three hundred men and boys were lost at sea, fifty-seven of them in the storm of 1841.

Truro's Atlantic shoreline has been perilous to navigation. There have been more than a hundred recorded shipwrecks on the sand bars off Truro's coastline. Even to this day, the remains of shipwrecks emerge from the beaches after storms erode the coastal banks and shift the off-shore sand bars.

Henry David Thoreau devoted more than half his book *Cape Cod* to his ramblings in Truro and observations about its shoreline, topography, lighthouse, fishing fleets and people in the 1850s. In the 1870s, local fishermen installed netting called weirs in the on-shore waters of Cape Cod. Two cold storage plants processed fish for transport by railroad to off-Cape markets.

The railroad, which reached Truro and Provincetown in 1873, brought vacationers to Truro from the big cities. Mort Small ran the largest resort and his Highland House, expanded in 1907, later became the Highland House Museum of the Truro Historical Society, a major attraction for local-history buffs.

Beginning in the 1920s, an extraordinary number of eminent authors, artists, composers and photographers lived or sojourned in Truro. They include Edward Hopper, Walker Evans, Elliott Carter, Eugene O'Neill, Edna St. Vincent Millay, John Dos Passos, Edmund Wilson, Mary McCarthy, E. J. Kahn Jr., William Gibson, Alan Dugan, Annie Dillard and Robert Pinsky. They came for the quiet, rural atmosphere and open space—very different from the bustling, noisy, partying Provincetown art colony.

In 1961, a bill sponsored by then Senator John F. Kennedy established the Cape Cod National Seashore, a park that preserved 70 per cent of Truro from development. With pressure growing for residential development in the remaining 30 per cent, most of it bordering the beaches of Cape Cod Bay, the town created its Conservation Commission to administer the state's wetlands protection law. In 1981, conservationists founded the Truro Conservation Trust (TCT) to acquire land to be held as open space. The TCT became the first land trust established on Cape Cod. It now holds more than 85 properties totaling nearly 300 acres.

The town's conservation commission put together its first open space plan in 1984. In its mission statement, the commission said:

The great natural beauty and rural atmosphere of Truro are among its priceless qualities. Future land use and change must take cognizance of this so that as much as possible of the scenic beauty and quiet ambiance are retained for future generations—and also to maintain property values (and tax base) now as well as for the future.

Although Truro has a viable year-round population, it is now primarily a vacation spot and retirement community that retains a "rural" character. The Truro LCP noted that while Truro is neither agricultural or isolated, "its small year-round population, leisurely rhythms and community spirit all keep it removed from the urban or suburban scene and, indeed, far removed from the scene in other Cape Cod communities." Its unique visual character plus its close proximity to the Provincetown art and theater community has also made it attractive to artists and writers, who enjoy its special seclusion.

For good or bad, Truro lacks a commercial downtown area to attract visiting tourists, resulting in a commonly asked question; "where is Truro Center?" For its peaceful seclusion, residents must accept the lack of a convenient variety of local stores for groceries and everyday needs. Residents and visitors are attracted to Truro, not for its shopping, but for its unique beauty and physical characteristics.

Truro has a town meeting form of government, guided by a town charter, and is headed by a five-member, part-time board of selectmen assisted by a town administrator. It is located in the 12th Congressional District, the Cape and Islands State Senatorial District, and the 4th Barnstable State Representative District.

As with other towns in Barnstable County, Truro depends on decisions and practices of regional organizations such as the Cape Cod Commission, the Massachusetts Coastal Zone Management Office and the Barnstable County Soil Conservation Service, especially for planning guidance and professional assistance.

C. POPULATION CHARACTERISTICS**Population Composition**

While more than half of the dwelling units in Truro are seasonal; U.S. Census data only reflect the numbers and characteristics of the full time households and population. According to the 2000 Census, Truro's total population was 2087, up 32.7% from 1990. Of those 1,985 (95%) were classified as "white" with 102 (5%) of other races, made up of primarily Black or African American and American Indian or multi-racial. 92.8 % of the 1784 residents 25 years or older were high school graduates, while 40.5% had received a bachelors degree or higher. 96.6% were native United States born, with 53% from Massachusetts, while 3.4% were foreign-born.

Table 1
2000 TRURO POPULATION by AGE

Life Stage:	Pre-School	School-age	Employable	Retirement
Age:	under 5	5-19	20-65	65 and over
Population:	72	326	1335	354
Percent:	3.4%	15.6%	63.9%	17%

In 2000, the population was comprised of 907 households, up 29.8% from the 699 in 1990 indicative of continued growth pressures on the Town. The 2008 Census recorded 2047 residents of all ages, with 1658 registered voters. A review of 1825 residents from the 2008 street listing, 357 listed 'retired' under "occupation." Truro inhabitants are employed in building, retail trade, fishing, education, government, finance/real estate and the private sector. There is no manufacturing to speak of in Truro.

Population Density

The U.S. Census Population and Housing Characteristics, show the 2000 population per square mile at 99.1 up from 74.5 in 1990. 2000 Housing unit density was 121.2 up from 103.1 per square mile in 1990. The Cape Cod Commission reports that in 2000 Truro was the least densely populated Cape Cod town. These density figures are somewhat distorted by the fact that approximately 70% of Truro land area lies within the Cape Cod National Seashore, resulting in a higher density in the town area outside of the Seashore of 2.77 persons per acre (LCP)..

As in other Cape towns, much of the housing in Truro is seasonal, indicated by there being 469 more housing units than residents in the 2000 census. In 2000, there were 2556 housing units, up 17.5% from 2175 in 1990, an appreciable increase from the 1,571 units tabulated in 1980.

Household Income

The impressive new vacation homes being built in Truro give a distorted view of the economic well being of the year-round population. The 2000 Census of Household income indicated that the 923 households had a 1999 median household income of \$42,981 and mean earnings of \$49,290. Of the 520 families, 25 (4.8%) had income below the poverty level and of the total 2000 population of 2087, 234 (11%) individuals lived below the poverty level. With close to 60% of the households earning less than \$50,000, Truro is clearly not the affluent town that might be perceived. The dichotomy between the local working population and its seasonal visitors and homeowners provides a challenge in meeting the needs and expectations of all.

Table 2

1999 TRURO HOUSEHOLD INCOME
Median Income of 923 households: \$42,981

Income:	under \$10,000	\$10-49,999	\$50-99,999	\$100,000 & over
Population:	74	457	318	74
Percent:	8.0%	49.5%	34.5%	8.0%

2003 Housing and Urban development estimates indicate that the median income of 43.2% of Truro's population is 80% or lower than the area median income.

Employment Trends

Historically Truro's economy was centered around farming and fishing, but today, Truro's economic base depends primarily on tourism and retirees, including the service and construction enterprises required for their support. Although there is some light manufacturing situated in the upper and mid-Cape area, there is little or no heavy industry on the Cape nor is it likely to be in the future. Its absence has helped the Cape maintain its rural appeal. Without any major employers in large-scale production-related activities, many Cape residents are employed in small-scale, often seasonal work.

Despite an economic history that has been closely linked to the sea, in 2000 only 1 percent of Truro's workers were employed in the category of "farming, fishing and forestry occupations." 38.8 % are in "management, professional and related occupations, with 22.1 % in "sales and service occupations." 16.4 % are in "construction, extraction and maintenance occupations" and 16.2 % work in "service occupations, with the remaining 5.4 % in "production, transportation and material moving occupations."

In 2000, 61% of the workers are "private wage and salary worker" while 20% were government workers and 19% were self-employed. While Truro's economic base is relatively small, a variety of employment opportunities can be found within a reasonable distance. Of the 899 Workers, 16 years of age and over, 9.1 percent worked at home and 4.1 percent were able to walk to work while the other 86.8 percent commuted in some manner, with a mean travel time of 18.1 minutes.

D. GROWTH AND DEVELOPMENT PATTERNS**1. Patterns and Trends**

With its early focus on the sea, Truro's early development was centered on the Cape Cod Bay side and the fertile river valleys of the Pamet Rivers. Four village centers developed, with none achieving the original commercial status or modern tourist attraction status of many other Cape Cod town centers. East Harbor village extended from East Harbor south to Pilgrim Pond to what are now Pond Village and North Truro. Truro Village, also known as Truro Center grew up in the lower Pamet River Valley, with the Town Hall, churches and burial grounds gracing the hilltops to the north. There was also a small village in southwest Truro along Bound Brook near the Wellfleet Town line. The railroad brought a depot and the settlement of South Truro was granted a Post Office and thus achieved true village status for a short time.

With the decline of the fishing trade, Truro's population decreased from 767 at the turn of the century to 513 in 1930. After fluctuating somewhat over the next two decades, it began increasing after World War II, reflecting the Cape's increasing popularity as a resort and retirement area. It rose from 661 in 1950 to 2087 in 2000; an increase of 216 percent, resulting in a 2000 population that was three times the size of the 1950 population. The year-round population as of January 1, 2008 local town census was 2047.

Table 3**TRURO POPULATION 1960-2000**

Year:	1930	1940	1950	1960	1970	1980	1990	2000
Population	513	585	661	1002	1234	1486	1573	2087
% Change		14%	13%	51.6%	23.2%	20.4%	5.9%	32.7%

After World War II, new summer homes focused not only on the Cape Cod Bay side, but also cropped up in the rolling hills of the wooded interior sections and eastern side near the ocean. The interior and eastern developments were somewhat curtailed with the establishment of the Cape Cod National Seashore in 1961, but building continues in the private in-holdings within the Seashore boundaries.

With approximately 70 percent of the Town's land within the officially designated Cape Cod National Seashore boundaries, the pressure for growth and development outside the Seashore has intensified and will continue to do so as the population, both year-round and seasonal, increases.

Seasonal Population

While it is not possible to tabulate the seasonal population accurately, statistics from the 2005 Truro Local Comprehensive Plan (LCP) show that seasonal homes represent about one half of the dwelling units, with a summer population, including transients of 25,000. Meeting the recreation, service and water needs and expectations of this large influx of non-residents will continue to be a challenge for the Town of Truro. The importance of the non-voting property owners in Truro cannot be overestimated. They carry most of the tax burden in town, and have a generally high appreciation for the natural and cultural resources of the Town. Through the Truro Non-Resident Taxpayers' Association, these property owners participate in public meetings and in the dialog that contributes to decision-making in town. It will be important for town committees to listen to these voices.

2. INFRASTRUCTURE

Transportation Systems

Route 6 is the only main highway to the Outer Cape north of the Orleans rotary. For much of its length east of Dennis, it is only two lanes wide, and it is limited access only west of the Orleans Rotary. Its entire length is heavily traveled in the summer months, with especially heavy congestion east of Bass River and in the commercial areas north of Orleans. Route 6A/Shore Road parallels Route 6 from North Truro to Provincetown, and serves as a scenic alternate along the Cape Cod Bay shore.

Public Transportation service information with schedules and fares is available at www.gocapecod.org and www.SmartGuide.org. Scheduling may vary seasonally, so current schedules should be checked. Air service to the Cape is based at Barnstable Municipal Airport in Hyannis, and is supplemented by service between Boston and Provincetown. There is also seasonal boat transportation between Boston and Provincetown in the summer months.

Public land transportation to Truro is provided by bus services between Hyannis and Provincetown, with stops in Truro. Connections in Hyannis then provide links to airports in Boston and Providence. The Plymouth and Brockton Street Railway Company provides bus service between Provincetown and Hyannis with stops in Truro and connections to Boston and Logan International Airport. The Cape Cod Regional Transit Authority (RTA) provides local "Flex" service, with a main stop at Highland Road on Route 6 and "in-between stops", at the Truro Post Office and Whitmanville Road at Route 6 and Central Village. Also, the "Breeze" bus serves Truro and Provincetown. There is also a van operated by the Truro Council on Aging, a service offered at no charge to residents who request it. Priority is given to medical appointments. Donations are welcomed.

The 2005 LCP noted that "most of Truro's transportation infrastructure functions well and should be adequate for the town's needs in the immediate future. Expanded shuttle services may be necessary as beach parking areas continue to erode, however. In addition the town needs to evaluate local routes for safe bicycle routes, and to create a widened and striped bike/pedestrian lane along Beach Point on Route 6A, and perhaps elsewhere. With limited control over Route 6 and traffic pressures continuing to grow, town officials need to work with the other four Outer Cape towns to identify regional concerns and present a coordinated set of recommendations."

In light of those comments in 2005, it is encouraging to note that in the Spring of 2008 The US Department of Transportation's Federal Transit Administration Announced the funding of four

Cape Cod grant applications totaling \$2.65 million. The Cape Cod National Seashore will receive \$1,850,000 for the replacement of the Provincetown/Truro shuttle buses. These buses serve Provincetown and North Truro. Five of the new buses are "low-floor, biodiesel-fueled mini-buses." \$450,000 was awarded to purchase an additional tram to provide links between remote parking lots and National Seashore beaches. The system now serves Coast Guard Beach in Eastham and Nauset Beach in North Eastham, but the service could be "extended to other beaches and park attractions" that could perhaps include some in Truro. Another \$250,000 was granted for the study of an "integrated parking and transit plan for the Outer Cape." Truro continues to be involved in this process through representation on the RTA as the study looks at "park use projections and future visitor accommodation needs" to develop options for "short and long term access and alternatives for parking." (*Cape Cod Commission Reporter, Vol. 18, No. 3, March 13, 2008*)

These grants also are consistent with some of the Transportation Goals listed in the 2005 Comprehensive Plan:

2005 Truro Transportation Goals

- Goal 1. Continue to advocate for a year-round transportation system that is convenient, safe, accessible, economical and consistent with the Town's historic, scenic and natural resources.
- Goal 2. Continue to encourage alternative transportation modes, such as bicycles, shuttles and on-call bus service that reduce dependence on private automobiles, within the limits defined by Truro's location, density and fiscal strength.
- Goal 3. Maintain the existing capacity levels of all non-Federal/State highways, which should be sufficient to handle the Town's anticipated growth.
- Goal 4. Continue to encourage linking beach and harbor parking areas to a public transportation or shuttle system.
- Goal 5. Create a safe and unified bicycle and walking system.

The fifth goal, related to bicycle and walking paths, continues to be actively addressed. With Truro's winding roads, it is ironic that the safest place for summer bicycling is on the very busy Route 6. Massachusetts Highway Dept., their consultants, the CCC and the CCNS are working on these issues in relation to the update of the Statewide Bicycle plan. The Town has formed an ad hoc Bike Trails and Walkways Committee tasked to develop a Truro Trails Plan. Where appropriate, the Committee will work with the National Seashore staff to identify potential trail sites within the Seashore. This effort is consistent with recommendations of the LCP, which emphasizes the need for increased safety, citing Rte 6A, Shore Road for special attention. The CCNS is also hiring a consultant to address issues specific to the outer Cape. It is hoped that the high degree of attention being giving to bicycling will result in some positive actions.

Land limitations which restrict opportunities to meet the parking needs of beachgoers is an ongoing challenge under discussion among the NPS, CCC, and the six Seashore towns. A "Parking and Transit" study is underway.

Water Systems/Sewer Systems

With the exception of those homes and businesses connected to the adjoining Provincetown water system, household water is obtained from private wells. Truro also does not have a public sewer system, so sewage is handled by on-site septic systems, with criteria determined by State and local regulations.

Most parts of Truro have individual private wells and on-site septic systems; therefore, most groundwater pumped for domestic use returns to the aquifer near the point of withdrawal, although water quality may be altered by human use. The use of municipal water supply with septic systems transfers groundwater to different parts of the aquifer or to another aquifer. This is especially true if the municipal well field is remote from the on-site septic systems, as is the case with Provincetown's water source in Truro and the on-site septic systems at Beach Point. Such inter-aquifer or even intra-aquifer transfer of water affect hydrologic balance, causing a deficit in one area and artificial recharge in another.

3. LONG-TERM DEVELOPMENT PATTERNS

Zoning

Truro Zoning Districts are shown on **MAP 2** with the 7 categories: 1 Residential (R), 3 Limited Business (BP, NT6A, TC), 2 General Business (NTC, Rt6), and Seashore (S). There is also an Affordable Housing Overlay District (AH). Current Truro zoning bylaws require a 3/4-acre (33,700 Sq. Ft.) lot size for building outside of the National Seashore and 3 acres for new building in private holdings within the Seashore. Commerce in the Town is carried out mainly along or near Routes 6 and 6A. It is of low density, except along the Beach Point portion of North Truro, which is densely and linearly occupied by cottages, motels and condominiums and their amenities. Adjoining areas are residential.

The 2005 LCP noted that a 2004 Special Town Meeting passed an update to the Zoning bylaw to "Remove inconsistencies and ambiguities and to make the document more user-friendly." The basic zoning objective of the 2005 LCP was that "Truro will maintain the basic zoning and land use patterns currently in place, and will periodically review and update the bylaws governing land use and site design to facilitate implementation of the goals and strategies of the Local Comprehensive Plan." The 2005 LCP did not propose any increase in the commercial districts. In hopes of preventing sprawl along Route 6, the LCP put an emphasis on the village centers for future commercial development.

The LCP also noted that "An important aspect of Truro's future development potential is that 41% of that land is immune to zoning changes because so many of the lots left to be developed are already subdivided." If lot sizes were increased through a zoning change, these lots would be "grandfathered" as legal lots.

Recently there has been discussion about zoning within the CCNS and the need to have more protection from larger homes and other types of construction within the boundaries of the CCNS. Some believe that it is the responsibility of the CCNS and the Federal Government to protect these lands. Still others believe it is the responsibility of the town. The Planning Board has been working on a redrafting of the Site Plan Review section of the zoning by-laws to help with the oversight of not only large homes within the CCNS, but town-wide.

Affordable Housing Issues

Opportunities to create affordable housing have been and are being explored by various boards and private entities in town. Two Coast Guard houses, slated for demolition, were moved and made habitable ten years ago by Highland Affordable Housing, Inc., a local non-profit organization. This group has responded to two requests-for-proposal (RFP) issued by the Truro Housing Authority for the construction of two duplexes (Shore Road and First Discovery Road), and was awarded both contracts. The Truro Zoning Board of Appeals recently voted the first ever Comprehensive Permit for the Shore Road construction. A three-bedroom home, donated to the Housing Authority, was moved in 2007 to Snows Road, using CPA funds, and is now owned by a young family. Some town-owned properties are currently under consideration for affordable housing.

Maximum Build-out

Truro's width ranges from 4 miles to less than 1 mile from the Atlantic Ocean to Cape Cod Bay. Its land-use patterns are dictated primarily by the positions of Routes 6 and 6A, which divide the Town into northeast-southwest sectors, and by the ample area occupied by the Cape Cod National Seashore. Some projections and informal analysis predict build-out by 2030, or sooner. This is a difficult area to predict given the variables of the economy and population increase or decrease.

The original Local Comprehensive Plan (1994) estimated that, assuming no change in minimum lot size, there were 2000 potentially developable lots remaining as of 1994. There have been no subsequent zoning changes, so this figure is assumed to be correct as a base point. It is not clear if the 1994 number of 2000 "developable lots" includes land in the CCNS.

Based on the 2005 LCP 1710 developable lots remained in Truro. In reviewing some of the numbers, errors were found. From 1981 to, and including 2007, 1095 building permits for single-family residences (SFR) were issued, an average of 40.55 per year. Assuming there were 2000 potentially developable lots in 1994 and knowing there were 502 building permits issued between 1995 and 2007, this would leave 1498 potentially developable lots within the Town of Truro. Dividing the 1498 lots by the average of 40.55 SFR permits issued demonstrates that build out could occur by the year 2044. This is only an estimate. If the trend was based on the issuance of SFR permits over the past 10 years (39.6 per year), build out would occur in 2045. Using the past five years (29.2 per year), build out would occur in 2058. As stated in the 2005 LCP, some lots will not be built on, so the actual year could be sooner, while some new lots are being created, so the actual year could be later.

Within the boundary of the CCNS, only those lots containing greater than 6 acres would be subdividable as each lot requires 3 acres. This could result in anywhere from 15 to 38 additional lots. This is only an estimate as there are many factors involved that could result in substantially fewer lots (access, frontage, wetlands, upland, etc).

Existing Limits to Growth

Truro has a Growth Management bylaw (§40.6) that limits the number of building permits for new single family dwellings units to no more than 40/year. This bylaw became effective on March 3, 2006. This bylaw shall expire on December 31, 2016.

There is also a provision for Open Space Development (OSD). Traditional zoning requires 33,750 s.f. of upland per lot with 150' of frontage. The OSD allows for a minimum lot size of 14,000 s.f. and 60 feet of frontage. 40% open space is required and of that, no more than 5% may be developed for structures or pavement accessory to the proposed use of the common land. There is no "incentive" factor to allow for more dwellings than would be allowable under regular zoning.

Nearly 90% of the Town of Truro is located within a Massachusetts Natural Heritage Estimated and Priority Habitat Area. This requires most projects to go through the Massachusetts Endangered Species Act (MESA) review through The Massachusetts Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife. The review process, will address the presence of endangered species, but will not necessarily stop development.

Ecological Impacts

The 2005 LCP has cited various land use policies which encompass ecological impacts such as the effect of high-density development or redevelopment, which could affect water resources, contribute to the erosion of shoreline in some areas and destroy some already-endangered plant or wildlife habitats. It was noted the vast majority of remaining large parcels lie in areas containing important plant or wildlife resources. There are few privately-held sites that are suitable for future water supplies. In order to maintain what many feel is Truro's "rural character," development must be carefully studied for impacts on the ecology and "rural" nature of the town.



Broom Crowberry at Hopper landscape. F. McClennen

A. GEOLOGY, SOILS AND TOPOGRAPHY

Geology and Soils

Truro's Geology and Soils (**Map 3**) are glacial deposits that have been shaped by erosion and accretion. The northern extent of the Outer Cape, which includes all of Truro, originated as a glacial moraine contributed by the South Channel Lobe, one of the three major drift deposits formed during the glacial retreat beginning about 12,000 years ago.

Glacially deposited soils that exist today in Truro may be divided into three major and two minor categories. At the southern part of the town, older Wellfleet Deposits, consisting mainly of sand but containing localized beds of clay, silt, gravel, till and boulders, were laid down by melt-water streams that drained the South Channel Lobe. The Truro Plain Deposits, located further north in the town, consist of stratified drift that is primarily sand but containing some clay, silt and gravel, and were also deposited by melt-waters of the lobe. At the northernmost part of Truro, beach and dune deposits are composed of unconsolidated sand and gravel eroded from the glacial drift and have been re-deposited by wind, wave or water current action. The dunes are composed entirely of sand eroded from the beach and transported landward by wind.

Two minor depositional units have also been mapped in the town, but occupy considerably less area than the major deposits described above. One unit is the Highland Plain deposit located around Highland Light (or Cape Cod Light), between the older plain and the Truro Plain deposits on the northeast coast of Truro. It is composed of stratified drift, predominantly sand and clay, but also contains gravel and silt deposited by melt-water of the lobe. Marsh deposits are another minor unit and are found along the eastern margin of East Harbor and throughout the Pamet River corridor. They consist mostly of partly-decayed salt marsh vegetation mixed with marine sand, clay and silt, and include an overlay of freshwater marsh deposits.



Ballston Beach. F. McClennen

Table 4
TRURO SOILS

Bh	Beaches
Bma	Berryland Mucky Loamy Coarse Sand
CdA	Carver Coarse Sand 0-3% slope
CdB	Carver Coarse Sand 3-8% slope
CdC	Carver Coarse Sand 8-15% slope
CdD	Carver Coarse Sand 15-35% slope
Dm:	Dumps
Dn	Dunes
EaB	Eastchop Loamy Fine Sand 3-8% slope
EaC	Eastchop Loamy Fine Sand 8-15% slope
FmA	Freetown Mucky Peat
FsA	Freetown and Swansea Mucks
FtA	Freetown Coarse Sand
HoC	Hooksan Sand, Rolling
HoD	Hooksan Sand, Hilly
HxC	Hooksan - Dune Land Complex Hilly
ImA	Ipswich, Pawcatuck and Matunuck Peats 0-1% slope
PeA	Pipestone Loamy Coarse Sand, 0-3% slope
Pg	Pits, Sand, Gravel
Ud	Udipsamments, Smoothed (disturbed land)
Ur	Urban Land

Topography

Topographic and age differences between the three major depositional units (Wellfleet Deposits, Truro Plain Deposits and Beach/Dune Deposits) are particularly notable. The higher and older Wellfleet Plain deposits in South Truro gradually change to lower and younger beach and dune deposits in North Truro. The maximum surface altitudes of the older Wellfleet Plain deposits approximate 150 feet above mean sea level (msl), and are about 80 feet above msl for the Truro Plain deposits. Dune deposits along Beach Point are as low as 10 feet above msl. In contrast to the generally level, high bluff topography along the ocean side of Truro, the bay coast is marked by kettle-hole topography in what was a gradually sloping outwash plain. The surface is very irregular with marked dips and hollows that make for rough topography, with high points exceeded only by the ocean beach bluff.

Most of the physical changes to soil and topography found along the shorelines of Truro are the result of coastal processes. The Atlantic Ocean shoreline has been studied thoroughly since 1896 because of the dramatic changes in historic times that have occurred to the cliffs and the associated sediment deposition that contributed to the formation of the Provincelands spit. Historical shoreline changes and wave action are two of several factors that have been investigated. Projections of potential sea level rise will warrant continued attention as Truro plans for the future.

Effect

Geology and topography must be respected in all aspects of planning for Truro's future. While the eroding coastal bluffs of the ocean shore and the eastern interior section of town are under the control of the National Seashore, Truro must focus on the western sections and the Cape Cod Bay shore for Open Space and Recreation Planning. Understanding shoreline development and coastal erosion processes, with the potential sea level rise, along the Cape Cod Bay side of Truro is critical to conservation and recreation planning for the Town. The Pamet River valley and coastal wetlands must be protected and inappropriate coastal construction controlled as much as possible. The Sole-Source Aquifer described in the Water Resource Section must also be respected and protected.



Rolling Heathlands, Hopper landscape. F. McClennen

B. LANDSCAPE CHARACTER

Traveling through Truro on, Route 6, from Wellfleet to Provincetown, the first view at the Wellfleet-Truro border is a landscape of pine and oak growth with very little housing in sight, since much of the area is within the confines of the National Seashore. An overhead view of Truro shows Route 6 bisecting Truro, with Cape Cod Bay on the west and the Atlantic Ocean on the East.

A quarter of the way through town, the Pamet River, a state designated "Scenic River" flows through the town from east to west. The river and its wetlands have been described as the "ecological heart" of Truro and were the center of Native American activities. Draining from the ocean dunes at Ballston Beach to Pamet Harbor, this watershed covers a quarter of Truro and contains a significant concentration of biological diversity. Views of its freshwater wetlands can be seen from the Ballston Beach end of North and South Pamet Roads, while its bay side salt marshes can be seen from the Pamet Harbor area. Some marsh areas have recently returned to a tidal condition with breaks in old man-made dikes, and the National Park Service may consider opening a clapper valve under Route 6 to restore tidal flushing to the upper Pamet wetlands.

When one reaches North Truro just near the Shore Road-Route 6 intersection, the rolling terrain is more evident as the vegetation is sparser and stunted by the harsh environmental conditions. Further along the road, the open expanse of Cape Cod Bay with Beach Point and Provincetown curving out toward the horizon is an impressive view. High Head is the glacial terminus of Cape Cod, while the lowlands of Beach Point and East Harbor and all of the Provincelands and Provincetown are the impressive result of accretion of coastal sands from wind, waves and currents. It is from this view that one can understand how Cape Cod is continually being shaped by the forces of nature.

It is not until one leaves the often heavily traveled Route 6, that different attributes of the landscape become more evident. When one drives down Old County Road, a winding scenic road that crosses some of the steeper hills in Truro, one gets a sense of the true rural nature of the town. Despite the pockets of dense building closer to the bay, there remain a few views of the rolling terrain covered in hog cranberry, beach plum, huckleberry and other low bushes. Today, the growing pitch pines have obliterated most of those classic Truro vistas.

Sunset viewing is possible from the bayside beaches. The drive out to and down Depot Road, on the way to Pamet Harbor, passes many of the older homes in Truro. Numerous examples of the traditional "Cape" house are evident. Pamet Harbor is accessible with a dock, which affords a fine view of this picturesque harbor. There has been a problem with silting, which limits the size of boats entering the harbor. Maintenance dredging is conducted annually within a limited time window when the county dredge is available.

Truro's view of the Atlantic Ocean from the road leading to Highland Light is most impressive. One can park below the lighthouse and walk up to the structure, which abuts the Highland Links golf course, which offers some of the most dramatic views of any course on the Cape. While some ocean side beaches can be seen only by walking to them, there are sites at Coast Guard and Head of the Meadow Beaches where one can view the Atlantic by car. Again, beach stickers are required in season; daily passes are sold at Head of the Meadow Beach and Corn Hill Beach.

Pamet Park is a newly developed park where Town Center Road crosses the Pamet. Marsh vistas can be enjoyed from benches, picnic tables, and a short perimeter pathway. Driving to Corn Hill Beach via Castle Road, one enjoys additional views of the marshes and older Cape homes tucked away off the road. Some homes in Truro are unobtrusive, working with the landscape, while others may be classified as "trophy" homes, which have become more common in recent years throughout

the Cape. The landscape character will continue to change as large new homes continue to be built.

There are many walking trails sprinkled throughout the National Seashore in Truro, but there is no formal pathway system. A trail to Bearberry Hill Overlook at the end of North Pamet Road, across from the Youth Hostel is part of the Pamet Area Trail System; this overlook offers a stunning panoramic vista of the coast and ocean. New signs are being installed by CCNS. High Head Road in North Truro, leading to High Head on the ocean side, provides a close-up view of the marshy area surrounding East Harbor and the picturesque dunes of the outer beach. This road also forks to the left to a parking area at the north end of the biking/hiking trail, Head of the Meadow Trail, which goes south to the Head of the Meadow Beach and parking area. In the Pilgrim Heights area, off Rte 6, Small's Swamp Trail and Pilgrim Spring Trail offer delightful walks where early settlers farmed and the Pilgrims found their first drinking water. A new trail around the perimeter of Poor's Hill provides for sweeping vistas of Cape Cod Bay and the lower Pamet River valley.

Working in coordination with the Cape Cod Pathways program the Town will work to expand the network of marked trails, aiming particularly to establish north-south connections to Pathways in Wellfleet and Provincetown. In addition, the Town continues to work with the CCNS and USGS to develop a map of existing "social" trails and fire roads to expand hiking opportunities.

C. WATER RESOURCES

1. Watersheds

Truro is located in the Cape Cod Bay Watershed, with almost all surface water flowing to the west into Cape Cod Bay and some discharging to the Atlantic. Groundwater is the source of all drinking water on the Cape with wells tapped into an underground aquifer of several freshwater "lenses" that float above the heavier salt water located beneath the peninsula.

2. Surface Waters

The Pamet River

The Pamet River System is the largest wetland ecosystem in Truro. The Pamet River flows east to west from its headwaters immediately behind the ocean dunes at Ballston Beach to Cape Cod Bay, about 3 miles away. Starting as a freshwater stream, it meanders 1.6 miles through a bottomland meadow and then passes through a tide gate, or clapper valve, located under Town Center Road, to become a saltwater estuary.

The Pamet River is one of Truro's most dominant landscape features. Historically, the Pamet River estuary was an important fishing and shipbuilding port in the early 1800s. A lighthouse built in 1849 was operated for six years until the harbor silted up, reducing the river to a mere creek. The inlet was realigned and temporarily stabilized in 1919 with two stone jetties and a sod dike. The dike failed by 1933, followed by closure of an inlet by 1938 at what is now Corn Hill Beach and near detachment of the dune system by 1978 from the north jetty. Restorative dredging of the harbor and confluence with Cape Cod Bay was completed in 1997, and was re-dredged in 2001. Annual maintenance dredging began in 2007. Prior to installation of the clapper valve at Truro Center Road, the River was completely tidal.

The river level and flow depend almost entirely on groundwater or aquifer seepage flowing laterally from beneath the uplands on either side, and on direct precipitation. Land east of the

current headwaters once existed, but has been repeatedly truncated and lost to ocean coastal erosion. Today the Pamet headwaters is a freshwater marsh, which is being encroached upon as the dune behind Ballston Beach slowly but steadily migrates westward with the eroding shoreline.

Moreover, the freshwater Pamet is slowing silting and drying, as is attested by the invasion of upland tree and shrub species, a process probably accelerated by mosquito-control ditching. Removal of the clapper valve under Truro Center Road would reintroduce tidal flow to the upper Pamet and promote recovery of historic native salt marsh habitat. Hopefully the water quality would improve with the flushing action as has been the case with East Harbor. The Truro Conservation Commission has entered into discussion with the CCNS regarding this issue.

Ponds

Truro has eleven ponds; seven fresh water kettle ponds and 4 coastal ponds (**Table 5**). The kettle ponds were formed when large pieces of glacial ice buried in the glacial till melted, leaving large depressions in the till. These ponds are clustered within the National Seashore near the Wellfleet town line. Ryder, Round Pond (west), Great Pond, Round Pond and Snow Pond are clustered near Route 6, are degraded by road run-off, and Snow Pond is further threatened by heavy use as a swimming pond. Round Pond (east), Horseleech Pond and Slough Pond are further to the southeast and are less accessible, which has provided them some manner of protection. The surfaces of the freshwater ponds represent the water table of the underground aquifer. Increasing recreational pressure on these ponds in Truro (also Wellfleet) is of growing concern. Limitations to access and parking should be maintained and enforced by police and CCNS rangers as one means of keeping overuse in check.

The four coastal (bayside) ponds are in North Truro (**Table 5**). However, there is no town-owned pond for public swimming. Pilgrim Pond (aka Village Pond), off Pond Road, has a linear shape indicative of a flooded glacial valley instead of a kettle hole. Great Swamp, north of Parker Drive also appears to be a flooded glacial valley that has been cut off from Cape Cod Bay by the formation of a barrier beach.

East Harbor and adjacent Moon Pond, on the northern end of town, have a different geological origin. The main water body developed as a natural saltwater bay within the accreting dunes that would eventually grow to form Provincetown. East Harbor was protected from Cape Cod Bay and was used as an anchorage for boats and ships. It was tidal and subject to continuous seawater flushing. Silting was a problem however and its protective sand spit, now known as Beach Point, continued to accrete northward. The harbor inlet was closed in 1868 with a constructed dike and roadway to facilitate passage to Provincetown. In 1873, tracks were laid for railroad service. In 1958, a water-level control device was installed above the dike at the eastern end of the harbor to help effect mosquito control. The resulting restriction of tidal flushing caused the water, then called Pilgrim Lake, to become degraded. Both East Harbor and Moon Pond are also degraded by road run-off.

In the last several years, the National Park Service has opened up the drainage culvert to tidal flushing and the water continues to show quality improvements. It is encouraging to see this large body of water becoming more of a natural and environmental asset. However, tidal flushing remains limited. The NPS and marine ecologists are seeking the opportunity to increase tidal exchange. The lessons learned here may well be applied to similar issues in the upper Pamet River Valley.

Table 5
POND INVENTORY

PONDS	Acreage	Access	Ownership	Mgt. Agcy.	Activities
Coastal Ponds					
East Harbor (Coastal-salt)	318	Town/NPS	NPS	CCNS	Duck hunting, birding, canoeing, Kayaking
Moon (Coastal-salt)	5	NPS	NPS	CCNS	Duck hunting
Pilgrim/Village (Coastal-fresh)	3	Town, Private	Town	Town	Skating, historic, scenic, fishing
Great Swamp (Coastal-fresh)	9	Private	Private	Private	
Kettle Ponds (Route 6)					
Great ^{2,3} (Kettle)	19	Town, NPS/Private	Town, NPS/Private	CCNS	Boating, fishing swimming
Round West ¹ (Kettle)	4	None	NPS	CCNS	
Ryder ^{1,2,3} (Kettle)	21	Footpath	NPS/Private	CCNS	
Snow ^{1,4} (Kettle)	8	Off Route 6	NPS	CCNS	Swimming
Kettle Ponds (Southeast)					
Round East ¹ (Kettle)	8	Informal	NPS/Private	CCNS	Fishing, skating
Slough ¹ (Kettle)	30	Informal	NPS	CCNS	
Horseleech ¹ (Kettle)	26	Informal	NPS/Private	CCNS	Fishing

1. Because of the decline of water quality in recent years, public use is discouraged.
2. Rising concentration of plant nutrients has caused an increase in the biomass of algae and eutrophication, which lessen the pond's recreational value. General public should not consume any fish from this pond.*
3. Substantial oxygen depletion in deep water indicates eutrophication, likely resulting from heightened levels of nutrients dissolved in the water.
4. Large mouth bass from this pond should be avoided.*

*** Overall Statewide Advisory 2007:**

Due to concerns about mercury poisoning, women of child-bearing age and children under age 12 should avoid eating fish from all freshwater bodies.

3. AQUIFER RECHARGE AREAS

The only source of piped water on the Cape, whether from private wells or municipal systems, is groundwater, which has been designated by the U.S. Environmental Protection Agency as a sole-source aquifer. This means that this aquifer, the groundwater, is the only source of drinking water on the Cape. The aquifer is a lens-shaped reservoir of fresh groundwater floating above the heavier saltwater that intrudes beneath the narrow outer peninsula. The aquifer is recharged entirely by precipitation and maintains itself in dynamic equilibrium. Discharge from the aquifer is by well pumping and by seepage into streams, ponds, marshes and the ocean. Although the hydrologic properties of an aquifer depend on geology, local stress can affect an entire region. Since groundwater movement is slow, the consequences of water management decisions may take decades to become apparent.

There are two lenses that comprise Truro's aquifer; the Pamet Lens, north of the Pamet River, and the Chequessett Lens, to the south and shared with Wellfleet. These are separated by the Pamet River, which receives groundwater from each. A third Outer Cape Lens is the Pilgrim Lens, which underlies Provincetown. It is of a naturally poor quality, so the Massachusetts State legislature granted Provincetown rights to tap into Truro's Pamet Lens in 1908 and again in 1952.

The residents of Truro primarily depend on private wells for their water supply. The exceptions are the Beach Point area and some parts of North Truro along Routes 6 and 6A including the school and Police Station, which tap into the Provincetown Municipal Water System pumping from the Pamet Lens in Truro.

Water quality on the outer Cape is generally good, but the aquifers are susceptible to contamination from point and non-point sources. There are many sources of potential pollution; including septic systems, cesspools, landfills and salvage yards; and varied sources such as highway de-icing salts, salt-water intrusions, fertilizer and biocide applications, liquid chemical and fuel-storage areas, accidental heating oil and chemical spills, and petroleum residue runoff from roads and highways. There are natural pollution sources coming from wildlife droppings. Small water bodies can be polluted by flocks of birds, particularly ducks or geese.

Although Truro appears to have no immediately urgent water problems, threats to private wells can come from the closest septic system or cesspool. This is particularly true of residences on small parcels. Water quality has also deteriorated in certain locations as the result of numerous salt-water intrusions and instances of nitrate contamination, both of which may be expected to increase with development unless preventive or corrective measures are taken. This is the reason that the densely settled Beach Point area is supplied with piped water from the Provincetown municipal water system. The General Business District (which includes the Public Safety Facility and the Truro Central School) has access to the public water supply via the Provincetown water system, which originates in Truro. The businesses south of the Truro Central School to Castle Hill Road on Rte 6 rely on grandfathered private wells. Access to the public water system would remove many concerns regarding the quality of the drinking water at these establishments.

The Knowles Crossing well field has sustained salt-water intrusion and Truro's South Hollow was temporarily closed in 1975 to prevent underground contamination from a nearby gasoline spill. During the supply emergency, two temporary well sites were put into operation to provide the Provincetown municipal water system and Truro's Beach Point. One well is on the former North Truro Air Force Base (now part of CCNS); the other, Well Site #4, is also within the National Seashore in North Truro.

In 2007, the Water Resources Oversight Committee (WROC) designed and launched a voluntary, town-wide ground water sampling program. The initial focus of the program is on nitrates, with the hope that they may expand the scope to include other contaminants and indicators. Sample bottles were sent out to approximately one-third of Truro homeowners. More than half returned their samples. The plan is to continue to test the drinking water of a different third of the town each year. The Committee is also working with the Town of Provincetown through the Pamet Lens Oversight Group (PLOG). Work continues on testing and analysis of well sites for future water supplies, including pump tests at the area of North Union Field potential well site. PLOG, through a grant with the Cape Cod Commission has prepared a working draft of a Watershed Management Plan for the Pamet River Lens.

Planning for future water demands and potential pollution problems require that both Provincetown and Truro work cooperatively to seek additional well sites. Fortunately, because the National Seashore is somewhat protected from new land uses, there are very few potential contamination sources in the National Seashore. Working with the National Park Service may provide possible potential well sites within the border of the federal lands for both municipalities. It should be noted that, in general, municipal water withdrawal from NPS owned lands is not currently permitted.

The town of Truro joined Eastham, Wellfleet, Provincetown, and the Cape Cod National Seashore participating in a study of the hydrogeology of the lower Cape conducted by the U.S. Geological Survey. This study, concluded in 2004, provided valuable information regarding pond levels, groundwater discharge to streams and coastal areas, and saltwater intrusion. These parameters are critical to the assessment of groundwater pumping, recharge conditions, identification of potential well sites, and to the management of this, our most valuable resource.

The 2005 LCP addresses Water Resource issues as related to Point and Non-Point Source pollution, Surface and Coastal Embayment Water Quality and the Challenges of Regional Water Supply. It cited 6 related Goals.

2005 LCP Water Resource Goals:

- Goal 1: To maintain the overall quality and quantity of Cape Cod groundwater to ensure a sustainable supply of high quality, untreated drinking water.
- Goal 2: To continue the efforts to protect the Pamet and Chequessett Lenses.
- Goal 3: To identify and protect future water supplies.
- Goal 4: To work cooperatively with the National Park Service, adjacent towns and other agencies to protect existing and future water supplies.
- Goal 5: To encourage the use of private wastewater disposal systems other than septic systems specifically to protect water supplies and marine water quality, not as a basis for increasing building density or type of development beyond the standards defined in Truro's Local Comprehensive Plan. These systems, when used, must be adequately managed and maintained.
- Goal 6: To preserve and improve the ecological integrity of marine and fresh surface waters.

The June 2008 Draft Plan of the *Plan for Watershed Management for the Pamet Groundwater Lens* by the Cape Cod Commission Water Resources Program seeks to provide guidance to the Town on water resources in the following matters, which should be useful in meeting the LCP Water Resource goals:

- 1: Identification of land suitable for municipal water supplies and management of supplies such that impacts on water quality, water levels and habitat are minimized.
- 2: Adoption of appropriate land-use planning guidelines, policies and regulations that address water-quality concerns.

4. FLOOD HAZARD AREAS

FEMA Flood Zones areas are shown on **Map 5** and are labeled FEMA A and FEMA V Zones.

FEMA A Zones include the Pamet River Valley from its eastern source to the mouth of the river at Cape Cod Bay including Pamet Harbor and its estuaries and the Little Pamet River and surrounding area; the area around Mill Pond Road; southeast of the Ryder Beach area; Rte. 6A, Rte. 6 from East Harbor to the Provincetown line, encompassing Pilgrim Lake (East Harbor), both sides of Rte. 6 to the west side of the barrier beaches of High Head and Head of the Meadow Beach.

FEMA V Zones cover the entire tidal coastline of Cape Cod Bay and the Atlantic Ocean. The Beach Point area is an especially vulnerable area given the high density of motels, cottage colonies and private homes close to the beach, which can be subject to great changes due to coastal storms.

One of the goals under the Truro Local Comprehensive Plan's Coastal Resources section: "Truro will limit development in coastal and other high-hazard areas in order to protect the public health, minimize the loss of life and structures, and to prevent environmental damage resulting from storms, natural disasters and sea level rise in so far as possible." This will be particularly important with the potential of global sea level rise, especially along Beach Point.



Newly emerging salt marsh behind Eagles Neck, Mill Pond. F. McClennen

5. WETLANDS

The Pamet River System

As already noted The Pamet River System is the largest wetland ecosystem in Truro. Starting as a freshwater stream, it meanders through a bottomland vegetated with cattail and acidophilic shrubs. Then, passing through a tide gate or clapper valve located under Route 6A, the river becomes a saltwater estuary. Joined by the outflow of several smaller streams, the estuarine area is bordered by extensive salt marsh and some brackish-water marsh. Near its artificially realigned mouth, the Pamet is joined by the Little Pamet River, Mill Creek and Eagle Creek, which flow into Pamet Harbor.

East Harbor

The Salt Meadow adjoining East Harbor is a vegetative wetland area. It will be interesting to note changes in this wetland as a result of the reintroduction of natural tidal flushing.

Bound Brook

Bound Brook flows north from Wellfleet's Herring River. The Bound Brook wetland area in South Truro is part of the Wellfleet state-designated Area of Critical Environmental Concern (ACEC).

Truro LCP notes several small wetlands that are in need of restoration to prevent further degradation. These include wetlands north of Pilgrim Heights, those near Pond Village, and near Great Swamp, as well as the tributaries to the Pamet River, Featherbed Swamp, and wetlands near the ponds in South Truro. It is suggested in the LCP that steps be taken to prevent further filling of these wetlands due to erosion and "natural litter."

The 2005 Truro Local Comprehensive Plan addresses wetland issues with 3 goals.

2005 LCP Wetland/Wildlife Goals:

- Goal 1. Truro will preserve (leave as is) the quality and quantity of its inland and coastal wetlands insofar as natural forces allow.
- Goal 2. Truro will take measures to prevent loss or degradation of critical wildlife and plant habitat, minimize the impact of development on wildlife and plant habitat, and maintain, in so far as possible, existing populations and species diversity.
- Goal 3. The Pamet River should symbolize Truro's commitment to protecting the natural environment. The lower Pamet should be protected and, where necessary, restored in order to improve water quality, preserve associated natural ecosystems and maximize human enjoyment. The upper Pamet, presently an artificially maintained fresh-water marsh, should gradually be returned to its former status as a saltmarsh.

6. COASTAL RESOURCES

The Environmental Inventory and Analysis of Truro must also address Coastal Resources. Truro is so defined by its Coastal environments that any planning for Open Space or Recreation must understand and respect the natural coastal processes. The Local Comprehensive Plan acknowledges this with a full chapter devoted to coastal resources and related goals and policies.

2005 LCP Coastal Resource Goals:

- Goal 1. Truro acknowledges the public's interest in the coast and rights for fishing, fowling and navigation, and will preserve and manage coastal areas to safeguard and perpetuate their biological, economic and aesthetic values, and to preserve and, where appropriate, expand public access to the shoreline.
- Goal 2. Truro will limit development in coastal and other high-hazard areas in order to protect health, minimize loss of life and of structures, and prevent environmental damage resulting from storms, natural disasters and sea level rise in so far as possible.
- Goal 3. Truro will maintain and improve coastal water quality to encourage shellfishing and swimming, where appropriate, and to protect the coastal ecosystem, which supports shellfish and finfish habitat.



Pamet Harbor. F. McClennen

D. VEGETATION

1. GENERAL INVENTORY

As already described Truro is a Town of many environments and the vegetation varies accordingly. The prevailing upland cover is secondary pitch pine (*Pinus rigida*) and black oak (*Quercus velutina*) woodland, diminishing in height and frequency from south to north, with a corresponding increase in heathland moor. Freshwater marshes and kettle pond margins are vegetated with diverse wetland herbaceous and shrubby species. Strand vegetation is dominated by American dune grass (*Ammophila breviligulata*), often with landward thickets of scrub or bear oak, (*Quercus ilicifolia*) and beach plum (*Prunus maritima*).

2. FOREST LAND

Most of Truro's uplands are forested. Most of this wooded land lies within CCNS and is subject to National Park Service management. As former farmland and meadows continue to grow up with trees, the forest cover is expected to expand. Pitch pines come in first and then are followed by oaks. As forestation continues, the landscape character will change as views are obscured and heath moors become forested with the intrusion of pitch pine.

3. PUBLIC SHADE TREES

Truro's public parks and cemeteries are not formally landscaped. Common Shade Trees in Truro include Norway Maple (*Acer platanoides*) and Red Maple (*Acer rubrum*).

4. AGRICULTURAL LAND

As demand for residential development and values of land rise, pressures increase for the development of remaining farmland. Currently there are three farms in Truro taking advantage of the real estate tax reductions, fiscal 2009, under the State Farm Assessment Act (Chap. 61A). For qualification, this act requires a minimum of five acres of land to be in farming.

As farmers' markets increase regionally and "rights-to-farm" bylaws are adopted by Cape Cod towns, agriculture/farming should remain an important character of the rural life style of the year-round population in Truro.

5. WETLAND VEGETATION

Truro has both extensive freshwater and saltwater wetlands with vegetation representative of each. Sections of the Upper Pamet have become a wooded wetland as silting has occurred. Many of the freshwater wetlands are the result of clapper valves that restrict tidal flow to inland wetland areas.

6. RARE, THREATENED, AND ENDANGERED SPECIES

The Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program (NHESP) list species by Town under the Endangered Species Act (MESA). Species are listed as E = Endangered, T = Threatened, or SC = Special Concern along with the date of "Most Recent Observation." Rare Species are by definition hard to find and since methodical species surveys are not regularly performed, old observation dates do not mean that a species is no longer found in Truro.

There are 10 vascular plants listed for Truro with 2 that are Endangered, along with 4 that are Threatened and 4 are of Special Concern (**Table 6**).

Table 6
NHESP RARE VASCULAR PLANTS

Common Name	Scientific Name	MESA Status	Most Recent Observation
Adder's-tongue Fern	<i>Ophioglossum pusillum</i>	T	1933
Broom Crowberry	<i>Corema conradii</i>	SC	2002
Bushy Rockrose	<i>Helianthemum dumosum</i>	SC	2001
Commons's Panic-grass	<i>Dichantherium ovale ssp Pseudopubescens</i>	SC	1987
Fibrous Bladderwort	<i>Utricularia striata</i>	T	1985
Oysterleaf	<i>Mertensia maritima</i>	E	2001
Plymouth Gentian	<i>Sabatia kennedyana</i>	SC	2000
Prickly Pear	<i>Opuntia humifusa</i>	E	2000
Purple Needlegrass	<i>Aristida purpurascens</i>	T	1986
Resupinate Bladderwort	<i>Utricularia resupinata</i>	T	2002

7. UNIQUE NATURAL RESOURCES

Barrier Beaches

Barrier beaches exist on the Cape Cod Bay shore at East Harbor and Pamet Harbor. The East Harbor barrier beach is almost fully developed with roads and buildings and shows little resemblance to a natural barrier beach. The barrier beach at Pamet Harbor is in a more natural state, although its opening is structured with a jetty.

Heath Moors:

The Heath Moors were the once dominant landscape of the North Truro Highlands, where farmland once replaced native forests. The broad moor vistas have now been obscured with the intrusion of pitch pines. The CCNS may consider prescribed burns to preserve this unique landscape.

8. VEGETATION MAPPING PROJECTS

Massachusetts Bio Map

Produced by the Natural Heritage and Endangered Species Program, the Statewide Map of December 2006 identifies areas crucial to the State's rare species (see MAP 4). It maps areas that are most viable exemplary natural communities and habitats for rare plant and animal species and depicts the surrounding landscape that buffers and connects habitat areas.

Cape Cod National Seashore Vegetation Mapping:

Environmental scientists of the CCNS, carry out a variety of studies and some unpublished mapping. Some research is available by request (see Section 11 for sample publications).

E. FISHERIES AND WILDLIFE

1. GENERAL INVENTORY

Excellent opportunities exist for recreational fishing and hunting as established by State Regulations. Shellfishing is permitted in designated locations as established by Town regulations.

Truro's upland woods, hollows, heathlands, ponds, marshes, dunes and beaches provide habitat for diverse and abundant populations of wildlife, including, game birds, birds of prey, song birds and waterfowl, as well as deer, small game, amphibians, reptiles, fish and shellfish. Species in some of these categories are listed below (**Table 7, 8 and 9**).

Wildlife Biologists of the Cape Cod National Seashore carry out research and record observations of a variety of wildlife. While staff and budget constraints limit intensive studies of wildlife, they are able to track and record observations as encountered. The data are available for research purposes and cooperation with NHESP means that the observations are also recorded in the State wildlife records. Work of these wildlife biologists means that the wildlife records of the Outer Cape are more detailed than most Massachusetts communities.

Table 7

ANIMALS COMMON TO THE TRURO AREA

Birds of Prey

Great Horned Owl	Northern Harrier	Screech Owl
Kestrel	Red-tail Hawk	Turkey Vulture
Merlin	Saw-whet Owl	

Upland Game Birds

Bobwhite	Ring-necked Pheasant	Wild Turkey
	Woodcock	

Table 7 continued

Songbirds		
Baltimore Oriole	Downy Woodpecker	Prairie
Black & White Warbler	Flicker	Purple Martin
Bluebird	Goldfinch	Red-eyed Vireo
Blue Jay	Great-crested Flycatcher	Redwinged Blackbird
Brown Thrasher	Hairy Woodpecker	Robin
Cardinal	Hermit Thrush	Snow Bunting
Carolina Wren	House Finch	Song Sparrow
Catbird	Junco	Starling
Chickadee	Kingbird	Towhee
Chimney Swift	Mockingbird	Tree Swallow
Common Grackle	Mourning Dove	White-breasted Nuthatch
Cowbird	Phoebe	Wood Peewee
Crow	Pine Warbler	Yellow-rumped Warbler
		Yellow Warbler
Waterfowl		
Black Duck	Common Merganser	Old Squaw
Blue-winged Teal	Common Scoter	Pintail
Brant	Greater Scaup	Red-breasted Merganser
Bufflehead	Green-winged Teal	Surf Scoter
Canada Goose	Hooded Merganser	White-winged Scoter
Common Eider	Lesser Scaup	Widgeon
Common Goldeneye	Mallard	Wood Duck
Marsh Birds		
American Bittern	Great Blue Heron	Snowy Egret
Black-crowned Night Heron	Green Heron	Woodcock
	Snipe	
Shore Birds		
Black-bellied Plover	Piping Plover	Semi-palmated Plover
Dunlin	Ruddy Turnstone	Semi-palmated Sandpiper
Greater Yellowlegs	Sanderling	Short-billed Dowitcher
Least Sandpiper		
Gulls and Terns		
Common Tern	Herring Gull	Ring-billed Gull
Greater Black-backed Gull	Laughing Gull	Roseate Tern
	Least Tern	

Table 7 continued

Small Mammals		
Chipmunk	Muskrat	Shrew
Eastern Cottontail	Opossum	Skunk
Gray Squirrel	Raccoon	Vole
Mole	Red Fox	Weasel
Mouse	Red Squirrel	Woodchuck
Large Mammals		
Eastern Coyote		White-tailed Deer

Table 8

**AMPHIBIANS AND REPTILES OF THE CAPE COD NATIONAL SEASHORE
FOUND IN TRURO**

Salamanders		
Four-toed Salamander	Redback Salamander	Spotted Salamander
Toads and Frogs		
Bullfrog	Green Frog	Spring Peeper
Fowler's Toad	Pickerel Frog	
Turtles		
Diamond Back Terrapin	Leatherback Turtle (marine)	Painted Turtle
Eastern Box Turtle	Loggerhead (marine)	Snapping Turtle
Hawksbill Turtle (marine)	Musk Turtle	Spotted Turtle
Kemp's Ridley Turtle (marine)		
Snakes		
Black Racer	Eastern Milk Snake	Northern Ringneck Snake
Eastern Garter Snake	Eastern Ribbon Snake	Northern Water Snake
Eastern Hognose Snake		

SOURCE: Robert P. Cook CCNS Wildlife Biologist, May 2007

A favorite pursuit for many in Truro is shellfishing. For “the taking of shellfish, eels, crabs and sea worms,” a “valid shellfish permit” is required. Below (**Table 9**) is a list of these animals, common name(s) and genus in italics.

Table 9**SHELLFISH****Clams and other mollusks**

Bay scallop – <i>Argopecten</i>	Razor clam/razor fish – <i>Ensis</i>
Blue mussel – <i>Mytilus</i>	Quahog – <i>Mercenaria</i>
Conchs/whelks – <i>Busycon</i>	Sea clam/surf clam – <i>Spisula</i>
Limpet – <i>Acmaea</i>	Sea scallop – <i>Placopecten</i>
Moon snails – <i>Lunatia, Polinices</i>	Sea quahog/ocean quahog/black clam – <i>Arctica</i>
Oyster – <i>Crassostrea</i>	Soft-shelled clam – <i>Mya</i>
Periwinkles/winkles – <i>Littorina</i>	

Crabs

Blue crab – <i>Callinectes</i>	Hermit crabs – <i>Pagurus</i>
Calico crab/lady crab – <i>Ovalipes</i>	Jonah crab – <i>Cancer</i>
Fiddler crabs – <i>Sesarma, Uca</i>	Rock crab – <i>Cancer</i>
Green crab – <i>Carcinus</i>	Spider crabs – <i>Libinia</i>

Other

Common eel – <i>Anguilla</i>	Lobster – <i>Homarus*</i>
Horseshoe crab (not a true crab) – <i>Limulus*</i>	Sea worm/clam worm – <i>Nereis</i>

(Except for the eel, all animals listed above are invertebrates.)

(* For these animals, state permit required, Mass. Div. Marine Fisheries.)

In 2006 the Board of Selectmen adopted a 5-year Shellfish Management Plan prepared by the Shellfish Advisory Committee. This committee and the Shellfish Warden have increased their efforts in shellfish propagation and in creating better opportunities for recreational shellfishing. Participating with the Barnstable County Cooperative Extension, the Town conducts a stocking program for shellfish each spring in Pamet Harbor. The Shellfish Warden also is working to restore local stocks of surf clams in the Bay, possibly using East Harbor as a nursery ground. This experiment is made possible by the improved estuarine conditions associated with the restoration of East Harbor, a collaborative effort between the Town and the Cape Cod National Seashore.

Favorite recreational finfishing (surfcasting and boating) targets include the bluefish (*Pomatomus*) and the striped bass (*Morone*). Bait for these fish is often the sand lance/sand eel (*Ammodytes*) commonly raked from the bars off the Pamet River.

2. VERNAL POOLS

There are 5 Certified Vernal Pools in Truro, with 3 lying within the CCNS boundary. (See **Map 4**). This provides them with some protection, unless they fall within private parcels inside the CCNS. Truro has 31 Potential Vernal Pools, 22 of which are within the CCNS. Truro and the CCNS need to see that the certification process is completed to insure the protection of these special areas. Volunteers or students could help with certification process.

3. WILDLIFE CORRIDORS

The CCNS has limited development in the eastern woodlands providing substantial wildlife areas and negating the need for narrow linkage corridors. These could change as construction of large homes in private parcels continues. Corridors on the Cape Cod Bay side will continue to suffer interruption with the building of new homes.

4. RARE SPECIES

The Massachusetts Natural Heritage and Endangered Species Program, within the Department of Fisheries, Wildlife and Environmental Law Enforcement, compiles information on Rare, Threatened and Endangered plant and animal species on a continuing basis, and also monitors ecosystems and major landscape features in the State. In addition, the U.S. Fish and Wildlife Service conducts field studies on species deemed to be of national significance. The staff of the Cape Cod National Seashore compiles information on Rare Species that occur within the Seashore. Many local people collaborate with one or more of these agencies by providing information based on their personal first-hand knowledge of the area.

A Rare Species is one considered to be declining within the state, restricted to a very limited geographical area, or is widespread but infrequent, but neither threatened nor endangered over its entire range. A Threatened Species is one that is declining over all or most of its range and likely to become endangered in the foreseeable future. An Endangered Species is one whose existence over its entire range is in doubt and, without intervention, is likely to become extinct. A Special Concern Species is one having suffered a decline that could threaten the species if allowed to continue unchecked.

Map 4, Unique Features, shows how almost the entire area of Truro is covered by Estimated Habitat of Rare Wildlife and Priority Habitat of Rare Species. This emphasizes the importance of preserving natural areas in Truro.

Rare animal species in the Town of Truro as compiled by the Massachusetts Natural Heritage Program, are listed in **Table 10**. The Piping Plover is threatened not only on the MESA list but is also listed Federally as Threatened.

Table 10
NHESP RARE ANIMALS

Common Name	Scientific Name	MESA Status	Most Recent Observation
Amphibian			
Eastern Spadefoot	<i>Scaphiopus holbrookii</i>	T	2005
Four-toed Salamander	<i>Hemidactylium scutatum</i>	SC	2002
Bird			
American Bittern	<i>Botaurus lentiginosus</i>	E	1965
Common Moorhen	<i>Gallinula chloropus</i>	SC	1892
Common Tern	<i>Sterna hirundo</i>	SC	1999
Least Bittern	<i>Ixobrychus exilis</i>	E	1993
Least Tern	<i>Sterna antillarum</i>	SC	2005
Northern Harrier	<i>Circus cyaneus</i>	T	2004
Piping Plover	<i>Charadrius melodus</i>	T	2002
Upland Sandpiper	<i>Bartramia longicauda</i>	E	1850
Vesper Sparrow	<i>Pooecetes gramineus</i>	T	1993
Butterfly/Moth			
Chain Dot Geometer	<i>Cingilia catenaria</i>	SC	1988
Coastal Heathland Cutworm	<i>Abagrotis nefascia</i>	SC	1989
Coastal Swamp Metarranthis Moth	<i>Metarranthis pilosaria</i>	SC	1984
Drunk Apamea Moth	<i>Apamea inebriata</i>	SC	1989
Gerhard's Underwing Moth	<i>Catocala herodias gerhardi</i>	SC	1989
Dune Noctuid Moth	<i>Oncocnemis riparia</i>	SC	1989
Water-willow Stem Borer	<i>Papaipema sulphurata</i>	T	2005
Dragonfly/Damselfly			
Attenuated Bluet	<i>Enallagma daeckii</i>	SC	2005
Pine Barrens Bluet	<i>Enallagma recurvatum</i>	T	2000
Scarlet Bluet	<i>Enallagma pictum</i>	T	1999
Spatterdock Darner	<i>Aeshna mutata</i>	SC	1998
Fish			
Bridle Shiner	<i>Notropis bifrenatus</i>	SC	1990
Reptile			
Eastern Box Turtle	<i>Terrapene carolina</i>	SC	2003

F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

1. SCENIC LANDSCAPES

Truro has approximately 26 miles of tidal shoreline. This coastline is a major attraction, and it is used by residents and summer visitors for swimming, fishing, and walking, and serves as a natural playground for children and adults alike, especially during the summer months. Key features of the coastal landscape include the ocean cliffs, High Head, Beach Point, and the bay side estuaries of the Pamet River and Bound Brook.

The LCP noted 12 sites with "especially scenic views:"

- Pamet Harbor from parking lot
- Cape Cod Bay from Great Hollow Road
- Cape Cod Bay from High Head, Route 6 Rest Area
- Cape Cod Bay from top of Pond Road
- Cape Cod Bay from Old County Road
- Mill Pond and Eagle's Neck from Mill Pond Road
- Edward Hopper House, seen from beach (200 yards south of Fisher Beach)
- East Harbor from High Head Road
- Atlantic Ocean from Head of the Meadow parking lots
- Atlantic Ocean from Coast Guard Beach Road
- Atlantic Ocean from Highland Light
- Atlantic Ocean from Longnook Road

Two other sites provide significant scenic vistas

- Poor's Hill
- Bearberry Hill

Natural areas are not the only Scenic Features in need of protection. Including the main artery, Route 6, most roads in Truro have stretches of considerable beauty. The LCP noted 14 Scenic Roadways of "special interest."

- Old County Road from Depot Road to Wellfleet line
- Corn Hill Road from Castle Road to Corn Hill Cottages
- North and South Pamet Roads
- Long Nook Road
- Bayview Road, North Truro (beach cottages & bay views)
- Castle Road
- Prince Valley Road
- Depot Road
- Mill Pond Road
- Pond Village Road
- Coast Guard Road to beach
- Shore Road
- Collins Road
- Fisher Road

Official designation of these as scenic roads, under Massachusetts State Law, could help protect their character.

2. UNUSUAL FEATURES

The rounded dome of Poor's Hill is a dominant feature of the Lower Pamet Valley. While it has been protected by town purchase for conservation and has a CR, it is in need of a Management and Maintenance Plan to address protection of its heathland vegetation, "sandplain heath natural community." (NHESP). In 2008, this glacial dome was declared by the Compact of Cape Cod Conservation Trusts to be "the most significant single landform preserved by the Land Bank on Cape Cod." At two million dollars, this was an extraordinary purchase for this small town. Dramatically escalating property values are putting future purchases out of reach, absent generous offers from willing sellers or donors.



Poors Hill from the Pamet River. F. McClennen

3. CULTURAL AND HISTORIC AREAS

There are sites in Truro that offer activities associated with the arts: painting, drawing, drama, literature and music.

Castle Hill, Truro Center for the Arts has summer art courses including painting, sculpture, drawing, pottery and photography. The Center also offers programs in local schools during the school year, programs for seniors, and holds lectures by renowned authors and artists during the summer, as well.

Payomet Performing Arts opened in 1999 with innovative and traditional theater and they hold classes for children in the summer.

The Truro Historical Society Museum, which is situated near Highland Light, is open from June through September; it offers a view of former times in Truro, as well as maritime and bird carving exhibits. There are also talks given during the summer on subjects relating to Truro's history.

The Highlands Center at Cape Cod National Seashore is located at the former North Truro Air Force Station. Its mission statement notes, this is a "meeting place for interdisciplinary exploration and learning in the arts, sciences, cultural heritage, and environmental understanding. The Center will foster creative work, research, education, environmental awareness, and stewardship of the land, for people of all ages."

The Truro Public Library opened in 1999, following the closing of Cobb Library and Pilgrim Library; it has space for art exhibits and lectures for the public to enjoy.

The Cobb Memorial Archive Library has been recently renovated and is currently being used by the Truro Historical Society to house a collection of archives, which will finally be accessible to the public. The collection includes rare maps, including hand-drawn topographic maps of Truro and an antique globe that charts the course of the infamous Captain Cook.

The Truro Community Center was constructed 2007-2008 and houses both the Recreation Department and the Council on Aging. It provides a central location for many community and recreation activities. Its facilities include a kitchen and multi purpose room with "sport flooring."

The Truro Concert Committee sponsors summer concerts that are held at the Truro Village Green in July and August.

Truro's rich history can be appreciated through a number of historic sites and buildings (**Table 11 and 12**). Five of these sites are on the National Register of Historic Places. In addition, Truro has 22 pre-1800 houses listed on the State Register of Historic Places and more than 200 pre-1870 houses, many clustered on the old roads and hollows. For planning purposes, these areas may be important to document and maintain. This includes many of the "areas" in Truro that are not listed, including the "Hollows" of South Truro, Great Hollow in North Truro and the Pamet area. These are distinct geographical settings with their own history and character.

Table 11
HISTORIC SITES

First Congregational Church, (Bell Church) with Cemetery:

Built in 1827, this meetinghouse is located on the "Hill of Churches." It has a Paul Revere bell in its belfry, and is also noted for miniature whale-shaped window latches. (13.3 acres)

Town Hall

Built in 1848 as a hat factory and later used for town offices and recreational events; fitted with clock steeple; subsequently extensively altered for expanded governmental functions. (0.5 acres)

National Register of Historic Places

Corn Hill

A flag pole and bronze plaque at the north side of the Corn Hill Beach parking lot commemorate the hill where 16 men led by Myles Standish and William Bradford discovered and claimed an iron kettle and cache of Indian corn seed in 1620. (0.5 acres)

A second plaque commemorates how "Ralph S. Barnaby on a flight from Corn Hill of 15 minutes, 6 seconds became the first American to win an international soaring certificate August 18, 1929. This flight was the first to exceed the American record for motorless flight of 9 minutes, 45 seconds set by Orville Wright of Kitty Hawk, NC on Oct. 24, 1911. (*National Soaring Museum*)

Pilgrim Pond Park

Park and plaque near Pilgrim Pond on Pond Road commemorates the site where the Standish/Bradford party camped for the night on their second night on American Soil, November, 16, 1620. (0.5 acres)

Historical Museum

Formerly a hotel and now part of the Highland Light complex, the museum, known to many as Highland House Museum, holds a collection of everyday items dating back to the Pilgrim era.

National Register of Historic Places

Table 11 continued

HISTORIC SITES

Highland Light

Also known as Cape Cod Light, and dating from 1797, this was the first lighthouse built on the Cape. Originally the light source was a cluster of 24 whale-oil lamps; today the electronically-controlled 620,000-candlepower beacon is the most powerful on the New England coast. In 1996-1997, the structure was relocated approximately 500 feet to the west, away from the eroding sand cliff above the beach.

National Register of Historic Places

South Truro Meetinghouse Site

Completed in 1851, and erected high on a hill “to be nearer to God” and a landmark for fishermen, the meetinghouse had a capacity of more than 500, which was sometimes insufficient. Razed by fire, two acres of open space remain, which includes a small park.

Jedediah Higgins House

Built 1890 and described as traditional Cape Cod "one1/2 story double house" on Higgins Hollow Road. Owned by National Park Service (CCNS).

National Register of Historic Places

The Dune Shacks of the Peaked Hills Bars Historic District

Owned by CCNS these rustic beach cabins are used primarily as artist retreats.

Eligible for National Register of Historic Places

Pilgrim Spring Site - near High Head

A plaque on the Pilgrim Springs nature trail marks a stop made by the Pilgrims near a freshwater spring.

Pamet Cranberry Bog Site – near end of North Pamet Road

This is the site of a former cranberry bog operated by the Pamet Cranberry Company from the 1890’s until 1961. Now part of the new Pamet Area Trail System.

The Truro Highlands Historic District and the Highlands Golf Links are on the National Register-eligible listing. Other historic areas within the CCNS include the Pamet Roads area and the Longnook/Higgins Hollow area.

Table 12

TRURO TOWN CEMETERIES

Old North Cemetery

The site of Truro's first town cemetery contains graves dating back to the 1700's. It is also the site of the town's first meetinghouse and Congregational Church. Although a new church was built in 1827 at a more central location, the cemetery and monument remain. (5.55 acres)

Pine Grove Cemetery: Located off Old County Road (2.2 acres)

Snow Cemetery (3.55 acres)

New South (6.13 acres)

4. AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The "Wellfleet Harbor ACEC" extends into the southern part of Truro on the Cape Cod Bay side up to Ryder Beach Road. In Truro this ACEC encompasses the Bound Brook wetlands of South Truro west of Old County Road and along the old rail road bed. There is no other ACEC designation in Truro at this time.

G. ENVIRONMENTAL CHALLENGES

1. HAZARDOUS WASTE SITES

Former Watts Property:

This area in North Truro was the site of a cleanup from a gasoline filling station that suffered an underground fuel leak in December 1977; this leak endangered South Hollow Road well field nearby and resulted in an 18-year cleanup effort. The site cleanup was completed successfully, and a Class A-2 Response action Outcome Statement was prepared, which indicated a permanent solution had been achieved. After authorization from DEP, the Town of Provincetown (which used the well field for one of its sources of water) dismantled and salvaged the adjacent groundwater treatment system and the property was later acquired by the Town of Truro through an EOEA "Brown Field" grant for conservation purposes.

Jack's Gas:

In 2001 a gasoline storage tank leak was discovered at the site of the former "Jack's Gas" on Route 6. Remediation was begun and a monitoring program was established. The contamination plume has stabilized approximately 4500 feet from the Pamet River. No private wells appear to be contaminated, but the monitoring program is ongoing.

2. LANDFILLS

The former South Highland Road Landfill, which was operated as an open burning dump between 1940 and 1964 by the Town of Truro, has been another environmental issue. A summary report was prepared by the USEPA in 1990 under its Superfund Program. The location was not cited by EPA under Superfund; however, the report did reveal "PAH's"(Polycyclic Aromatic Hydrocarbons) exist in soils at that site. In accordance with the Massachusetts Contingency Plan (MCP), the town is obliged to investigate the nature and extent of any contamination. The site has been capped in conformance with the DEP.

Capping of the Truro Municipal Landfill was completed in December 1999, in compliance with Massachusetts DEP Solid Waste Regulations.

3. EROSION

Beaches on the ocean side continue to be impacted by major storms. Over the last twenty years, approximately 90 feet have been lost from the parking lot at Head of the Meadow Beach, retreat of the bluff at highland light continues and the dune at Ballston Beach continues its westerly migration. Coastal erosion at Ballston Beach, combined with severe storm surge, can cause overwashes that impact the upper Pamet wetlands. The Cape Cod Bay beaches continue with a cyclical pattern of accretion and erosion depending upon location. Along the southern section of Beach Point, a barrier beach, wave energy repeatedly removes sand from the upper reaches of the beach. Property owners here routinely take sand from the intertidal zone to shore up the seawalls that protect their buildings.

4. CHRONIC FLOODING

Truro is fortunate that its uplands are typically high and well above flood zone. The exception is the low-lying shoreline of Beach Point, a built up barrier beach, which is subject to coastal storm flooding.

5. SEDIMENTATION

As previously noted, sedimentation has historically been an issue on the Cape Cod Bay side at East Harbor and Pamet Harbor. The natural processes ended at East harbor when a dike was built for road and later railroad access to Provincetown. Sedimentation continues to be an issue in Pamet Harbor with maintenance dredging required for boat access.

6. NEW DEVELOPMENT

New development continues within Truro. Much of what is constructed today are second homes, which tend to be much larger than some of the more traditional single-family dwellings. There is also a trend toward tearing down smaller single-family dwellings and replacing them with larger homes. For many in the community this raises concerns about views and vistas, and aesthetics; does the size of the home fit in with the neighborhood? In, addition, there are environmental concerns arising from the potential increases of nitrogen and phosphates from septic systems and runoff from roofs and impervious surfaces into the ground water, surface waters and estuaries. These concerns are shared both within and outside the Seashore.

7. SURFACE WATER POLLUTION - PONDS

Seven kettle ponds and two coastal brackish ponds lie within Truro's area occupied by CCNS, and two coastal ponds lies outside the Park boundary near the Cape Cod Bay shore. The ponds and their pollution issues are described in **Table 5**.

Of particular concern are the kettle ponds, which are ecologically fragile and much valued both as aesthetic and recreational resources. In recent years, the CCNS has conducted and coordinated research on kettle ponds to determine the status of water quality, among other things. These and other studies point to the following water-quality concerns:

- **High nutrient levels** are attributable to human activity, and may arise from such sources as nitrate percolation from septic systems and from fertilizer runoff.
- **Wind-blown sand** associated with beach erosion contributes to pond sediments.
- **Bacterial contamination** can pose public health hazards.
- **Chemical pollution** is similarly harmful to public health.
- **Acid rain** can lower water pH to levels beyond the ecological amplitude of indigenous fish and amphibians, and may be a factor in species reduction.

8. INVASIVE SPECIES

Invasive species are an increasing problem on Cape Cod. Unfortunately, the source of some invasive plants has been from commercial and residential landscaping. Some Invasive Plants whose cultivation should be discouraged in Truro are listed below in **Table 13**. Public education about avoiding invasive plants in landscaping will be critical to the control of these problem plants.

Table 13**INVASIVE SPECIES**

Common Name	Scientific Name
Autumn olive	<i>Eleagnus umbellata</i>
Black locust	<i>Robinia pseudoacacia</i>
Great reed	<i>Phragmites australis</i>
Honeysuckle, bella	<i>Lonicera bella</i>
Honeysuckle, Japanese	<i>Lonicera japonica</i>
Knapweed	<i>Centaurea biebersteinii</i>
Norway maple	<i>Acer platanoides</i>
Oriental bittersweet	<i>Celastrus orbiculatus</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Tree of Heaven	<i>Ailanthus altissima</i>

9. FORESTRY ISSUES

Unlike the upper Cape, “forest” on the outer Cape is primarily composed of pitch pine and scrub oak with a dense understory of shrubs, mostly huckleberry. In Truro most of this forest is found within the boundaries of the Cape Cod National Seashore. Some of these trees can reach a height of 30 – 50 ft. in areas not constantly wind swept. When they get old and weakened, dead limbs and branches add to the “fuel” of the understory, which poses a potential fire hazard.

In cooperation with the Univ. Massachusetts, the CCNS has been conducting “prescribed burns” for nearly 24 years in two hollows in south Truro. These experimental plots test the effectiveness of mowing vs burning of the understory as control measures to reduce risk of fire and to develop a model for predicting fire danger.

Worthy of note is the fact that the trees also contribute significant leaf litter, important habitat for ticks. This is a matter of interest and public education as the numbers of ticks and incidence of tick-borne illness is on the rise.

SECTION 5 - INVENTORY OF CONSERVATION AND RECREATION LANDS

The Town of Truro, like other coastal communities, continues to feel the pressure of development. The undeveloped acreage left in the town, outside of the CCNS, could easily be overbuilt with negative environmental impact. This is particularly true near and along Truro's coastline, which is subject to natural phenomena such as flooding and erosion. It is important to protect open space in order to protect Truro's natural beauty, its unique natural environments and the quality of its aquifer.

The term “open space” can refer to a wide range of land uses from conservation land held specifically for environmental protection to school ball fields. This section and **Appendix 4 - "Inventory of Lands of Conservation and Recreation Interest"** spreadsheet, identify lands in Truro that are protected in perpetuity, as well as lands that are perceived as open space, but are not permanently protected because their use can change. See also **Appendix 5, Map 6**.

For the purpose of this Plan, the term “protected lands” will refer only to land that is permanently protected for conservation. On the municipal level, lands that have been acquired through the Conservation Commission or Water Department for conservation purposes are protected under Article 97 of the Constitution of the Commonwealth of Massachusetts. To change the use of lands held under Article 97 requires a two-thirds vote at Town Meeting followed by a two-thirds vote of the state legislature, making it very difficult for a municipality to change that use for another purpose.

The term “unprotected lands” refers to properties that currently hold some conservation or recreational interest but are not protected in perpetuity and could be developed for another purpose. These lands include:

- **Town owned land not protected under Article 97.** These include lands held by the Board of Selectmen. School athletic fields are valuable as open space but they may be needed in the future to accommodate buildings or other uses.
- **Private lands under the MA General Law Chapter 61 Program.** This program restricts land use to forestry, agricultural/horticultural or recreational uses under Chapter 61, 61A and 61B respectively. Parcels must be at least 5 contiguous acres in size to qualify for the agriculture or recreation programs, or at least 10 acres for forestry. Landowners who choose to enroll their land in this program do so in exchange for a reduction in property taxes. If the landowner wishes to sell the property, the town must be given the right of first refusal. These lands are considered ‘unprotected’ because land could be sold to a party that is willing to pay the back taxes on the property and thus remove the parcel from the Chapter 61 program. These lands are vulnerable to development and should be considered high priority for protection.
- **Other private land perceived as open space.** Undeveloped private land is often considered open space, but it is important to realize that development on these parcels can happen at any time.

A. PRIVATE PARCELS

There are five agricultural parcels with Chapter 61A Agricultural designations in Truro, temporarily protecting 48 acres of the Hillside and Mooney farms. Attention should be paid to the future of these two remaining farms. It will serve the Town well to support environmentally compatible agricultural activities to the extent feasible. The CC Regional Policy Plan 2009 cites “traditional occupations, economic diversity, scenic resources, and greater food independence” as important opportunities associated with agriculture.

Conservation Restrictions (CRs) help protect at least nine parcels, plus Truro-owned Poor's Hill. There are numerous undeveloped private parcels and these could be considered for future open space or CR protection. Most parcels are small, but there are 27 over 5 acres in size, totaling 374 acres. There are 58 parcels between 2 and 5 acres, totaling 173 acres. In some towns, the smaller parcels could be considered of minor consequence, but the dense development potential outside of the CCNS, proves that even a small piece of open space could help create or preserve greenways and wildlife corridors in Truro.

B. PUBLIC PARCELS

Truro has very limited land and buildings under the jurisdiction of the Conservation Commission and Recreation Commission (**Map 6**) See **Tables 14 and 15** for descriptions of special places and beaches. There are 25 parcels of Conservation Land in Truro. These total 108 acres and range in size from 0.1 to 24 acres. Four Conservation Commission parcels in the Pamet valley abut Truro Conservation Trust land to create even larger protected areas. There are 4 town-owned cemeteries totaling 17.4 acres and 79 parcels of other unprotected town owned land totaling 179 acres. The town of Provincetown owns 18 parcels (67 acres) related to its public water supply wells in Truro.

The only trail on town conservation land is around the base of Poor's Hill. There are a number sand roads, fire trails throughout the woodlands of the CCNS. These roads are well used by walkers/hikers. Truro citizens have participated in the annual walks sponsored by the Cape Cod Pathways program. This program is a project of the Barnstable County Commissioners and the Cape Cod Commission working with citizens and organizations to create networks of walking trails, Falmouth to Provincetown. Opportunities for collaboration should also possibly be explored, with the Greenways and Trails Program of the Mass. Dept. Conservation and Recreation.

The town maintains no bikeways, or game courts, but it does operate a 9-hole golf course and maintains ball fields at Snow's Field and at the Central School. Truro has contributed funds to maintain a skate park in Wellfleet. The playground at the Central School is not open to the public, but a new playground, "Puma Park" has been recently built at the new Truro Community Center. A parcel of land known as the Watts Property was acquired through the efforts of the Truro Conservation Trust and the Town. This serves as a “Gateway” at Route 6 and Shore Road, and is an important piece of the Route 6 "Greenbelt." The town continues efforts to acquire funds for additional landscaping and tree planting.

C. NON-PROFIT PARCELS

The Truro Conservation Trust, established in 1981, to “assist in and promote the preservation of the rural character of the Town of Truro.” now owns 280 acres of wetland and environmentally significant upland and continues to pursue acquisition opportunities as they arise. In 2008 there were approximately 82 parcels held by The Truro Conservation Trust. These range in size from 0.28 acres to 39.56 acres. These holdings clearly indicate the importance of the Land Trust in preserving Truro's open space. The Truro Conservation Trust is exploring possibilities for inviting the public to trails on a few of its parcels. Access and parking are hurdles to be addressed. The Open Space Committee should continue working with the Truro Conservation Trust to place CR's on other Town owned and Conservation land for more permanent protection.



Entrance to Delsheimer/TCT Conservation Land. F. McClennen

Table 14

SPECIAL AREAS

Site	Mgt. Agency	Size (Acres)	Activities, Facilities
Pilgrim Heights	CCNS	200	Interpretive shelter and nature trail, Comfort station, picnic area
High Head Conservation Area	ConCom/TCT	50	Picnic area, view, trail in preparation, Swimming at Beach Point Landing
Head of Meadow	CCNS	1,000	Swimming, ORV access; bicycle trail access, Conservation land, dunes, beach and wetlands Bath House, Comfort Station
Highland Light Complex	CCNS	200	Interpretive overlook, Highland House Historical Museum
Highland Links Golf Course	Town/CCNS		Town-leased 9-hole golf course and Pro Shop concession
Bearberry Hill	CCNS		Trail off North Pamet Road
Cranberry Bog House	CCNS		Historic building
Pamet Valley	ConCom /TCT	64+/-	Conservation land along Pamet River
Little Pamet Conservation Area	ConCom	5	Conservation land
Poors Hill	ConCom	3.6	Conservation land with trail & bench
Snows Field	Recreation	5	Ball field
Central School	School Dept.	8	Ball field
Pamet Harbor	Town	5	Parking lot, boat launch ramp to mooring area, kayak, canoe, personal watercraft launching
Pamet Park	ConCom	1.5	Picnic tables and Pamet marsh views

Recreation Facilities:

The Truro Recreation Commission operates a year-round program that becomes especially active in summer, particularly for children. Activities are held at Snow's Field and Truro Central School.

- 1. Snows Field:** A 5-acre ball field with storage shed and drinking water points, but as yet no permanent toilets. The Recreation Commission is working toward improvements to this area.
- 2. Truro Central School:** Ball field, outdoor basketball courts, gymnasium
- 3. Highland Links:** A 9-hole golf course managed by the Town in partnership with the National Park Service
- 4. Highlands Center:** Ball field
- 5. Puma Park:** Recently completed playground behind the Truro Community Center

The Recreation Department is concerned with the needs of citizens, especially youth, and visitors for picnic areas, scenic walks and hiking trails, and, with increasing urgency, for safe bicycle routes not only for use within the Town but to link with existing bike paths in Provincetown and Wellfleet.

The new Community Center has opened adjacent to the Truro Public Library. This facility will house the Council on Aging and the Recreation Department; providing a central location for a variety of activities.



Snow's Field. F. McClennen

Beaches:

There are 6 oceanside beaches, two of which are managed by the Cape Cod National Seashore. The seven bay side beaches are all town owned and managed. (**Table 15**)

Table 15**BEACHES**

Site	Mgt. Agency	Size (Acres)	Parking	Activities, Facilities
Ocean Beaches				
High Head	CCNS	2.84	25	View, walk ORV trail to Swim
Head of Meadow	CCNS		365	Swimming, Bathhouse, Lifeguard
Head of Meadow	Town		150	Swimming, Porta-toilet, Lifeguard
Coast Guard	Town	1.0	25	Swimming, Porta-toilet, Lifeguard
Long Nook	Town	1.8	50	Swimming, Porta-toilet
Ballston	Town	1.38	60	Swimming, Porta-toilet
Cape Cod Bay Beaches				
Noons Beach	Town	.48	10	Swimming
Beach Point Landing	Town	.13	10	40-foot right of way to water (Beach and dune 400 ft. long; part of High Head Conservation Area)
Cold Storage	Town	0.16	25	Swimming, Porta-toilet
Great Hollow	Town	1.15	40	Swimming, Porta-toilet
Corn Hill	Town	9.18	150	Swimming, Porta-toilet, Handicap accessible ramp Beach wheel Chairs
Fisher	Town	0.05	10	Swimming, Porta-toilet
Ryder	Town	1.14	25	Swimming, Porta-toilet

Boating facilities:

The Truro Harbor Master and the Pamet Harbor Commission oversee the boating facilities at Pamet Harbor. The Boat ramp provides small boat access to Cape Cod Bay and is actively used. 2007 seasonal activity included 2,444 daily boat launches, 531 daily canoe/kayak launches and 63 seasonal launches. There are 51 moorings in the basin and 38 moorings in the tidal area.

In 2006, grant money was received and the Pamet Harbor Commission contracted for a Ten Year Comprehensive Harbor Management Plan, which is now in place. The 2008 Annual Town Meeting approved a plan to rebuild the North Jetty and improve the "inner wing." The Boat Ramp was rebuilt in 2008 and there are plans to redesign the parking lot to help eliminate run-off pollution.



Pamet Harbor Mooring Area. F. McClennen

Personal Water Craft:

In Truro, personal water craft (PWC) are prohibited from operating from any Town-owned beach or parking lot, with the exception of the Pamet Harbor boat ramp, from which they must proceed directly to the Bay. Once in the Bay, they must remain at least 1/4 mile offshore. This buffer matches that in Provincetown and is consistent with the boundary of the Cape Cod National Seashore.

Off Road Vehicles:

As stated in the LCP, there are questions as to whether use of off road vehicles (ORV's) create problems of beach erosion and beach damage and endanger those using the beaches. Strategy 11 of the Open Space and Recreation chapter of the LCP suggests the development of a management plan for appropriate use of ORV's, based on wide public input. The CCNS manages and regulates ORV's on the ocean side. Compliance with state and federal regulations in order to protect nesting/migrating shorebirds must be taken into account; this can affect the complexity and feasibility of ORV access and management.

Private Seasonal Facilities:

Truro has many motels, cottages and other tourist facilities including seasonal rental of private homes, to accommodate the high influx of summer visitors. These facilities are concentrated along Routes 6 and 6A, especially in the Beach Point area. In addition, there are three privately-owned camping areas within CCNS (**Table 16**). These properties are private and unprotected, but it is hoped that the CCNS will see that these facilities remain available to visiting campers into the future.

Table 16**PRIVATE CAMPING AREAS**

Name	Acreage	No. Camp Sites	Location
Adventure Bound Camping	18.0	250	CCNS
North of Highland Camping	60.0	218	CCNS
Horton's Park	43.0	200	CCNS

SECTION 6 - COMMUNITY VISION

A. DESCRIPTION OF PROCESS

The Town Open Space Committee and the Consultant have worked together to gather public opinion on where Truro now stands and where it wants to be in terms of Open Space and Recreation Planning.

In July 2007 an Open Space and Recreation Questionnaire was designed and mailed to 1855 Truro Post Offices boxes, which is the only mail delivery in Truro. There were 216 responses, which provided a 11.6% percent return.

Additional Public meetings were held during the Winter of 2009.

B. STATEMENT OF OPEN SPACE AND RECREATION GOALS

As Truro plans for its future, there are 4 overriding goals that must be addressed:

- Goal 1 Protect Truro's (and Provincetown's) water supply
- Goal 2 Protect ecosystems and promote biodiversity
- Goal 3 Protect Truro's rural character through protection of scenic and historic resources
- Goal 4 Improve Truro's passive and active recreation opportunities, while minimizing environmental impacts and accommodating, to the extent possible, those with disabilities. In addition to bicycling and walking, an activity of growing interest is that of kayaking. Requests have been made for safe access to the Pamet River, both at Pamet Park and to the half of the River east of Rte 6.

SECTION 7 - ANALYSIS OF NEEDS

The Open Space and Recreation Questionnaire results show a general concern for the protection of Truro's character. The responses came almost equally from year round and part time residents. Thirty (14%) came from households with children. 78% of the questionnaire responses were in favor of the acquisition of Open Space. 88% felt that the protection of water resources was a priority and 87% indicated that the protection of visual character was important. Protection of various environmental habitats were next in the priority rankings. Priorities for passive (30%) and active recreation (20%) were ranked the lowest.

A. SUMMARY OF RESOURCE PROTECTION NEEDS

Because the 30 percent of Truro that lies outside the Cape Cod National Seashore is undergoing development, careful planning of the uses for areas still undeveloped in the Town is needed, as set forth in the LCP. The partial protection of 70 percent of the town does not negate the need to protect the resources in the remaining 30 percent. Of critical concern are water supply and waste disposal, commercial development, and preservation of rural character.

An Army Corps of Engineers study of the Pamet River, completed in 1998, and the study of East Harbor may provide a basis for deciding whether and how to restore the artificially-maintained freshwater marsh area to tidal flow.

B. SUMMARY OF COMMUNITY AND RECREATION NEEDS

The questionnaire responses show that walking (88%), nature appreciation and swimming (75% each) are the most popular use of open space and recreation land. Bicycling (44%) and bird watching (43%) and were next in rank. The reasons given for not using open space were lack of marked trails (44%), lack of bicycle paths (43%), lack of detailed maps and lack of better canoe and kayak access (31% each). Needed improvements to recreation facilities ranked bike trails the highest (42%) with beach parking ranked second (40%). Handicap access was ranked third (32%) with youth swimming lessons close behind (31%).

Recreational facilities most needed are walking trails and bicycle paths with parking and disabled access to beaches. Maintenance dredging of Pamet Harbor for recreational boating is an annual need. The Truro Harbor Management Plan led to construction of a new accessible dock. Work on improved mooring facilities is ongoing.

The 2006 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) includes a survey of the most desired recreation facility improvements. On Cape Cod, bicycle route improvements (15.5%) is second only to improved beach access (17.5%). Walking route improvements (9.0%) followed as third most desired improvement. The CCNS and Town groups such as the Recreation and Conservation Commissions expect to continue coordinating the development and enhancement of bike trails and other recreational facilities in the Town.

An inventory has been done of the Conservation Commission and Recreation Commission's recreational facilities. The town needs to continue to ensure that all parking areas specifically set aside for the disabled to park their vehicles are enforced, and continue to provide restroom access both at the town beaches and in all town buildings. Devices, where readily achievable, should be provided in buildings to allow disabled people to participate in conferences and meetings.

With the recent completion of the Truro Community Center, the Council on Aging and the Department of Recreation are working in collaboration to expand offerings/programs to better serve the needs of our disabled citizens and elders. These programs will include special fitness classes, exercise opportunities, yoga, and walking, bicycling group activities.

Therefore, with these considerations and processes in mind, the Open Space Committee has determined the following:

1. Truro continues to attract residents and many visitors because of its rural nature, its pine woods and heath moor scenery, and its ready proximity to beaches on the ocean, bay and ponds, as well as to expansive vistas and varied historical sites. Many of these features lie within the CCNS.
2. There is a great and intensifying need to preserve today's pleasant, casual, rural ambiance while permitting orderly and appropriate growth and development within the rubric of sustainability. Coordination of this effort will require the constructive interaction of many departments, committees, and agencies.
3. The Open Space Committee and Recreation Commission have identified needs for picnic areas, biking trails/ paths, scenic walks, etc. The Recreation Commission's programs, for both children and adults, throughout the year would be greatly enhanced with the provision of these facilities.
4. The Town needs to increase citizen awareness of the importance of wetlands, greenbelts, and other undeveloped areas in relation to future population growth and resource consumption, both immediate and long-term.



Pamet Park Picnic Area. F. McClennen

B. MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

As Truro addresses needs for water supply and affordable housing, consideration has been given to reuse opportunities for selected parcels of Town owned land (**Table 17**). There are also opportunities to swap parcels with CCNS for conservation, environmental, or municipal purposes. However, such swaps have been shown to involve a lengthy and bureaucratic process.

Table 17**POSSIBLE PARCEL REUSE**

Map	Parcel	Location	Acres	Use	Potential Reuse
36	116	56 Shore Road	0.5	tax taking	1 unit affordable housing/ Sell to neighbor
39	172	344 Route 6	6.74	public safety	Affordable housing on portion
40	76	2 N. Union Field Rd.	0.87	tax taking	1 unit affordable housing
40	167	25 S. Highland Road	3.02	Selectmen	Recreation
46	269	24 Town Hall Road	5.14	Selectmen	Possible 1 or 2 affordable units on two lots
46	277	20 Town Hall Road	0.24	Selectmen	
47	122	18 Stoney Hill Road	5.67	tax taking?	Problem with tax title attempts
49	18	Depot Road End	1.70	Selectmen	Portion of old Railroad ROW Transfer to Conservation Commission/recreation
60	1	Off Prince Valley Rd.	1.38	Selectmen	Future Well Site
65	1	Old County Road	1.63	Selectmen	Future Well Site
65	5	Pamet Pt Road	0.94	unknown	Future Well Site
65	11	Pamet Pt Road	2.10	tax taking	Future Well Site

SECTION 8 - GOALS AND OBJECTIVES

The Truro 2009 Open Space and Recreation Plan public process has established goals that preserve environmental resources for human use while protecting fragile habitats and natural communities and allowing for passive human enjoyment of the environment. These goals and objectives are consistent with the LCP.

OPEN SPACE AND RECREATION GOALS

- Goal 1:** Preserve and enhance the availability of open space in order to provide wildlife habitat, recreation opportunities, and protect the natural resources, scenery, and character of Truro. : (Consistent with the overall goal for Barnstable County, as expressed in the CC Regional Policy Plan, 2009).
Objective 1: Use Community Preservation Act funds for parcel purchases.
Objective 2: Place CR's on public and private open space for added protection.
Objective 3: Create network of marked trails.
- Goal 2:** Maintain the town's historic and rural character, by reducing density, securing future well sites, developing a Route 6 greenbelt, protecting wildlife and endangered species, and providing additional passive recreation areas.
Objective 1: Use Community Preservation Act funds for parcel purchases.
Objective 2: Place CR's on public and private open space for added protection.
Objective 3: Designate "Scenic Roads" under MGL C40 S15c.
- Goal 3:** Ensure that continued residential development does not destroy key open lands that are important for ecosystems, view sheds, rural character, or access ways for the general public.
Objective 1: Pass a Town Wetlands Protection Bylaw.
Objective 2: Increase public awareness of the importance of open space.
- Goal 4:** Continue to develop active and passive recreation opportunities that serve all segments of Truro's diverse population.
Objective 1: Develop suitable improvements at Snow's Field.
Objective 2: Establish safe bike routes with the State and CCNS.
Objective 3: Create shared recreation facilities with neighboring towns.

WETLAND/WILDLIFE GOALS

- Goal 1:** Preserve (leave as is) the quality and quantity of its inland and coastal wetlands insofar as natural forces allow.
Objective 1: Pass a Town Wetlands Protection Bylaw.
Objective 2: Improve coastal water quality with Mass. Estuaries Program.
- Goal 2:** Prevent loss or degradation of critical wildlife and plant habitat, minimize the impact of development on wildlife and plant habitat, and maintain, in so far as possible, existing populations and species diversity.
Objective 1: Use Community Preservation Act funds for parcel purchases.
Objective 2: Complete certification of vernal pools.
- Goal 3:** Protect the Pamet River and, where necessary, restore in order to improve water quality, preserve associated natural ecosystems and maximize human enjoyment.
Objective 1: Move toward the re-introduction of salt water from the bay to the upper Pamet by modifying the clapper valve to admit some salt water on the incoming tide.

SECTION 9 - FIVE YEAR ACTION PLAN

A. ACCOMPLISHMENTS

Truro has continued to make progress in meeting past goals and achieving other unforeseen accomplishments.

- Corn Hill Beach has a boardwalk, allowing easier accessibility to that bay beach. There are also two beach chairs with oversized wheels for those who need assistance
- The Town has provided Porta-toilets for the disabled at several town beaches.
- High Head Conservation Area has a hiking trail marked through the tract but it needs to be brush-cleared and a self-guided trail map produced.
- Poors Hill, a dominant and unique feature of the lower Pamet estuary, was protected from residential development, when the Town purchased it in 2005. The purchase of this area was funded by Land Bank monies and \$500,000 from the Truro Conservation Trust. A trail was created around its perimeter in 2007 and benches added in 2008.
- Pamet River system continues to be studied to help the Town and the CCNS determine future management policies regarding the possible restoration of the upper river to salt marsh conditions.
- A Truro Community Center was constructed in 2008. This center fully meets the criteria of the Americans with Disabilities Act.
- Planning continues for improved ball field facilities at Snow's Field.
- Collaboration between the Open Space Committee and the Truro Conservation Trust continues to be a critical part of land preservation in Truro, through purchases of both land and Conservation Restrictions.
- Cooperation with the CCNS continues to be a critical part of environmental and resource protection in Truro.
- Truro's cooperation on new bicycle route studies underway by the State and CCNS is an encouraging step in addressing bicycle issues in Truro.
- Truro Town Hall has been added to the National Register.
- Annual Summer Concert Series continues at Park in Truro Center.
- Facility improvements:
 - Cobb Memorial Archive Library
 - Truro Public Library
 - Truro Public Safety Facility
 - Pamet Park and Veterans Memorial
 - Puma Park Playground

B. FIVE YEAR ACTION PLAN PRIORITIES

The 2009 Truro Open Space and Recreation Plan sets forth the following Priorities (**Map 7**). Responsible parties are indicated and potential funding sources follow.

Priority 1: Protect Truro's (& Provincetown's) Water Supply
(PLOG, Conservation Commission, Board of Health and WROC)

- Focus on the continued protection of the Pamet and Chequessett Lenses, guided by the Watershed Management Plan described on p. 5, and work to implement its recommendations
- Assist in securing land for potential well fields
- Coordinate land protection in relation to potential future well sites
- Cooperate with the National Seashore and adjacent towns to protect water supplies
- Seek to meet Water Resources Goal of CC Regional Policy Plan: “Maintain overall quality and quantity of Cape Cod’s groundwater to ensure a sustainable supply of untreated high-quality drinking water”
- Encourage water conservation measures
 - *CPA funding*
 - *DCS Land and Water Conservation Fund*
 - *DEP 604b Water Quality Management Planning Grants*
 - *DEP Aquifer Land Acquisition Grants*
 - *EEA Drinking Water Supply Protection Grants*
 - *EEA Federal Land and Water Conservation Fund*
 - *Truro Conservation Trust*
 - *Land Donations*

Priority 2: Protect Ecosystems and Promote Biodiversity
(Conservation Commission and WROC)

- Increase public awareness of wetlands protection issues and work for passage of a Town Wetlands Protection Bylaw
- Continue to work with the CCNS on the tidal flushing of East Harbor
- Work toward the re-introduction of salt water from the bay to the upper Pamet
- Protect unique and endangered species and unique natural communities, e.g. Poor's Hill
- Complete the certification of potential vernal pools
- Work to ensure the protection of environmentally key open lands for wildlife corridors
- Continue to promote healthy shellfish habitat
- Continue to partner with Mass. Estuaries Program (MEP) to monitor coastal water quality
 - *DFG Riverways Program Grants*
 - *DFG Riverways Stream Team Implementation Awards*
 - *DFG Clean Vessel Act (CVA) Program*
 - *Truro Conservation Trust*
 - *EEA Coastal Pollution Remediation (CPR) Grants*
 - *EEA Massachusetts Environmental Trust Grants*
 - *Volunteers*

Priority 3: Protect Truro's Rural Character by Preserving Scenic and Historic Resources
(Conservation, Historic and Planning)

- Work on continued development of a Route 6 Green Belt
- Work to ensure the protection of key open lands that are important for ecosystems, view sheds, rural character, or access ways for the general public
- Designate selected roadways as "Scenic Roads" (under MGL C40 S15c) to preserve historic character

- *CPA funding*
- *Truro Conservation Trust*
- *Land donations*
- *Staff Time*

Priority 4: Improve Truro's Passive and Active Recreation Opportunities, which Minimize Environmental Impacts (Conservation and Recreation)

- Work with the State of and CCNS to improve usability and safety for bicyclists through the development of bicycle trail routes and linkages
- Create an expanded network of marked walking trails to connect with pathways in Wellfleet, Provincetown and the CCNS
- Work with Cape Cod Pathways program to maximize opportunities for trail connections
- Work with neighboring towns to develop shared recreation facilities
- Seek environmentally suitable improvements at Snow's Field and former land fill
- Develop a management plan for appropriate use of ORV's, based on wide public input
- Endorse and support goals and objectives of Cape Cod Regional Policy Plan to extent possible

- *CPA funding*
- *DCR Recreational Trails Program*
- *EEA Federal Land and Water Conservation Fund*
- *Volunteers*
- *Fundraising Events*
- *Staff Time*

Priority 5: Work to ensure ADA Compliance to the extent possible for Recreational Opportunities (Recreation and Beach Commissions)

- Improve beach and open space access for the handicapped where feasible

- *Town Budget*
- *Fundraising Events*
- *Staff Time*

Priority 6: Clarify Departmental Jurisdiction of Town-Owned Land
(Conservation Commission and Assessors)

- Define departmental jurisdiction within Assessors Data Base
- Clarify Land obtained for Conservation Purposes, by vote or deed

- *Staff Time*

C. Potential Action Plan Funding Sources

Federal:

- EPA Watershed Protection Grants
- US Fish and Wildlife Wetlands Conservation
- Coordination with Cape Cod National Seashore

Commonwealth of Massachusetts:

- DCR Recreational Trails Program
- DCR Rivers and Harbors Grants Program
- DCS Land and Water Conservation Fund
- DEP 319 Nonpoint Source Grants
- DEP 604b Water Quality Management Planning Grants
- DEP Aquifer Land Acquisition Grants
- DEP Clean Water State Revolving (SRF) Loan Program
- DFG Clean Vessel Act (CVA) Program
- DFG Landowner Incentive Program
- DFG Riverways Program Grants
- DFG Riverways Stream Team Implementation Awards
- EEA Coastal Pollution Remediation (CPR) Grants
- EEA Drinking Water Supply Protection Grants
- EEA Federal Land and Water Conservation Fund
- EEA LAND - Local Acquisition for Natural Diversity Program
- EEA Massachusetts Environmental Trust Grants
- EEA Wetlands Restoration Program Grants for Priority Projects

Town:

- CPA Funding
- Staff Time
- Town Budget

Private and Other Resources:

- Truro Conservation Trust
- Land Donations
- Foundation Grants
- Fundraising Events
- Volunteers

SECTION 10 - PUBLIC COMMENTS

Public Comments Review Letters:

Truro Board of Selectmen

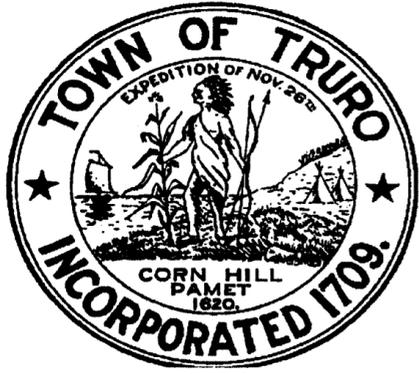
Truro Planning Board

Truro Conservation Commission

Truro Recreation Commission

Cape Cod Commission

Cape Cod National Seashore



TOWN OF TRURO

P.O. Box 2030, Truro MA 02666

Tel: (508) 349-7004 Fax: (508) 349-5505

April 29, 2009

Ms. Brenda Boleyn, Chair
Truro Open Space Committee
POB 2030
Truro, MA 02630

RE: Open Space and Recreation Plan 2009

Dear Ms. Boleyn:

The Board of Selectmen would like to thank the members of the Open Space Committee for their efforts in preparing the Truro Open Space and Recreation Plan 2009.

Please be advised that at a duly held meeting of the Board of Selectmen on April 28, 2009, the Board voted unanimously to accept the December 2008 draft plan and support your goals and objectives to acquire and maintain open space within our community consistent with the wishes of the residents.

Once again, we thank you for all the time and energy that everyone has expended in crafting this fine document, and congratulate you and your committee members on a job well done.

Sincerely,


Gary Palmer, Chair
Board of Selectmen
Town of Truro

/jld



TOWN OF TRURO

P.O. Box 2030, Truro, MA 02666
Tel: (508) 349-7004 Fax: (508) 349-5505

January 14, 2009

Open Space Committee
24 Town Hall Road
P.O. Box 2030
Truro, MA 02666

Dear Open Space Committee Members:

At a regularly scheduled meeting of the Planning Board, the Board voted to support the Open Space and Recreation Plan 2009 – December 2008 Draft– for the Town of Truro as prepared by the Truro Open Space Committee and MapWorks.

The Town of Truro has always looked to the future in the protection of its open space lands and implementation of recreation uses. As stated in the Truro Open Space and Recreation Plan 2009, there are four primary goals that address the open space and recreation needs of the town, which are protection of Truro's resource aquifer, protection of its visual character and historic resources, protection of the varied environmental habitats and the improvement of access and opportunities for passive recreation.

The proposed plan presents us with the opportunity and challenge to protect and enhance our natural resources as a community. The Town of Truro is aware of the importance of preservation of our environment for future generations. Furthermore, all of the goals presented in the Open Space and Recreation Plan are of equal value concerning our future as a town.

The Truro Planning Board wishes to thank you for all your time and energy expanded on this project which delineates our future path.

Sincerely,

Robert Weinstein
Chairman



**TOWN OF TRURO
CONSERVATION COMMISSION**

**P.O. Box 2030
Truro MA 02666-0630**

Tel: 508-349-7004 Ext 31

Fax: 508-349-5508

May 8, 2009

Brenda Boelyn, Chair
Truro Open Space Committee
Town Hall
Truro, MA

Re: Draft Open Space and Recreation Plan

Dear Brenda:

This is to inform you that the Truro Conservation Commission, at its meeting held on May 4, 2009, voted unanimously to endorse the draft Open Space and Recreation Plan as submitted by your Committee. We found the plan to be thoughtful and encompassing, and believe that it provides a good framework for looking at open space and conservation issues for the next five years.

Please let us know when you would like the assistance of the Conservation Commission in implementing the goals of the plan.

Thank you and all of your committee for your hard work on behalf of our community.

Sincerely,

Deborah L. McCutcheon, Esq.

Chair

Truro Conservation Commission

DLM/ms

cc: Truro Conservation Commission



Truro Recreation Commission



January 26, 2009

Dear Members of the Open Space and Recreation Plan Committee,

I am writing on behalf of the Truro Recreation Commission to commend you for all of your diligence and hard work in creating Truro's Open Space and Recreation Plan. We support this plan and are grateful to have been considered in the planning process.

Truro is such a unique and wonderful place with so many opportunities for active and passive recreation. We are particularly interested in plans to improve, create and expand walking and biking trails in Truro, as outlined in your report. We also support the desire to improve ADA compliance where possible.

The Recreation Commission is looking forward to working collaboratively with other Boards and Commissions to improve Recreational possibilities in Truro. This document will be an invaluable tool to work with.

Thank you again for all of your hard work,

Breon Dunigan Co-Chair Recreation Commission

Recreation Commission Members:

Desiree Duda

Breon Dunigan

Janice Johnson

Francis Johnson

Michael Silva

Priscilla Silva

Richard Marr



CAPE COD COMMISSION

3225 MAIN STREET
P.O. BOX 226
BARNSTABLE, MA 02630
(508) 362-3828
FAX (508) 362-3136

E-mail: frontdesk@capecodcommission.org

February 23, 2009

Melissa Cryan
Division of Conservation Services
Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02114

Dear Ms. Cryan:

I am writing in support of the Town of Truro's draft Open Space Conservation and Recreation Plan. The town's plan is an excellent document for guiding the town's conservation and recreation goals over the next five years. The inventory and analysis is comprehensive, and the goals and action plan are consistent with regional goals for land preservation and the provision of recreational access.

I strongly encourage your support and approval of this plan. Thank you for the opportunity to comment.

Sincerely,

Paul Niedzwiecki
Executive Director

Cc: Peter Graham, Truro representative to the Cape Cod Commission
Brenda Boleyn, Truro Open Space Committee Chair





United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
99 Marconi Site Road
Wellfleet, MA 02667

IN REPLY REFER TO:
D18

February 25, 2009

Brenda Boleyn, Chair
Truro Open Space and Recreation Committee
Truro Town Hall
P.O. Box 2030
Truro, MA 02666

Dear Ms. Boleyn:

Thank you for sharing the 2009 Open Space and Recreation Plan for the Town of Truro, MA with the staff of Cape Cod National Seashore (CCNS). We appreciate your work to incorporate many of our suggestions provided on the draft. We are supportive of the Open Space Committee and the Town of Truro efforts to develop such a comprehensive document to protect the natural and cultural resources in the town while providing for the recreational enjoyment of the residents and visitors. We hope to continue to work with the town on follow-up actions of mutual interest that are described in the plan.

Truro's 2009 plan will serve the community well as guidance for town actions concerning open space protection, conservation and recreation. Thank you for the opportunity to comment on and discuss the Open Space and Recreation Plan.

Sincerely,

George E. Price, Jr.
Superintendent

SECTION 11 - TRURO REFERENCES

Documents:

The Open Space Planner's Workbook; www.mass.gov/env/dcs

Massachusetts 2006 Statewide Comprehensive Outdoor Recreation Plan (SCORP),
www.mass.gov/eenvir/dcs

Truro Annual Town Report. Truro Massachusetts, 2007

Truro Local Comprehensive Planning Committee. *2005 Truro Local Comprehensive Plan*. Truro Massachusetts, 2005

Truro Conservation Commission. *Draft Open Space and Recreation Plan*. Truro, Massachusetts, 1995.

United States Census Bureau, *United States Census of Population 2000*

University of Connecticut (IPANE), *Invasive Plant Atlas of New England*

United States Geological Survey *Simulated Interaction Between Freshwater and Saltwater and Effects of Ground-Water Pumping and Sea-Level Change, Lower Cape Cod Aquifer System, Massachusetts, 2004*

The Cape Cod Commission is the source of a number of reports and studies that are relevant to Truro Open Space and Recreation Planning, including the following samples

Cape Cod Commission, *Cape Cod Regional Policy Plan, 1992*

Cape Cod Commission, *Cape Cod Regional Policy Plan, 2009*

Cape Cod Commission News Letter, *Cape Cod Commission Reporter*, Barnstable MA

Cape Cod Commission Water Resources Office, *Cape Cod Pond and Lake Atlas*, Barnstable MA, 2003

Cape Cod Commission Water Resources Program. *Plan for Watershed Management for the Pamet Groundwater Lens*, Barnstable MA: June 19, 2008 (draft)

A number of Environmental Studies have been done by the staff of the Cape Cod National Seashore, including the following sample titles. Contact the Cape Cod National Seashore for other publications and resources.

National Park Service, U.S. Dept. of Interior. *Inventory of Small Mammals at Cape Cod National Seashore with Recommendations for Long-Term Monitoring*, Technical Report NPS/NER/NRTR-2006/047. NPS D-377. Boston, MA: July 2006

National Park Service, U.S. Dept. of Interior. *Inventory of Freshwater Turtles at Cape Cod National Seashore with Recommendations for Long-Term Monitoring*, Technical Report NPS/NER/NRTR-200t/091. NPS D-385. Boston, MA: July 2007

National Park Service, U.S. Dept. of Interior. *Kettle Pond Atlas for the Cape Cod National Seashore, Paleoecology and Modern Water Chemistry*, J.W. Portnoy, CCNS April 2001.

National Park Service, U.S. Dept. of Interior. *Cape Cod National Seashore Reptile and Amphibian Survey*. CACO Natural Resources Report 92-04. CCNS, Wellfleet, MA

National Park Service, U.S. Dept. of Interior. *Amphibians and Reptiles of the Cape Cod National Seashore*. Robert P. Cook Wildlife Biologist, CCNS, Wellfleet, MA, May 2007.

APPENDICES

- Appendix 1 Open Space and Recreation Questionnaire
- Appendix 2 Open Space and Recreation Questionnaire Responses
- Appendix 3 Truro ADA Administration
- Appendix 4 Inventory of Lands of Open Space and Recreation Interest
- Appendix 5 Open Space and Recreation Plan Maps 1-7

SECTION 12 - APPENDICES

APPENDIX 1

Open Space and Recreation Questionnaire Page 1

Truro Open Space Committee
Truro Town Hall
P.O. Box 2030
TRURO MA 02666



Thank you for your interest
Please add postage for mail return or use Open Space Committee drop boxes at the Town Hall or Town Library

Truro Open Space Committee
Truro Town Hall
P.O. Box 2030
TRURO MA 02666

fold closed along dashed lines

TOWN OF TRURO 2007 OPEN SPACE & RECREATION QUESTIONNAIRE

The Town of Truro is updating its Open Space and Recreation Plan. Massachusetts requires that towns have approved Open Space and Recreation Plans before State Funds for the Acquisition of Open Space can be received. This survey is being conducted as part of the update in order to understand the needs and concerns of the citizens of Truro regarding Open Space and Recreational Facilities. Thank you for your response.

Number in household? Adults: ___ 18-45 yrs. ___ over 45 ___ Children
Are you a year-round resident of Truro? ___ # of years
Are you a part-time resident? ___ # of years Which seasons? ___
Do you have plans to become a year-round resident? ___ No ___ Yes; in ___ years
Are you a registered Truro voter? ___ Yes ___ No
Do you attend Town Meetings? ___ Always ___ Sometimes ___ Never

How do you use Town-owned Open Space and Recreation Land? (check all that apply)

- ___ walking ___ jogging ___ bicycling ___ nature appreciation
___ swimming ___ boating ___ golfing ___ canoeing/kayaking
___ bird-watching ___ clamming ___ photography ___ organized sports
___ picnics ___ hunting ___ fishing ___ organized children's programs
___ horseback riding ___ pick-up games ___ other: _____

Would you use Open Space and Recreation Facilities more if we had the following? (check all that apply)

- ___ more marked trails ___ improved access/parking ___ better canoe/kayak access
___ bicycle paths ___ detailed maps ___ canoe/kayak storage
___ boardwalks ___ benches ___ more playing fields
___ handicap access ___ other: _____

SECTION 12 - APPENDICES

APPENDIX 1

Open Space and Recreation Questionnaire Page 2

Should Truro actively try to acquire and preserve more Open Space? Yes No

What priorities should determine what open space should be protected?

	High	Medium	Low
protection of visual character	—	—	—
passive recreational potential	—	—	—
active recreational potential	—	—	—
water resource protection	—	—	—
upland habitat protection	—	—	—
freshwater wetland habitat protection	—	—	—
salt/brackish wetland habitat protection	—	—	—
historic resource protection	—	—	—
land for combined open space/affordable housing	—	—	—

What are your favorite Scenic Vistas in Truro?

Name and/or location: _____

Name and/or location: _____

Name and/or location: _____

Are there specific properties in Truro that you think should be protected?

Name and/or location: _____

Name and/or location: _____

Are you aware of the Tax Benefits for giving land or granting Conservation Restrictions? Yes No
(For further information, contact the Open Space Committee)

What should be the priorities for active recreational facility additions or improvements?

	High	Medium	Low
beach parking	—	—	—
boating access	—	—	—
restrooms	—	—	—
handicap access	—	—	—
bike trails	—	—	—
tot-lot/playground	—	—	—
tennis courts	—	—	—
athletic fields/courts	—	—	—
youth swimming lessons	—	—	—

Please list additional activities of interest:
(indoor crafts, table tennis, shuffleboard, billiards, strength training, community garden, etc.)

Comments:

SECTION 12 - APPENDICES

APPENDIX 2

Open Space and Recreation Questionnaire Responses

	Year Round	Part -Time	Total	Percent
Surveys Returned - 11.6% Return	109	107	216	
Households with Children	15	16	31	14%

Demographics

Registered Voter - Yes	100	21	121	56%
Registered Voter - No	3	85	88	41%

Do You Attend Town Meeting?

Always	40	4	44	20%
Sometimes	59	49	108	50%
Never	5	52	57	26%

How do you use Town-Owned Open Space/Rec Land:

Walking	90	100	190	88%
Swimming	73	88	161	75%
Bird Watching	43	50	93	43%
Picnics	22	29	51	24%
Horseback Riding	2	0	2	1%
Jogging	18	20	38	18%
Boating	26	39	65	30%
Clamming	34	21	55	25%
Hunting	8	3	11	5%
Pick-up Games	2	7	9	4%
Bicycling	43	51	94	44%
Golfing	20	18	38	18%
Photography	31	45	76	35%
Fishing	35	30	65	30%
Nature Appreciation	80	82	162	75%
Canoeing/Kayaking	31	48	79	37%
Organized Sports	8	3	11	5%
Organized Childs Programs	13	5	18	8%

Would you use OS/Rec Facilities more if we had the following:

More marked trails	46	48	94	44%
Bicycle paths	50	43	93	43%
Boardwalks	31	24	55	25%
Handicap Access	15	10	25	12%
Improved Access/Parking	28	36	64	30%
Detailed Maps	30	36	66	31%
Benches	27	26	53	25%
Better Canoe/Kayak Access	28	38	66	31%
Canoe/Kayak Storage	14	26	40	19%
More Playing Fields	14	3	17	8%

Year Round	Part -Time	Total	Percent
------------	------------	-------	---------

Should Truro Actively to try acquire and preserve more Open Space?

Yes	79	90	169	78%
No	8	5	13	6%

What Priorities should determine what open space should be protected?

Protection of Visual Character				
High	86	102	188	87%
Medium	10	5	15	7%
Low	4	0	4	2%
Passive Recreational Potential				
High	30	35	65	30%
Medium	44	48	92	43%
Low	19	17	36	17%
Active Recreational Potential				
High	19	24	43	20%
Medium	28	35	63	29%
Low	37	36	73	34%
Water Resource Protection				
High	91	98	189	88%
Medium	4	9	13	6%
Low	2	1	3	1%
Upland Habitat Protection				
High	84	81	165	76%
Medium	18	18	36	17%
Low	3	5	8	4%
Freshwater Wetland Habitat Protection				
High	79	86	165	76%
Medium	16	13	29	13%
Low	1	6	7	3%
Salt/Brackish Wetland Habitat Protection				
High	76	78	154	71%
Medium	18	17	35	16%
Low	2	7	9	4%
Historic Resource Protection				
High	60	68	128	59%
Medium	27	38	65	30%
Low	8	8	16	7%
Land For Combined Open Space/Affordable Housing				
High	40	30	70	32%
Medium	30	38	68	31%
Low	24	35	59	27%

Year Round	Part -Time	Total	Percent
------------	------------	-------	---------

Are you aware of Tax Benefits for giving land or CR's?

Yes	62	70	132	61%
No	14	10	24	11%

What should be the priorities for active recreation facility additions or improvements?

Beach Parking				
High	45	41	86	40%
Medium	23	25	48	22%
Low	20	18	38	18%
Boating Access				
High	24	21	45	21%
Medium	32	31	63	29%
Low	29	31	60	28%
Restrooms				
High	41	26	67	31%
Medium	32	38	70	32%
Low	24	26	50	23%
Handicap Access				
High	37	32	69	32%
Medium	38	37	75	35%
Low	12	15	27	13%
Bike Trails				
High	49	42	91	42%
Medium	25	30	55	25%
Low	8	15	23	11%
Tot-lot/Playground				
High	18	8	26	12%
Medium	23	28	51	24%
Low	27	39	66	31%
Tennis Court				
High	12	12	24	11%
Medium	24	27	51	24%
Low	43	42	85	39%
Athletic Fields/courts				
High	14	4	18	8%
Medium	20	30	50	23%
Low	43	45	88	41%
Youth Swimming Lessons				
High	35	33	68	31%
Medium	24	30	54	25%
Low	23	24	47	22%

SECTION 12 - APPENDICES

APPENDIX 3

TRURO ADA ADMINISTRATION

Town of Truro Americans with Disabilities Act Requirements

Town of Truro Policy Memorandum #26, Equal Opportunity Policy

Town of Truro Municipal Grievance Procedures

**Town of Truro
Public Notice**

AMERICANS WITH DISABILITIES ACT REQUIREMENTS

THE TOWN OF TRURO ADVISES APPLICANTS, PARTICIPANTS AND THE PUBLIC THAT IT DOES NOT DISCRIMINATE ON THE BASIS OF DISABILITY IN ADMISSION OR ACCESS TO, OR TREATMENT OR EMPLOYMENT IN ITS PROGRAMS, SERVICES, AND ACTIVITIES.

DISCRIMINATION IS PROHIBITED BY FEDERAL LAW. COMPLAINTS OF DISCRIMINATION MAY BE FILED WITH THE SECRETARY OF AGRICULTURE, WASHINGTON, D.C. 20250. THE TOWN OF TRURO HAS DESIGNATED THE FOLLOWING PERSON TO COORDINATE EFFORTS TO COMPLY WITH THESE REQUIREMENTS. INQUIRIES AND COMPLAINTS SHOULD BE DIRECTED TO:

CHARLEEN GREENHALGH
ADA Coordinator
Truro Town Offices
P.O. Box 2030
Truro, MA 02666
(508) 349-7004

TOWN OF TRURO

P.O. Box 2030, Truro MA 02666

Tel: (508) 349-7004 Fax: (508) 349-5505



POLICY MEMORANDUM #26

Date: Adopted April 20, 1999, revised March 18, 2008

Subject: **EQUAL OPPORTUNITY POLICY STATEMENT**

The Town of Truro, recognizing the right of an individual to work and to advance on the basis of merit, ability and potential without regard to age, sex, race, color, disability, religious creed, sexual orientation, ancestral origin or national origin, resolves to take necessary measures to ensure equal opportunity in the areas of hiring, promotion, demotion or transfer, recruitment, layoff or termination, rate of compensation, in-service or apprenticeship training programs, programs and services, and all terms and conditions of employment.

Non-discrimination and equal opportunity is the policy of the Town of Truro in all of its programs and activities. Therefore, all Town employees shall rigorously take affirmative action steps to ensure equal opportunity in the internal affairs of all departments, as well as in their relations with the public, including those persons and organizations doing business with any Town agency. Each department, in discharging its statutory responsibilities, shall consider the likely effects which its decisions, programs and activities shall have in meeting the goal of equality of opportunity. The Town will undertake every possible effort to effectuate the requirements of the Americans with Disabilities Act of 1990, that provide a comprehensive national mandate for the elimination of discrimination against individuals with disabilities in employment and municipal government activities.

Affirmative action must entail positive and aggressive measures to ensure equal opportunity in internal personnel practices and in those programs which can affect persons outside of Town government. This affirmative action shall include efforts necessary to remedy the effects of present and past discriminatory patterns and any action necessary to guarantee equal opportunity for all people.

Alfred Gaechter, Chairman

Gary Palmer, Vice-Chairman

Christopher R. Lucy, Clerk

Curtis Hartman

Janet W. Worthington
Board of Selectmen



TOWN OF TRURO Municipal Grievance Procedures

The following Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act (ADA). It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in employment practices and policies or the provision of services, activities, programs and benefits by the Town of Truro.

The complaint should be in writing and contain information about the alleged discrimination such as name, address, phone number of complainant and location, date and description of the problem. Reasonable accommodations, such as personal interviews or a tape recording of the complaint, will be made available for persons with disabilities who are unable to submit a written complaint.

The complaint should be submitted by the grievant and/or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to:

**Charleen Greenhalgh, ADA Coordinator
Truro Town Hall
P.O. Box 2030
Truro, MA 02666-2030
(508) 349-7004**

Within 15 calendar days after receipt of the complaint, Mrs. Greenhalgh will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, Mrs. Greenhalgh will respond in writing, and where appropriate, in a format accessible to the complainant such as audiotape. The response will explain the position of the Town of Truro, and offer options for substantive resolution of the complaint.

If the response by Mrs. Greenhalgh does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision of the ADA Coordinator within 15 calendar days after receipt of the response to the Board of Selectmen or their designee.

Within 15 calendar days after receipt of the appeal, the Board of Selectmen or their designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the Board of Selectmen or their designee will respond in writing, and where appropriate, in a format accessible to the complainant such as audio tape, with a final resolution of the complaint.

All complaints received by Mrs. Greenhalgh, appeals to the Board of Selectmen or their designee, and responses from the ADA Coordinator and Board of Selectmen or their designee, will be kept by the Town of Truro for at least three years.

SECTION 12 - APPENDICES

APPENDIX 4

TRURO INVENTORY OF LANDS OF CONSERVATION AND RECREATION INTEREST

Truro Conservation Commission Land; 108.37 acres

Truro Recreation Land; 4.62 acres

Vacant Truro Town Land; 113.69 acres

Truro Land with Structures; 64.847 acres

Provincetown Land; 67.40 acres

Truro Conservation Trust Land; 264.78 acres

Chapter 61A Land; 48.13 acres

United States Government Land; 1589.05 acres

Private Undeveloped Land 2 acres or larger; 546.96 acres

SECTION 12 - APPENDICES

APPENDIX 5

MAPS

MAP 1 REGIONAL CONTEXT

MAP 2 ZONING

MAP 3 SOILS

MAP 4 UNIQUE FEATURES

MAP 5 WATER RESOURCES

MAP 6 OPEN SPACE

MAP 7 ACTION PLAN