



Provincetown

Local Comprehensive Plan

Approved

April 3, 2000 Annual Town Meeting

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ACKNOWLEDGEMENTS

The 1999 Local Comprehensive Plan Committee wishes to acknowledge the effort and commitment of the 1996 Local Comprehensive Plan Committee. This group of volunteers gave us a nearly completed plan to start with in September of 1999. In four months, we were able to update the Plan. We couldn't have done that without you.

The Committee also wishes to thank David Hall, Cape Cod Commission Planner, who faithfully drove from Barnstable for our meetings and home to Cotuit after. He had worked with the 1996 LCPC, and was a wonderful resource to our Committee and to Town staff.

Thank you to all those who contributed to our review. There were many areas of the Local Comprehensive Plan in which the Committee had no experts, so we relied heavily on Town boards, local authorities and the Cape Cod Commission staff.

A number of additions were made to the Plan following a public hearing on the first draft. As with the draft we started with, most of these were additions and expansions on information that was already contained in the draft Plan. Thank you to all whom provided updated and supplementary information.

INTRODUCTION

This plan is the result of a process that began in 1994 with a community survey and vision project. The results of that survey were used to write a Local Comprehensive Plan (LCP) that would tell the Town where we are, where we are headed, where we want to go and how to get there. The original plan was at a final draft stage in 1996, but public hearings were not held and the Plan was not presented to Town Meeting.

In 1999, the Local Comprehensive Plan Committee (LCPC) was re-established to update and finalize the draft Plan from 1996. We have spent over four months going over the seven sections of the Plan, and in most cases, we updated and supplemented information and made very few deletions. The Local Comprehensive Plan Committee is made up of volunteers from several Town boards with expertise in the various areas the Plan covers.

The seven sections of the Local Comprehensive Plan are broken down into an Introduction, Goals and Policies, Inventory, Analysis and Actions. The Plan is intended to guide us into the future, but also serves the purpose of being a snapshot of where we are now. A number of very important issues such as the wastewater treatment facility, available sources of potable water, and the MacMillan Pier reconstruction remain unresolved as of this writing. We have done our best to describe the process to this point, but the LCP will need to be updated again once these important facilities, resources and land use issues are determined.

In developing our goals, objectives and policies, the Town and the LCPC used definitions of the terms that we felt were most logical. As a result, the terms that we have used are not exactly those that are used in the Cape Cod Commission Regional Policy Plan (RPP).

In making comparisons between the LCP and the RRP, it should be noted that certain of the LCP goals and policies relate directly to the policies in the RPP. Others, along with certain action and implementation items, relate to the RPP's minimum performance standards and, for the purposes of consistency review with the RPP, shall be considered minimum performance standards.

It is important to note that this Plan is not a regulatory plan. The LCP's goals, objectives, policies and recommended actions are not regulations. Any recommended changes in existing regulations would be implemented if the LCP is first accepted at Town Meeting 2000, and then any proposed changes would go through the development and adoption of local by-laws and regulations, and be presented to the voters at Town Meeting following a public hearing process. Adoption of the LCP would have no immediate effect on any existing regulations or by-laws.

The Local Comprehensive Plan will serve as a planning tool and guideline for formulating goals, policies and objectives for the Town over the next twenty years. It is a long-range plan created at the local level that will ensure the decisions we make are consistent with the community's vision of its future. The LCP will provide a framework for considerations of large-scale projects like a wastewater treatment facility. The LCP will establish local priorities that are complementary and compatible with the Cape Cod Commission Regional Policy Plan. It will provide guidance to the Cape Cod Commission in supplying technical assistance to the Town of Provincetown.

The LCP will provide guidance for our regulatory boards and a basis for determining whether or not an individual proposal is consistent with the community's overall goals and objectives. If it is accepted at Town Meeting, and certified by the Cape Cod Commission, the LCP would allow the Town to charge development impact fees for new services and facilities.

Anyone who reads this Plan will learn something about Provincetown that they didn't know before. It is filled with information about our Town, its history, resources and needs. It addresses several important questions about the Town's current condition and future direction. Adoption and certification of the LCP will give us more control over our own destiny.

- 7.1.4 Analysis
 - A. Roadway Trends and Patterns
 - B. Future Traffic Growth and Impacts
 - C. Traffic Mitigation Measures
 - D. Parking Needs
 - E. Bicycle and Pedestrian Needs and Concerns
 - F. Signage
 - G. Public Transportation Issues – Land
 - H. Water Transport/Ferry Service
 - I. Air Service
- 7.1.5 Actions and Implementation Plan
- 7.2 Solid and Hazardous Waste Management
 - 7.2.1 Introduction
 - 7.2.2 Goals and Policies
 - 7.2.3 Inventory
 - 7.2.4 Analysis
 - 7.2.5 Actions and Implementation Plan
- 7.3 Capital Facilities and Infrastructure
 - 7.3.1 Introduction
 - 7.3.2. Goals and Policies
 - 7.3.3 Inventory
 - A. Government Facilities and Staff
 - B. Police
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 - H. Health and Welfare
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 - 7.3.4 Analysis
 - A. Government
 - B. Police, Fire, Public Safety, Rescue
 - C. Education
 - D. Public Works
 - E. Cape End Manor
 - F. Library
 - G. Provincetown Municipal Airport
 - 7.3.5 Actions and Implementation Plan
- 7.4 Energy
 - 7.4.1 Introduction
 - 7.4.2 Goals and Policies

TOWN VISION

The following vision statement establishes the framework for the goals, policies and objectives of this Local Comprehensive Plan. Guidance comes principally from the 1988 Master Plan and the 1995 Community Vision Project Survey and Workshop Results. The Master Plan focused on key local issues related to growth management, community character, economic development, transportation and parking, and housing. In order to establish a clearer picture of the citizens' mandate, the Vision Project fleshed out these issues through a public opinion poll, probing additional issues associated with the Harbor and waterfront, historic preservation, and waste disposal. The 1999 Local Comprehensive Plan Committee decided not to alter this section from the 1997 draft plan. The Committee believes that the Town Vision is still valid, and is based on extensive surveying of the community. Therefore, no revisions or changes were made. Provincetown's compact urban character will be preserved. We will preserve and enhance historic architecture, Harbor views, the scale of streets and buildings, the mix of uses, and the pedestrian environment that characterize the Town. Development that is out of scale and character will continue to be discouraged by local regulations. Environmental quality and natural resources will be protected. We will continue to expand local protection of wetlands, ponds, harbors, floodplains, groundwater supplies, greenway migration corridors, dunes, beaches, and other natural resources providing habitat, flood prevention, recreation sites, and scenic resources to complement existing local, state and federal regulations. Communication and coordination with the Cape Cod National Seashore is imperative. Growth will be managed to help preserve Town character and limit the need for new services. We will manage the rate of development so that growth is planned in accordance with available and projected water supply, wastewater and solid waste disposal, and other Town services, and is compatible with traditional building design, building scale, and development patterns. Necessary services will be available to all Provincetown residents. Public drinking water supply, solid waste facilities, wastewater facilities, health services, and other local and regional services will be expanded and improved to meet the needs of existing and future populations. Affordable housing will be available to residents in need. Housing will be available and affordable to all permanent residents, with special consideration given to the elderly and young people just entering the housing market, as well as those working in important service capacities.

Provincetown will have a sustainable year-round economy with increasing employment opportunities for permanent residents. The local economy will not be solely tourist-based, with particular attention paid to promotion of traditional commercial fishing and arts-related businesses. To ease the seasonal drop-off in the local economy, efforts will be made to expand the duration of the tourist season.

Provincetown Harbor will be environmentally and economically healthy and provide opportunities for all residents. Using the Municipal Harbor Plan as a guide, we will promote appropriate use and development of the Harbor area, ensuring public access for all.

Traffic circulation and parking will serve the needs of residents and visitors without compromising Provincetown's Town character and quality of life. We will reduce peak-period traffic flow in the downtown area through circulation improvements, increase the availability of alternate parking locations, and improve and promote shuttle services, pedestrian connections to parking lots, and other traffic-mitigating measures. Particular emphasis will be placed on water-based transportation alternatives.

Provincetown will maintain a diverse population. The community will continue to welcome people of all income levels, occupations, and backgrounds.

1. LAND USE AND GROWTH MANAGEMENT

1.1 INTRODUCTION

Issues of land use and growth management have common characteristics with many of the issues addressed in other Plan sections, including open space, natural resources, transportation, capital facilities, affordable housing, and economic development. While all have significance to every town on Cape Cod and reflect common problems and objectives, Provincetown's land use and growth management scenario is particularly place-specific and defined by its unique geography and geographical location.

Provincetown's compact village development pattern, peninsular location and vulnerable natural resources are at the heart of the Town's need for growth constraint. These geographical constraints join with local and regional interest in maintaining community and historic character and protecting and preserving scenic and natural resources. Provincetown is geographically isolated, surrounded by water and the National Seashore, and the limited area available for development within the Town contributes to the demand for new construction and conversion and expansion of existing structures.

It should also be noted that Provincetown's unique development pattern and lack of undeveloped land and open space make some land use policies and ideas inappropriate. For example, the concept of "cluster development" addressed in Minimum Performance Standard 1.1.2 of the RPP, does not work in a Town where minimum lot sizes are 5,000 and 8,000 square feet. The Zoning By-law requiring so little land for a buildable lot makes it difficult to offer an incentive to developers to set aside open space in exchange for smaller lot sizes. Also, "clustering" of the dwellings occurs under the present By-law requiring setbacks of a minimum of 30 feet apart and 20 feet back to back, and requiring no more than 40% lot coverage in order to maintain the historic dense development pattern. Cluster development also requires a large parcel of land so that areas can be designated for open space and vegetated buffers from busy roads as well as for individual dwelling lots.

Provincetown has three municipal conservation areas. Totalling nearly 15 acres, Foss Woods was acquired in 1995. Also in 1995, the Provincetown Conservation Trust was given a Conservation Restriction for the Railroad Right-of-way abutting Foss Woods to Howland Street. In 1999, the Town purchased the 7.52-acre Shank Painter Pond Uplands, for a total municipal conservation area of 22.52 acres. No Town on Cape Cod has more protected land--some 70 percent of the

total land area. The Province Lands, previously owned by the Commonwealth and now part of the Cape Cod National Seashore, have long been protected and have determined the location of development. Other protected land not under National Park Service jurisdiction includes the Water Resources District and over 30 acres of land held by the private, non-profit Provincetown Conservation Trust. Historic settlement patterns, reinforced by the 4500-acre National Seashore holdings, have effectively created a linear pattern of development. Dense development that is approximately four miles long and two miles wide has occurred along the Harbor shoreline. This developed area, with its clearly defined edges, is surrounded by protected open space.

In the face of tremendous growth pressure and increasing real estate prices, land that is undeveloped or underdeveloped is at a premium. Demand for single-family residences and condominiums exceed the available inventory. Real estate has become so valuable that all properties that were formerly abandoned or unoccupied within the old part of Town have been renovated and re-occupied. Real estate prices have increased by as much as 30% in one year. Development in the far West End has occurred on all but one lot of the Meadowview Heights subdivision. The last two lots in the Thistlemore Road area have been developed.

It is a commonly held myth that there is no land left to develop in Provincetown. A November 1999 report to the Board of Selectmen said:

The long term analysis of remaining undeveloped and underdeveloped land indicates that there are 132 undeveloped parcels, having at least 5, 000, and up to 960,390 square feet (24 acres). Some of these parcels are subdividable and thus represent more than 132 possible single-family houses. Another 100 parcels are considered non-buildable due to environmental issues. The projection by Whiteman and Taintor, planning consultant to the Cape Cod Commission, estimate a growth of 560 new residences from 1995 level by 2015, and that number is borne out by review of the existing undeveloped and underdeveloped land remaining in Provincetown. The number is easily reached by 2020 at the current rate of annual development under the present Growth Management By-law.

Provincetown's threshold for growth is determined largely by the limits of its water supply, capacity to manage solid waste and wastewater, and available transportation facilities. Responding to widespread concern about the capacity of the public water supply and other municipal services, and threats to the very community character that drives the economy and makes Provincetown a desirable place to live, the 1988 Master Plan called for growth limits. The resulting Growth Management By-law allowed for a maximum of 28 and then 23 building permits per year. With water becoming a critical concern, an

amended by-law will be proposed at ATM 2000 which will establish a Water Limitation Goal of gallons per day of additional Title 5 flow for new dwelling units and changes or expansions of existing uses and structures that result in additional flow. This should provide a more accurate measure of the impact of growth on available resources, and most specifically, on the potable water supply.

Incentives for affordable housing have also been added to the by-law. Developers with affordable units as part of their proposal receive level 1 status for market permits. This has resulted in forty-eight new units of affordable housing in 1999 alone. An amendment proposed to the by-law would provide levels within the level one ranking based on the percentage of affordable housing. The higher the percentage, the higher the ranking. A major obstacle for any affordable housing project is the high cost of land.

1.2 GOALS AND POLICIES

GOAL 1: To ensure growth and development that is consistent with the carrying capacity of the Town's natural resources and services, and the capacity of existing systems to provide supply services in order to maintain good environmental and economic health and a high quality of life.

POLICY A: Development and redevelopment shall be located away from Significant Natural Resource Areas as illustrated on the Cape Cod Significant Resource Area Map dated September 5, 1996.

POLICY B: Appropriate redevelopment of existing residential and commercial areas and construction within existing subdivisions should be encouraged in order to accommodate growth while minimizing additional subdivision and development of land.

GOAL 2: To maintain and reinforce the compact pattern of development established by the historic village development pattern. The Town already allows property line setbacks and lot areas that are consistent with the development pattern of the older part of Town. Averaging setbacks for existing structures should also be encouraged to provide a uniform streetscape and to make the location of new structures consistent with the existing development pattern.

POLICY A: Compact forms of development and mixed residential and commercial development shall be encouraged in order to minimize further land consumption.

GOAL 3: To promote consistency with the predominant scale, massing, density, and architectural style of existing buildings in all new development, renovation and expansion.

POLICY A: Where strip commercial development exists, improvement to its appearance through : sign control, infill, relocation of parking,

landscaping, underground utilities, design review, and redevelopment consistent with the recommendations of the Cape Cod Commission's Design Guidelines for Cape Cod, Designing the Future to Honor the Past should be encouraged. Proposed strip commercial development shall be consistent with the Town's scale by-law, site plan review and its surroundings.

POLICY B: Infill construction in residential and mixed-use areas shall conform to historic setbacks, scale and massing, reinforcing the traditional streetscape and community and historic character.

POLICY C: Expansion or creation of strip development shall not be permitted. Redevelopment of existing strip development shall provide adequate buffers between parking areas and the street, and significant improvements to interior parking lot landscaping, as well as facade improvements and frontage buildings as necessary to enhance the visual character of the site.

GOAL 4: To protect the Harbor and waterfront while continuing to provide public access to the waterfront for traditional Town uses such as commercial fishing and whale watching, and for public use and tourist-related activities. Goal 4 is a general goal intended to complement the preceding goals and inform land use decision-making on the waterfront. The Coastal Resources section of the Natural Resources section contains specific policies and actions relative to the Harbor and waterfront.

1.3 INVENTORY

A. Land Use Inventory

Provincetown has a total area of 6,444 acres, of which the Cape Cod National Seashore controls 4,500 acres. Provincetown saw little change in the amounts of landcover classified as open land, inland wetland, and salt wetland between 1971 and 1990, owing largely to the existence of the National Seashore. The biggest increase over that period was in the amount of land in residential use, with an overall increase of some 86 acres.

Given the concentration of commercial development in the compact downtown area, the increase in commercial acreage from approximately 180.5 to about 195 acres between 1971 and 1990 is also significant. Most of this commercial growth occurred between 1984 and 1990. The loss of nearly 100 acres of forestland between 1971 and 1990 is notable as well. Many of the natural areas within the Town's borders have been cleared and developed, largely for residential uses.

B. Location and Capacity of Existing Public Water Supply

All of Provincetown's water is piped from the Knowles Crossing and Paul Daley wellfields, owned by the Town of Provincetown but located in Truro, and from an additional well located at the former North Truro Air Force Station. The latter is used through a special use permit

administered by the Cape Cod National Seashore. Water from these wells also serves a portion of Truro. The source is the Pamet Lens, one of six lenses, or components, of the Cape-wide sole source aquifer. The Pilgrim Lens, located in Provincetown, was long ago abandoned as a water source because of high salinity and generally poor water quality. Provincetown is currently meeting peak summer demand but is not prepared to meet increased demand in the future and lacks emergency back-up supplies.

Already stressed in meeting water demand on an average summer day, the Town must ensure that the lens is not mined (withdrawn at a higher rate than recharge) allowing harmful salt intrusion. Two permits, a Groundwater Withdrawal Permit from the Commonwealth of Massachusetts and a Special Use Permit from the National Park Service for the North Truro Air Force Base well, control Provincetown's water use. Under terms of the DEP Water Management Act, the Town is currently limited to withdrawing 311.62 million gallons per year (MGY).

Total metered pumpage for 1996 was nearly 409 MGY, up from 406 MGY the previous year. Consumption in 1997 was 368 MGY, and 1998 consumption was 339 MGY. Regarding the 1996 figures, according to the Final Needs Assessment Report of the Wastewater Management Facilities Planning Study "[t]he discrepancy between the total pumpage and total consumption (169 million gallons) is believed to be due to erroneous flow meters at the well pump stations, and leakage and unmetered usage in the distribution system. The flow meters are believed to over report the pumpage by 15 percent." (p. 4) The Town is therefore currently within the limits of its water withdrawal permit but there is no guarantee that total pumpage will remain in compliance by the year 2020.

The figures for the percentage of water unaccounted for as a percentage of total consumption indicate that the Town is making major progress in the areas of conservation, leak detection and appropriate and more accurate accounting methods. The figures in 1996 were 39%, in 1997 they dropped to 31% and in 1998 they declined further to 23%.

The best potential locations for drawing water from the Pamet Lens are all within the Cape Cod National Seashore. The National Park Service is mandated to protect all resources that feed surface waters, including groundwater, within the National Seashore. It may take an Act of Congress for a National Park to provide water on a long-term basis. Therefore, for use of such well sites to be considered, not only must the Town demonstrate need, but it must be clear that potential well sites would have no negative impact on natural resources. The Lower Cape report indicates that use of the existing sites supplying Provincetown all have potential "moderate" impacts on "identified natural resources at a 0.5 MGD pumping rate" and that the Air Force Station well has less impact on National Seashore resources than utilizing only the Town wells outside of the National Seashore boundary. Additionally, while the "Coast Guard" site in the National Seashore that is identified as a hypothetical water source is projected to have no impact on natural resources.

According to the Lower Cape study, "(r)ecent scientific evidence has suggested that impacts could be avoided if wells were moved to less sensitive areas on NPS-owned land (Martin, 1993, Sobczak and Cambareri, 1995) and the draft National Seashore General Management Plan seeks to provide a basis for coordinated water management. However, the NPS is limited by law and policy to neither sell nor lease any of its resources to non-NPS entities on a permanent basis. This includes water." (p. 47) NPS policy does allow the Seashore to consider short-term sale of water in emergency situations, subject to strict conditions.

Desalinization of marine water has been investigated by the Town as a potential solution to Provincetown's water supply, but was deemed infeasible, except in the case of emergency, temporary use. The Town is considering desalinization as part of its back up plan should one of the wellfields fail and as part of addressing DEP's redundancy requirements.

While use of a desalinization facility could offset the demands of the ever-increasing peak summer population, major drawbacks include the high cost of desalinization technology, the lack of available land for siting such a facility, and the absence of an appropriate place to discharge the high-sodium by-product. The Town is also investigating the level of treatment that would be necessary for sources within the Town. The water supply system and possible future scenarios are described in greater detail in the Water Resources section of the Natural Resources section of this plan.

C. Zoning and Dimensional Requirements, Cape Cod Commission Review

Provincetown is divided into the following classes of zoning districts: Class B-Residential, Class G-Residential, Class W-Residential, Class W-B-Residential, Class P-Commercial, Class-R-Commercial, Class S-Seashore, and Class M-Public Use. In addition, there is a Harborfront Overlay District. A new Zoning Map, prepared with the assistance of the Cape Cod Commission, was adopted at Annual Town Meeting 1999.

The Town consists of three residential districts, one, Class B, allowing single-family houses only. There is one mixed residential and commercial zone, class WB. Commercial uses allowed in the zone are business or professional offices, and do not include retail sales. This zone is located along Harry Kemp Way, from Conwell Street to Howland Street.

There are also three commercial districts. Downtown from Dyer Street to the Coast Guard Station on Commercial Street is zoned Class R - commercial. A large residential population also exists in this area, above and behind the shops, restaurants and bars. Another

commercial area is Shank Painter Road from Bradford Street to Route 6. This area has seen dramatic growth and development in the past few years, beginning with the new A & P Supermarket. The third commercial area is along the west side of Conwell Street from the old A & P site to Route 6. A good portion of the old A & P site is slated for eighteen units of affordable housing. A portion of the property was also subdivided to provide a lot for future commercial development. It is important to note some other unique land-use allowed under the Zoning By-law. Provincetown allows use Variances. That is to say that even though a use may be prohibited within a zone, the Zoning Board of Appeals may grant a Variance for the use. This poses a problem in that zoning exists for a reason, and uses should be allowed according to zone, and it also is inconsistent with the requirements for granting a Variance under MGL c.40A, the Zoning Act. It is difficult to make a legal connection between the use not allowed in the zone and a hardship that is inherent in the land or structures.

Provincetown's Zoning By-law also allows for Neighborhood Retail Sales and Services (commercial uses) within residential zones by Special Permit from the Zoning Board of Appeals. This may in some way be related to the linear development pattern of the Town, the clear distinction between the East End, Center and West End, and the need to have smaller convenience stores in the neighborhoods. The difficulty is that what constitutes Neighborhood Retail Sales and Services is not clearly defined in the By-law, and is open to a broad interpretation. There is the potential for uses to be approved that are inconsistent with the residential character of the neighborhood.

Most projects in Provincetown do not meet the Cape Cod Commission thresholds for Development of Regional Impact (DRI) Review. The thresholds established are above what most projects propose, due to the smaller lot area requirements, dense development pattern and limited amount of developable land. The most frequent DRI review is for demolition of an historically significant structure. In the past, Town boards and staff have made discretionary referrals, as in the case of the proposal to create residential lots at Shank Painter Pond. The Cape Cod Commission also frequently provides technical assistance to Town staff and boards. Provincetown does not have a Town planner or a Town engineer, and Commission staff frequently provides review and recommendations on proposed development.

D. Growth Management By-law

As stated earlier, as the water supply has become an increasingly critical issue, the Town has looked for a more accurate way to measure and manage growth. For the first ten years of the Growth Management By-law, the measure for growth was a fixed number of building permits available each year. In 1999, the Board of

Selectmen, Planning Board, Board of Health and Water and Sewer Board proposed a new and more accurate way to measure growth's impacts.

Provincetown manages growth by limiting the number of Growth Management Allocations available each year for:

1. construction of new dwelling units,
2. dwelling unit additions and conversions,
3. expansions or alterations of existing structures,
4. expansions or alterations to existing uses and
5. all other changes in use that create additional

Title 5 flow.

Each application for an allocation is assigned a minimum gallons per day design flow by the Health Agent, based on data in Section 15.02 of 310 CMR 15.00, General Requirements of the State Environmental Code, Title 5. That number is the Water Consumption/Usage for that Allocation request. The Water Consumption/Usage is deducted from the Water Limitation Goal established each year by the Board of Selectmen, Board of Health, Planning Board, and Water and Sewer Board. It is a goal that is consistent with available resources such as potable water, solid waste disposal and wastewater management, and the design capacity of existing systems to sustain growth.

Exemptions from the requirements of the By-law include:

1. Municipal uses
2. Laundromat

The Department of Regulatory Management may not exceed the Water Limitation Goal each year in the number of allocations issued. Growth Management Allocations for construction, alterations and additions are valid for a six-month period, during which time the applicant must start the project. Applications for changes in use must obtain all necessary regulatory board approvals and all required licenses prior to being issued. Lapsed allocations shall be available for re-allocation only within the calendar year in which they are issued.

The Permit Coordinator shall also determine, with the Building Commissioner, Health Agent and Licensing Agent, when an application is complete. Applications must be complete, by determination of the Permit Coordinator, thirty days prior to the issue date. A definition of a complete application follows. Permits are issued four times a year, on or about February 15, May 15, August 15 and November 15. No applicant may receive more than 20% of the Water Limitation Goal in any calendar year.

The By-law also addresses a critical need in Provincetown for affordable housing. A priority system is established within the By-law under which allocations are awarded, with top priority given to

developments that include affordable housing. The greater the percentage of affordable units, the higher the priority level assigned. This top priority status is consistent with the Goals and Policies of the Board of Selectmen, Town Manager and Town Staff Priority levels. Within the Growth Management By-law, each application is assigned a priority level. Top priority is given to market-rate dwelling units done in conjunction with affordable dwelling units. Next come single-family dwellings and two-family dwellings, with an additional priority based on the number of units per lot. The lower priority is given to commercial uses and to expansions or alterations of existing structures or uses.

In first ten years that the By-law has been in existence, top priority was always given to residential dwelling units and the lowest priority to commercial uses under the principle that a person should be able to build their own home before a commercial use is allowed to expand. The revisions to the By-law proposed for Town Meeting 2000 change the priorities by establishing three separate categories, each with its own percentage of the annual Water Limitation Goal. The categories are affordable housing, residential uses and commercial uses. The Water Limitation Goal set most recently for calendar year 2000 is 3,650 gpd. Another petitioned article on the Town Meeting Warrant would move single-family houses to the very top of the list, above affordable housing projects.

Ranking is not time sensitive. Higher priority applications move in front of those with a lower priority status, regardless of the date the applications were filed. A newly filed Level 1 application would be automatically placed above a pending Level 2 application.

Level	Description
1a	Project that includes 100% affordable housing
1b	Project that includes 50% - 99% affordable housing
1c	Project that includes 25% - 49% affordable housing
2a1	Single-family dwelling, one per lot
2a2	Single-family dwelling, two per lot, each in a separate structure
2a3	Single-family dwelling, three or more per lot, each in a separate structure
2b1	Two-family dwelling, one per lot
2b2	Two-family dwelling, two-per lot
2b3	Two-family dwelling, three or more per lot, each in a separate structure
3a	Multi-family dwelling
3b	Nursing Home
3c	Manufactured Home developments
3d	Cluster development
4a	Boarding, Lodging or Tourist Homes

4b	Hotel, Motel, Inn
4c	Restaurant and Bar
5	All other expansions or alterations to existing structures, expansions or alterations to existing uses and all other changes in use resulting in increased water consumption/use

The priority levels are also related to our Zoning By-laws. Article I, Section 1240, Permitted Principal Uses, has a similar system for listing uses that are allowed within various Zoning Districts in Town. Land area requirements are addressed in Article III, Section 3000 of the Zoning By-law.

When applications are submitted to the Department of Regulatory Management, they are date and time stamped. That is important when two applications of the same Level are competing for permits. Then, the date the application was declared complete becomes the determining factor. In the case of Level 1 permits, the date the Local Housing Partnership awarded permits for the affordable portion of the project determines which allocations get issued first.

Figures for development permits issued annually for new housing units are available from 1980 to 1999. Those numbers break down as follows:

1980	1981	1982	1983	1984	1985	1986	1987
7	6	14	79	53	93	38	90
1988	1989	1990	1991	1992	1993	1994	1995
35	30	10	28	15	22	17	20
1996	1997	1998	1999				
28	28	28	23				

The history of Growth Management Permits since 1989 is listed below:

Year	Permits Available	Permits Used	Permits Unused
1989	28	3	25
1990	28	12	16

1991	28	8	20
1992	28	16	12
1993	28	25	3
1994	28	20	8
1995	28	21	7
1996	28	28	0
1997	28	28	0
1998	28	28	0
1999	23	23	0
TOTAL	303	212	91

In 1997, the Town voted at Annual Town Meeting to set aside the ninety-one permits that were “unused” during the first ten years of Growth Management. These permits are awarded by the Local Housing Partnership for construction or conversion of affordable housing units. As of November 1999, the Partnership had awarded forty-eight of the ninety-one permits. Those projects are listed below:

	Permits awarded by PLHP	91 permits set aside in 1997	Bedroom S
40A Nelson Avenue	8	83	13
32 Conwell Street	18	65	37
35 Conwell Street	6	59	14
83 Shank Painter Road (pending)	4	55	15
54-58 Harry Kemp Way	4	51	8
24 Captain Bertie’s Way	5	Remaining 46	10

It is important to note in any discussion of available water supply that these permits are not part of the regular Growth Management process. Even though these were “unused” permits from previous years, no water allocation was made for the permits, and all are new construction and will require additional hookups to the system.

E. Historic District

Provincetown has the fourth largest National Register of Historic Places historic district in the state and the entire housing stock is the oldest on the Cape, with 1939 the median year of construction (in contrast to the Cape median of 1971). The result is a strong historic fabric and sense of community character, the downside is that the housing stock is in need of repair and updating to meet current codes.

Using the design guidelines written by the Cape Cod Commission, the Provincetown Historical Commission (PHC) is empowered to review Developments of Regional Impact (DRI), and to make recommendations on proposals for alterations to contributing structures within the Historic District. DRI review is most often triggered by proposed demolition of a contributing structure. The CCC design guidelines under which the PHC operates are written for the entire Cape and are deliberately general. As a result, they require significant interpretation by the board to tailor them to each application under review. The role of the PHC and development review is discussed in greater detail in the Historic Preservation and Community Character section of this Plan. The frustration that the PHC has experienced in trying to interpret the CCC guidelines is addressed along with the recent formation of an Historic District Study Committee.

1.4 ANALYSIS

A. Land Use Trends

The entire Cape is under development pressure, especially from residential construction. In addition to new development, which is controlled to an extent by the Growth Management By-law, the inevitable renovation and restoration of residential and commercial structures, while generally beneficial to the Town, results in some expansion and intensification of use, adding to the strain on municipal services. Given Provincetown's water supply limitations, seasonal population fluctuations, and day-tripper tourist industry, conventional measurements of growth do not adequately reflect the burdens the Town must bear.

Clearly, water supply issues demand solutions for the long-term sustainability of the Town. Toward that end, more in-depth analysis and possible solutions are addressed in the Water Resources section of the Natural Resources section. This Land Use section of the Plan acknowledges the limits of the water supply in the face of growth, and addresses issues involved with managing that growth.

Residential Development

Although Provincetown's growth, as measured by the development of residential units, is well behind the pace of Cape Cod as a whole, new dwellings have consumed a large portion of Provincetown's limited developable land over the past twenty-five years. Growth was particularly rapid in the W-Zone in the 1970s and 1980s, with a surge in the construction of multi-family dwellings. Taking into account units added through expansion and reconfiguration of existing dwellings, the real significance of this is the impact on municipal services, especially the water supply.

In a Town that sees great seasonal shifts in population, the total number of people using these services is as significant as a count of the actual units. Development takes its toll on Provincetown's fragile ecosystems as well, due to the high water table and complete reliance on individual cesspools and Title 5 systems for wastewater disposal. The decline in the number of new housing starts from 1990 through 1995 is attributable in part to the Growth Management By-law adopted by the Town in 1989. However, while the Growth Management By-law ensures a relatively low rate of residential starts, the addition of units added through alteration and expansion of existing dwellings was beyond the scope of the by-law for the first ten years.

Condominium conversion has also had an impact on residential uses and growth over the past several years. According to the Assessor's Office, 1,624 units were converted to condominiums between 1972 and 1996. This has impacted Town services due to an intensification of use of the property, resulting in increased consumption of water, additional septic discharge, and more solid waste.

It has impacted the Town's community and historic character by introducing more overhead utility lines and the demand for more off-street parking, resulting in the loss of green space. Six-foot high solid fences have subdivided lots and decks and patios tend to increase lot coverage, and in many cases, completely cover the lot. Individual ownership has resulted in a tendency to define one's territory and to create privacy by blocking visual access. This is inconsistent with our village development pattern, with low picket fences and the ability to see into your neighbor's yard. High privacy fences have also been added at the street-front, destroying the consistent definition of public, semi-public and private space. These fences create visual detriment to the neighborhood, and are inconsistent with our community and historic character.

Most importantly, it has contributed to the loss of year-round rental units. Renters are displaced by conversion, and are unable to find rental units at any price. Provincetown has become like Manhattan in terms of the competition for apartments. While the bulk of condominium conversion occurred in the 1980's, it continues at a significant rate, and will impact the availability of a year-round and seasonal work force.

Commercial Development

Commercial growth is also difficult to gauge. Though available commercial land is extremely limited, expansions and conversions have tended to maximize the capacities of retail and restaurant establishments. This has resulted in increased demand on water, waste and other services, as well as having an increasing impact on vehicular and pedestrian circulation. While retail uses that were

exempt from the Growth Management By-law do not result in additional dwelling units or seats, they arguably contribute to Provincetown's tourist-drawing power, contributing in turn to the burden on local services, the environment and roads.

Prior to 1999, the only commercial uses covered under the Growth Management By-law were Lodging and Tourist Homes, Motels and Inns, Restaurants and Bars. Growth Management did not regulate all of the new commercial development along Shank Painter Road. As the amount of water available has decreased, the Board of Selectmen, Water and Sewer Board, Planning Board and Board of Health have proposed a revision to the By-law that will capture all development that results in an increase in Title 5 flow. The flow rate will be established by the Health Agent, and deducted from the annual amount available annually.

Projected/Anticipated Changes

There is public support for stronger growth management regulation as well as for design guidelines and historic preservation regulation. At the 1999 Annual Town Meeting, a Zoning By-law amendment to lower the number of available permits from 28 to 23 per year passed unanimously, with no one speaking in opposition. The Board of Selectmen, Planning Board, Board of Health and Water and Sewer Board will sponsor a revised Growth Management By-law at Annual Town Meeting 2000, which would result in a further reduction, based on Title 5 flow, of the growth allowed annually. Provincetown has reached a critical point with providing potable water to its citizens. With the existing water system pumping twenty-four hours per day five months of each year, there is little if any additional capacity for new hookups. It is likely that growth will be curtailed rather than managed at some future point.

B. Sensitive Environmental Resources

All of Provincetown's surface water bodies, including its Harbor, ponds, wetlands, and the shoreline, are sensitive resources. The majestic dunes within and surrounding the Town are also vulnerable. While some of these features are contained within the National Seashore holdings, others are not. The Town has recently purchased two conservation areas, mentioned earlier in this section. Progress has been made toward managing these areas by forming an Open Space Committee to oversee the Town's properties, and to investigate acquiring other open space that is environmentally vulnerable. Funds will be available for this purpose from the 3% real estate tax for the Cape Cod Land Bank.

C. Buildout Analysis

For the purposes of this Plan, the Outer Cape Capacity Study, applying to the towns of Eastham, Wellfleet, Truro, and Provincetown, is the source of population and buildout projections.

Methodology

The Capacity Study buildout model consists of two major steps: determining vacant land; and estimating buildout. "Buildout" is defined as the maximum permissible construction of houses and businesses under current regulations. A buildout analysis looks specifically at zoning, not at market conditions. Thus, it is a measure of development potential, and not demand.

While the housing growth rate for the other three Outer Cape towns is based on recent average rates, the long-term growth rate for Provincetown is based on the building permit limit of 28 units per year as determined by the Growth Management By-law until it was revised in 1999. The average household size (persons per household) for each town is based on 1990 US Census data. Because of extreme population fluctuations on more than just a seasonal basis (weekend visits, etc.), this is a somewhat unreliable method in Provincetown's case.

Data was collected and categorized by Census Block Groups (CBGs), the boundaries digitized, and each parcel of land identified by its CBG. Vacant commercial and residential parcels and large single family parcels were then identified and selected according to the Massachusetts land use code classification system. The emphasis of the model was on residential land, reflecting the predominant land use in the Lower Cape.

After selection of the data, the number of potential residential parcels (and units) were estimated for each CBG. Various assumptions were included in the model's calculations, including minimum lot size. In estimating buildout based on the data described above, the model followed the format of the Cape-wide Traffic Model, incorporating variables such as retail and non-retail employment figures and seasonal factors.

Results

With a year-round population of about 3,600, there are 3,904 total housing units, approximately 63% of which are categorized as year-round, meaning they are constructed and permitted for year-round use. While all residential units could be converted to year-round use under current zoning, this breakdown refers to actual occupancy, not potential occupancy. The Outer Cape Capacity Study projects a year-round population of 4,343 and a total of 4,642 residential units by the year 2020. The projected net increase is 738 units

Two build-out scenarios are projected: the first estimates a total of 5,148 dwelling units, 3,172 year-round, assuming the existing 63:37

ratio of year-round to seasonal occupancy; the second projection assumes a 50 percent shift from seasonal to year-round occupancy, resulting in the same total of 5,148 units, but with 4,160 occupied year-round. The population projection for the existing ratio is 5,047, while the shift to increased year-round residency results in a projected population of 6,200. (Outer Cape Capacity Study Growth Projections) Emphasizing residential development, because it is the primary land use on the Outer Cape, the Capacity Study cites Provincetown's existing density as a controlling factor with respect to future commercial growth. The current figure of 151 acres in commercial usage is not expected to significantly change.

Growth Rates

The Capacity Study buildout figures are based on the 28 units per year allowable under the Growth Management By-law. At that rate, a buildout figure of 5,148 housing units is projected to be reached by the year 2038.

Issues Not Addressed by Buildout

The buildout analysis does not address the impacts of the expansion of existing units to provide for guests and renters, relying instead on the permit limit in the Growth Management By-law. While such expansions do not result in additional units, they do contribute significantly to the peak summer population, affecting the capacity of Town services. This also applies to commercial expansions, which are neglected in the Capacity Study model. The model also does not include the 91 affordable housing units not subject to the Growth Management By-law.

Day-tripper populations, while largely unaccounted for in population estimates, place a tremendous burden on garbage collection services, septic capacities, and police and rescue services, as well as the water supply. The Town should consider conducting an assessment of the impacts of tourists on essential services.

D. Impact of Anticipated Development on Town Services and Appearance

Generation of new taxes by development does not offset the increasing cost of services, not to mention the burden on the capacity of those services, particularly the public water supply and waste management. Additionally, both residential and commercial growth translate into increasing numbers of people and cars, putting ever-greater pressure on the capacity of Provincetown's roads, particularly in the downtown area.

Community character and appearance are affected by both new development that does not complement existing structures and landforms, and additions and expansions that introduce conflicting geometric forms and details to the built landscape. The relegation of

once-proud gardens and yards to parking lot status is also cause for increasing concern, as is the transformation of yards to accommodate raised Title 5 systems.

In order to enhance Provincetown's historic character and charm, mixed use should be promoted, especially in the downtown area and in locations where services benefit residential areas by reducing automobile trips to commercial areas.

Impacts of Residential Development

In comparison to other Cape towns, Provincetown's projected growth is minimal in strictly numerical terms and must be viewed in the context of the scarcity of available developable land. As computed for the Outer Cape Capacity Study in 1995, only 197 acres of developable or potentially developable land remained of the 1,944 acres under Town jurisdiction. The popularity of Provincetown as a tourist destination results in considerable pressure to develop remaining land for residential use. Even with the Growth Management By-law in place, buildout is projected by the year 2038.

The impact of future residential development will continue to fall most heavily on municipal services, particularly on the water supply and wastewater disposal, as well as on the Town's appearance and character. While solid waste disposal is not really a land use issue because waste is disposed of out-of-Town, development and an increasing population result in greater quantities of waste generated at greater expense to the Town.

Because of seasonal population changes it is difficult to get an accurate reading of the actual population living in Provincetown during the peak season. The true number of persons per household is hard to determine, making it difficult to assess the potential peak season impact on services. Rental of condominium units often maximizes use of dwellings that are generally regarded as seasonal. If the Growth Management By-law were based more directly on the actual number of bedrooms developed or added to existing uses, it would have a more distinct correlation to the constraints imposed by the water supply and waste management.

Clearly, under either buildout or the 2020 projection, the Town faces hard decisions in addressing water supply and wastewater management needs. For starters, the Town must encourage water conservation, implement the recommendations of the Wastewater Facilities Management Plan and engage in productive dialogue with the National Park Service to address the inevitable water needs of the Lower Cape.

Of particular concern in Provincetown is the impact of new development, condo conversions and refurbishment of existing dwellings on the availability of housing that is affordable and/or

available year-round to permanent residents (see Affordable Housing Element).

Impacts of Commercial Development

As noted earlier, developable commercial land is scarce. However, expansions and other alterations not covered directly by the Growth Management By-law can have had a significant impact on Town services and on community character. On the other hand, refurbishment of some commercial properties could contribute to community character if out-of-scale building elements, inappropriate window treatments and other details are replaced by features more in keeping with the architectural character of Provincetown.

Commercial growth has a particular impact on overcrowding in the downtown area as pedestrians and automobiles come into increasing conflict during the peak summer months, especially on Commercial and Bradford streets. The expansion of commercial uses in the P District should be guided through the regulatory process to assure that strip development is not encouraged and community character issues are considered.

Economic development, discussed below (Areas in Need of Revitalization or Redevelopment), while potentially beneficial to local employment opportunities, would likely add to the burden on Town services unless it is directed towards shifting the economic base away from almost total reliance on tourism to activities that do not burden resources.

E. Future Land Use Needs

Wastewater

Because of problems associated with septic systems in some parts of Town where the water table is particularly high, land may soon be needed for wastewater collection and treatment facilities. As of this writing, no final decision has been made by the Board of Selectmen on the size or location of a treatment facility.

Drinking Water

The location of land suitable for extraction of water for future municipal supply needs is not in Provincetown but in Truro, within the Cape Cod National Seashore. Therefore, in-Town land needs for the public water system are likely to be limited to pumping sub-stations. As part of the response to the current shortage of supply, the Town has renewed its interest in finding sources within its own borders, and has undertaken an aggressive exploration program directed by the Department of Public Works and the Water Department to find sources drawing from the Pilgrim Lens. Two sites have already been tested, and other sites including the so called "spaghetti strip" (a small strip of land the Town owns within the CCNS) and the Route 6 median strip will be tested shortly. The water from these sources would most likely

have to be treated for high levels of salt, iron and manganese, or they might be used for emergency purposes such as fires in order to conserve the potable supply from Truro, or to satisfy the DEP requirement for redundant sources.

Affordable Housing Sites and Other Needs

Future land use needs include land for housing affordable to the local workforce, artists' space, childcare sites, and space for start-up businesses.

F. Existing Regulations and Effectiveness in Managing Growth

The Growth Management By-law, intended to sustain public water, waste disposal and other services, helps slow growth but does not address all growth, nor does it address service capacity. Each conversion to year-round use, each additional dwelling space carved out of an existing unit, and each guest staying for the weekend during the peak tourist season represents additional stress on services.

Review and modification of the Growth Management By-law should be undertaken to determine the appropriate number of annual permits and to assess the effectiveness of priority levels in allocating those permits` .

The Community Vision Project Survey results show strong support for existing growth control regulation (62 percent of respondents "Yes"; only 23 percent "No") and even stronger support for additional regulation "that would limit the rate or amount of development based on the natural capacity to support development..." (82 percent "Yes").

G. Areas in Need of Revitalization or Redevelopment

Economic Development in Provincetown, An Evolving Plan for Action, issued in January, 1996, states that "(m)any of Provincetown's commercially zoned properties are not being used to their full potential" and encourages the use of tax incentive tools to maximize such potential. (p. 6)

The economic plan also endorses extension of the tourist season and expansion of the economic base to provide more products and services locally that are currently imported. While beneficial to the local economy if successfully acted upon, all of these directives could result in additional burdens on municipal services. Two commercially-zoned Economic Opportunity Areas (EOAs) were designated in a non-bonding resolution by Town Meeting vote. One is located on Shank Painter Road near the intersection of Route 6 and the other at the old A&P site at the north end of Conwell Street.

H. Potential Uses for Route 6 Corridor

Land in the Route 6 right-of-way may have the potential to meet some local needs if the Town is successful in acquiring control of the highway from the Commonwealth. A study undertaken by masters' degree students from the Tufts University Department of Urban and

Environmental Policy (UEP) examined the feasibility of four potential use options for the Route 6 easement: satellite parking, a bike path, affordable housing, and a wastewater treatment facility. The study concluded that better alternative locations exist for these uses and that Route 6 should remain a four lane roadway. However, the UEP teams recommended expanding the Jerome Smith Street lot to the east to include the Route 6 easement across from the cemetery for satellite parking. The Town may also wish to consider the feasibility of recreational uses in the Route 6 easement.

1.5 ACTIONS AND IMPLEMENTATION PROGRAM

ACTION 1: Periodically review and, as necessary, modify the Growth Management By-law to ensure that growth is accurately measured and that the number of permits issued annually or other more comprehensive measures effectively accommodate growth's demand on resources.

ACTION 2: Develop a zoning by-law to regulate condominium conversion in order to slow the loss of year-round affordable housing and to lessen the impact that intensification of the use of the property brings on the Town and the neighborhood.

ACTION 3: Review and, as appropriate, adopt model by-laws and other regulations developed by the Cape Cod Commission, other agencies and other communities to improve and streamline the Town's regulations and to develop creative solutions to problems such as growth management, housing and land use.

ACTION 4: Conduct an assessment of the impacts of tourists/daytrippers on essential services and develop a plan to mitigate the impact on resources and services.

ACTION 5: Review commercial site plan review standards in the zoning by-laws to better reflect concern for community character and scale; consider lowering square footage thresholds for projects subject to site plan review.

ACTION 6: Develop other comprehensive measures with the Water and Sewer Board, Board of Health and other regulatory boards that effectively encourage conservation and regulate growth's demands on available resources and services.

ACTION 7: Develop a complete and comprehensive definition of Neighborhood Sales and Services within the existing Zoning By-law in order to maintain uses within zones that are compatible and contribute to the overall quality of life of the residents.

2. NATURAL RESOURCES

Provincetown is defined by its natural resources, most conspicuously its dunes, beaches, wetlands, ponds, Harbor, and orientation to the sea. Surrounded on three sides by water, Provincetown has unique and spectacular natural features that contribute considerably to Town character and help drive the local economy. All of Provincetown is, geologically speaking, a barrier beach unlike any other on Cape Cod. This is what makes any rare plants, insect or animal life especially noteworthy. Habitats and natural features occur here that is one of a kind in the entire world. The Town has been listed as number one out of the top ten towns in the Commonwealth with the greatest density of rare species by the Nature Conservancy and the Massachusetts Natural Heritage and Rare Species Program (NHRSP).

Natural resources are Provincetown's greatest attraction and limit and condition the ways it can grow. Even more so than in most coastal communities, natural features are often natural constraints to development. Developable land is limited by the presence of both coastal and inland water, and existing local groundwater supplies are not potable. These local supplies may prove useful in the future with treatment, and must be protected as an important element of the overall ecosystem. The greatest limiting factor, though a tremendous resource, is the National Park Service and the Cape Cod National Seashore, which controls some seventy- percent of Provincetown's land.

This section is divided into three subsections: 2.1, Water Resources, 2.2, Coastal Resources, and 2.3, Wetlands, Wildlife and Plant Habitat, each with its own Goals, Inventory, Analysis, Actions, and Implementation Program. An appendix, section 2.3.6 was added to this section of the LCP to demonstrate the threat that exists to the inhabitants of this barrier beach. It is a listing compiled by NHRSP of plant and animal species which are endangered, threatened and of special concern. Once the rare species go, then the more common ones follow. This is the chain of survival. Homo sapiens are a part of this cycle even though we may easily forget that.

2.1 WATER RESOURCES

2.1.1 INTRODUCTION

This section of the Natural Resources Element is concerned with the health and productivity of Provincetown's groundwater and fresh and marine surface waters. The Pilgrim Lens of the Cape Cod Aquifer serves Provincetown. The Pilgrim Lens has high concentrations of iron

and manganese, making it unsuitable for public water supply use. Most properties suited for well sites are located in neighboring Truro, but the Town has recently undertaken exploration within its own borders. The Town is also exploring technologies for treating this water, both for emergency purposes and to supplement the existing supply. Despite its inadequacy as a public water supply source, protection and management of Provincetown's groundwater remains important because the groundwater lens feeds fresh water to Provincetown's ponds, bogs and wetlands, and ultimately discharges to the surrounding marine waters. The importance of protecting the groundwater, wetlands and ponds is not only a question of whether we drink it or not, but also must be protected as the very lifeline of a fragile and unique ecosystem.

2.1.2 GOALS AND POLICIES

GOAL 1: To preserve and restore the ecological integrity of marine and fresh surface and ground waters using the Classification System below:

POLICY A: Except as otherwise specified in the classification system below, all development and redevelopment shall not exceed a 5 parts per million nitrogen (ppm) loading standard for impact on groundwater based on a methodology contained in Cape Cod Commission Nitrogen Loading Technical Bulletin.

POLICY B: All development and redevelopment shall comply with the Goals and Policies outlined in the following water resources classification system. If a property is located where two classifications overlap, the more stringent standards shall apply. The water resources classification system is illustrated on Cape Cod Water Resources Classification Maps 1 and 2 dated September 5, 1996, as amended and described below:

Fresh Water Recharge Areas: Consist of recharge areas to fresh water ponds as mapped by a method acceptable to the Cape Cod Commission.

1. In order to limit phosphorous inputs, no subsurface disposal systems shall be permitted within 300' of mean high water of fresh water ponds unless the applicant demonstrates by a ground water study that the site is not within the Fresh Water Recharge Area.
2. Developments of Regional Impact that generate over 2000 gallons per day (gpd) of sewage effluent may be required to delineate the ground water recharge areas to potentially affected fresh water ponds and conduct a phosphorous loading assessment in order to identify and mitigate adverse impacts.

3. Public and private sewage treatment facilities may be used within Fresh Water Recharge Areas subject to standards enumerated below.

Impaired Areas: Consist of areas where ground water may have been degraded by point and non-point sources of pollution, including but not limited to areas with unsewered residential developments where lots, on average, are less than 20,000 sq ft; landfills, septage and wastewater treatment plant discharge sites; high density commercial and industrial areas and those downgradient areas where the ground water may have been degraded by these sources. For these standards, certified growth/activity centers shall be classified as Impaired Areas. These areas in Provincetown would include the downtown and the landfill.

1. Development shall meet a 5 ppm nitrogen loading standard for impact on ground water, but may increase to a 10 ppm nitrogen loading standard where it can be demonstrated to the permitting authority the increase will cause no significant adverse impact on ponds, wetlands, marine waters, public or private drinking water supply wells and potential water supply wells.

2. Where existing development exceeds the 10 ppm nitrogen loading standard, development and redevelopment of that property shall not increase existing levels of nitrogen loading.

3. Public and private sewage treatment facilities, as well as other remediation measures such as community systems and DEP-approved alternative systems with enhanced nitrogen removal shall be encouraged in Impaired Areas. Public and private sewage treatment facilities shall be subject to the Goals and Policies below.

Water Quality Improvement Areas: Consist of Impaired Areas located within Fresh Water Recharge Areas. In such areas improvement of water quality is a major goal.

1. Development shall not exceed a 5 ppm nitrogen loading standard or an identified marine water quality standard as applicable. Where existing development exceeds the identified loading standard or where there are documented marine water quality problems, development and redevelopment shall improve existing levels of nitrate-nitrogen loading;

2. Use of public and private sewage treatment facilities shall be as follows: within Water Quality Improvement Areas that are in Fresh Water and/or Marine Water Recharge Areas, public and private sewage treatment facilities may be used in conjunction with any development or redevelopment. All such facilities shall be subject to the Policies below.

Marine Water Recharge Area (MWRA): the area around Provincetown Harbor. Although the Harbor is not considered nitrogen sensitive due to its volume and tide, the protections afforded by an MWRA designation should be established as follows:

1. Nitrogen loading within the MWRA shall not exceed 5 ppm for the lens and 10 ppm standard for impaired areas.

POLICY C: Conversion from seasonal to year-round uses in FEMA A flood zones or within 100 feet of wetlands shall not be permitted unless the proponent installs a DEP-approved alternative system with enhanced nitrogen removal. The proponent must also demonstrate that the project will not have other adverse impacts on ground water or adjacent surface water areas and wetlands.

POLICY D: New direct discharge of untreated stormwater, parking lot runoff and/or wastewater into marine and fresh surface water and wetlands shall not be permitted. Stormwater shall be managed and disposed of on-site. Development and redevelopment should follow the best management practices, such as vegetated swales (if applicable), to minimize runoff and maximize water quality treatment. A maintenance schedule shall be developed for all drainage structures. Stormwater drainage should be based on the projected 25 year-24 hour storm unless more conservative figures are required by local zoning bylaws, Planning Board and Conservation Commission regulations.

POLICY E: Water withdrawals in Truro should be cooperatively managed so that they do not adversely affect surface water resources, wetlands, private wells or the safe yield of the aquifer. Progress has been made with the Boards of Selectmen holding joint meetings.

POLICY F: Development and redevelopment should make use of water conservation technologies.

POLICY G: Development and redevelopment should regulate the use of chemical fertilizers, pesticides, herbicides and non-biodegradable cleaning products.

POLICY H: Cleanup of chemical spill and contamination sites should be expedited, and the Town should maintain equipment and personnel to assist in the cleanup.

POLICY I: Potential Water Supply Areas (PWSA), both inside and outside the Town, should be protected according to the following minimum standards:

1. A five parts per million (ppm) nitrogen load maximum within the PWSA..
2. An undisturbed buffer of 400 feet surrounding the entire PWSA.
3. No sewage treatment plant facilities shall be located within the PWSA.
4. No quantities of hazardous waste beyond those associated with normal household use shall be allowed within the PWSA.
5. Surface water-dependent ecosystems within the PWSA shall be protected from damage, especially any draw down resulting from water withdrawal.

POLICY J: Should sites within Provincetown be developed as water supplies, The Town shall apply minimum performance standards compatible with the Wellhead Protection Area standards in the Cape Cod Commission Regional Policy Plan (RRP).

GOAL 2: To encourage public and private sewage treatment facilities in areas where they will provide environmental or other public benefits and can be adequately managed and maintained.

POLICY A: All public and private sewage treatment facilities shall be designed to achieve tertiary treatment with denitrification that meets a maximum 5 ppm total nitrogen discharge standard in the ground water at the downgradient property line (unless another appropriate standard is identified in the Provincetown Wastewater Facilities Management Plan).

POLICY B: The construction of private sewage treatment facilities (PSTFs) shall not allow development to occur at a higher density than would be allowed by local zoning.

POLICY C: The construction of PSTFs shall be consistent with existing local capital facilities plans. Provincetown shall have the opportunity to assume ownership and maintenance responsibilities for such facilities.

POLICY D: PSTFs shall not be constructed in FEMA V zones and floodways, Areas of Critical Environmental Concern (ACECs), protected wetlands and buffer zones, barrier beaches, coastal dunes, or critical wildlife habitat. PSTFs may be constructed in FEMA A zones only to mitigate water quality problems from existing development within such A zones and consistent with the Goals and Policies in the Coastal Resources Section of this LCP element.

POLICY E: The long-term ownership, operation, maintenance, and replacement of PSTFs shall be secured as a condition of approval in accordance with Cape Cod Commission, state and local guidelines.

POLICY F: Applications shall include a plan for sludge disposal.

POLICY G: When allowing additional development in areas where existing high density development or large numbers of failing septic systems have led to public health or water quality problems, the Commission and/or the Town may require PSTFs or DEP-approved alternative systems with enhanced nitrogen removal to be installed as a remedial measure.

2.1.3 INVENTORY

A. Aquifers and Groundwater Systems / Water Supply

The freshwater lens in Provincetown, the Pilgrim Lens, was long ago abandoned as a source of public water supply due to high levels of sodium and iron. With the increasing importance of identifying additional sources of water, and because of the DEP requirement for 100% redundancy, this freshwater lens is being investigated again.

With treatment, the lens might also provide water for an emergency situation.

The best sites for withdrawing drinking water are located in Truro in the National Seashore, within which the National Park Service is mandated to protect all resources that feed surface waters, including groundwater.

In recognition of the region's complete reliance on groundwater for potable water, all of Barnstable County was designated a Sole Source Aquifer by the U.S. Environmental Protection Agency in 1982. All of Provincetown's drinking water is drawn from the Pamet Lens in Truro. The primary supply sites are the Knowles Crossing and Paul Daley wellfields, with additional wells for summer use at the former North Truro Air Force Station, through an annual emergency agreement with the National Seashore. Provincetown recently participated in the Lower Cape Water Management Task Force, which resulted in a report that identified potential well sites, their preliminary withdrawal limits and potential procedures for distribution of aquifer resources for the towns of Eastham, Wellfleet, Truro, and Provincetown.

As the population has grown (primarily in the summer), pumping has increased. For five months of the year, the existing system is pumping 24 hours a day. Provincetown is currently limited to a withdrawal rate of .85 million gallons per day (MGD) or 311.62 million gallons per year (MGY) under the DEP Water Management Act.

The task force report calls for regional solutions and collaborative efforts among Lower Cape towns and identifies a number of "potential" and "hypothetical" well sites in the Cape Cod National Seashore, some of which have less potential impact on surface water than those existing outside of the Seashore. The sites in proximity to Provincetown are located within the Pamet Lens in Truro and receive good ratings with respect to their impacts on "surface water natural resources."

In 1995, the Air Force Station wells successfully provided 64 million gallons of good quality water in addition to pumpage from the Knowles and Daley wellfields. (Provincetown Annual Report, 1995) Total metered and estimated water pumpage steadily increased from 305 million gallons in 1990 to 1995's total of 406 million gallons. However, recorded water consumption in 1995 in Provincetown and Truro was 210 and 27 million gallons respectively, for a total of 237 million gallons, well within the limits of the water withdrawal permit. The discrepancy between reported pumpage and consumption is thought to be the result of faulty flow meters at well pump stations, leakage and unmetered usage in the distribution system. (Final Needs Assessment Report for Wastewater Management Facilities Planning Study, 1997). Recorded pumpage for 1996 was up to 419 million gallons; factoring in at least a 15% flow meter error (as determined for the previous year by the Needs Assessment) and minor leakage, the Town is still within the limits of its water withdrawal permit, but the margin has grown slimmer.

Hoping to see a decrease in water consumption rates, the Water Department initiated its Water Conservation Project in 1995, distributing water-saving devices for toilets and faucets. Dramatic progress has also been made in accounting for previously unaccounted for water by repairing leaks and replacing mains and other parts of the system. The Water Department has also assumed the leadership in the Town's renewed interest in discovering and tapping groundwater sources within its own borders. Toward this end, the Town has commissioned EIS and EIR studies of potential sites, and has participated in the USGS regional groundwater modeling study of the Outer Cape.

B. Septage Disposal/Wastewater Management

Provincetown currently has no municipal sewage collection system. Types of on-site septic systems include cesspools, "improved" cesspools, Title 5 systems, holding tanks (tight tanks), and tight tanks with limited leaching capacity. A survey conducted as part of the Final Needs Assessment Report for Wastewater Management Facilities Planning Study indicated that cesspools are still the predominant type of system--particularly in older, densely developed areas.

All systems are on-site and must meet federal, state, regional, and local requirements. Title 5 regulations of the State Environmental Code, enforced by the local Board of Health and the state Department of Environmental Protection (DEP), represent the major regulatory standards for Provincetown. Design standards for on-site septic systems include requirements for setbacks, maximum design flows, restrictions for flood zones, and variance procedures.

Provincetown has many existing subsurface systems in V Zone flood areas that would not be permitted under current Title 5 requirements. Enforcement of Title 5 (through upgrading) occurs when repairs are necessary or when structures are altered or sold (unless the system is operating efficiently and passes inspection).

Upgrades to systems in low elevation areas where groundwater is close to the surface require elevation to allow a minimum of five feet of separation between the bottom of soil absorption systems and the top of maximum high groundwater elevation. The resulting raised septic systems often conflict with the historic character of the downtown area. Additionally, many require electric-powered pumps, since they have reverse gravity flow; this is a potentially serious problem in a Town subject to a high risk of power outages. Article 17, a resolution opposing raised systems passed at a 1994 Special Town Meeting and initiated the wastewater facilities management planning process.

The largest single project the Town might ever undertake is a centralized wastewater facility, or sewer project. The Town continues to gather information for wastewater facilities planning under the direction of the Board of Selectmen. The concept of privatization is also being explored. This continued planning and information gathering is to ensure that the facility is built at the lowest possible cost, but also that the firm which designs it can then be accountable to the Town for its construction and operation.

What is unusual about Provincetown's approach is the amount of choice and flexibility that would be provided to property owners. Those properties that can comply with Title 5 can choose to hook-up if they wish. Those that cannot comply would be allowed to delay connecting if their on-site system is not in failure. Assessments would only be levied upon those properties that do connect. Any property's sewer connection would be limited to its Title 5 design flow capacity or actual flow resulting from its current legal use of the property, whichever is greater. This could allow for greater use than strict Title 5 compliance would allow.

Special State legislation required allowing this approach was passed at Annual Town Meeting in 1999, along with authority for the Board of Selectmen to explore the option of a privatized design/build/operate wastewater facility. As of this writing, the Board of Selectmen have not made a final determination on either the size of the facility or its location.

One of the results of Provincetown's renewed interest in sources of water within the Town's borders could be that the number of sites available for wastewater discharge will be reduced. For example, the Town's engineering consultants have recently suggested the Route 6 median strip as both a site for wastewater discharge and for groundwater withdrawal.

C. Water Bodies and Wetlands

Ponds:

Provincetown's primary freshwater resources are its ponds, nine of which are state-recognized, covering a combined area of 94 acres. All of the freshwater ponds are Class B, the highest ranking for ponds not used for public drinking water supply. The ponds in Provincetown are not kettlehole ponds as are found on other parts of Cape Cod. Rather, the ponds are the result of dune blowouts. The ponds are isolated, and do not drain to the sea. Their surface level depends on fluctuations in the aquifer's water table and their shorelines provide a sensitive habitat and are primary sites for rare plants and animals.

Three ponds, Clapps, Shank Painter and Great, are classified as Great Ponds of the Commonwealth, on the basis of being larger than 10

acres in size, entitling public ownership and access (smaller ponds can be privately owned and public access prohibited).

"Clapps Pond is the only pond with a practical shallow-draft boat access point, the dirt landing provided by the Massachusetts Division of Fisheries and Wildlife off Route 6." (Open Space and Recreation Plan, p. 29, 1995) Provincetown's ponds and their environs are used for birdwatching, fishing, ice skating, hiking and as outdoor studio by artists and are important habitat for rare plant and animal species. Encroaching development and nitrogen loading from septic systems and storm water and runoff from Route 6 threaten the ponds.

Salt Water Bodies:

Provincetown's twenty-one mile coastline represent the basis of the tourist economy, providing opportunities for swimming, fishing, boating, shell fishing and other activities. Within the National Seashore, Race Point Beach and New Beach at Herring Cove are attractive public beaches, while other marine activities occur mainly in Provincetown Harbor and Cape Cod Bay.

The Town has eight designated landings and three non-designated landings on the shoreline, only one of which has a paved ramp for boat launching at high tide. Use of all of the landings is restricted by the lack of parking and tidal range. The potential for the creation of new landings is made difficult by the intensity of waterfront development.

Harbor:

Provincetown Harbor is used for a variety of activities including transportation, fishing, shell fishing, commercial uses such as sport fishing and whale watching, recreation, education, excursions, and a wide range of local activities. Though declining, Provincetown's fishing port remains one of the largest on Cape Cod. The Harbor and related planning issues are discussed in greater detail in the Coastal Resources section. At Annual Town Meeting in 1997, the Town adopted a Harbor Plan.

Wetlands:

Provincetown has diverse wetlands, both salt and fresh water, totaling over 600 acres. In addition to their aesthetic attributes, these wetlands are important as habitat and food sources for a variety of flora and fauna. Types of wetlands located in Provincetown include quaking bogs, upland forested wetlands such as cedar swamps, ponds, vernal pools, salt marsh, inter-tidal areas and tidal flats. Freshwater wetlands comprise some 271 acres. Nearly all of the salt water wetlands are located in the National Seashore.

2.1.4 ANALYSIS

A. Existing Water Quality Problems, Threats and Priorities for Protection

Because there is no public sewer system in Provincetown, non-point discharges from septic systems are a significant source of contamination of water resources. Other pollution sources include street runoff, discharge from boats, and marine-related debris. The Town has made great strides in minimizing marine discharges through its pump-out program and through Article 5 of the Provincetown Harbor Regulations which prohibits the discharge of "oil, sewage, gray water, holding tank wastes, spirits, flammable liquids, contaminated bilge wastes, kitchen wastes, garbage, litter, or other refuse into Town waters." (PHR, Article 5, pp. 13-14).

Since the public water supply does not rely on local ground resources, the effects of local groundwater contamination on the Pilgrim Lens do not present an immediate public health problem. However, it is important to protect Provincetown's groundwater to protect its fragile ecosystem. Provincetown is one of a kind in the barrier beach habitat it provides, and the Pilgrim lens plays an important role in balancing this fragile and unique system.

Provincetown's high water table, concentrated development pattern and vulnerable location magnify the potential impacts of groundwater contamination on surface water bodies and human health.

Provincetown's Water Resource District, adopted in 1991, protects land owned by the Town and the state between Route 6 and the railroad bed, east of Howland Street. In order to protect groundwater, the District designation prohibits storage of hazardous materials. However, the chances of establishing a safe, functional wellfield here, even as an emergency back-up source, are highly unlikely.

Potential non-point threats to the public drinking water well sites in Truro include salt water intrusion from over-pumping (the Knowles Crossing well field has already experienced salt contamination), underground storage tanks, landfill leaching, and chemical spills from trucks on nearby Route 6. Truro recently changed a bylaw increasing the Zones of Contribution to the well sites and restricting certain types of business from those zones. However, the greatest threat remains vehicles and uses along Route 6. Current zoning is not restrictive in the general business zones and uses just outside the current water protection district may present hazards in the future. (Truro LCP, WR-15) To their mutual benefit, Provincetown and Truro must work cooperatively to protect existing and potential water sources and to initiate coordinated water conservation efforts.

Continued total reliance on on-site individual septic systems and cesspools may result in effluent contamination of ground and surface water. The highly permeable soils readily transmit nitrates to ponds and the Harbor and, in some cases, coliform bacteria.

With septic failure in the downtown area a constant concern, some commercial establishments have converted to "tight tank" systems that eliminate on-site effluent except in the case of overflow. The

tanks' contents are pumped out and disposed of at the Tri-Town facility. While state authorities do not encourage such systems because of the large quantity of waste generated for disposal, there is no specific limit or policy in place at the state level.

To offset insufficient depth to groundwater, in recent years some home and business owners developed "raised" or "mounded" septic systems. Many Provincetown residents find these systems unsightly and the Town has passed a non-binding resolution in support of a moratorium on mounded systems. Such systems are also vulnerable to the high risk of power failure.

Though the Town has been successful "in encouraging and requiring low-flow solutions to wastewater problems, the potential for continued degradation of Provincetown's most important open space asset, its broad Harbor and open tidal flats, will remain." (OSRP, p. 49). The Wastewater Facilities Management Plan scope called for analysis of the Town's wastewater problems and needs on a section-by-section basis, assessing the viability of different technologies for different areas of Town. Evaluation of options for Provincetown's wastewater management must take into account a wide range of local issues, such as water consumption and community character, that overlap with several other Elements of this LCP. For example, consideration given to installing sewers in the downtown area must address the potential impacts on landowners' behavior vis-a-vis probable increased water use and renewed interest in infill development and expansion.

The Cape Cod Commission water resources classification system, detailed under Goal 1 at the beginning of this section, enumerates prohibited uses, maximum allowable loading standards for nitrogen, required contamination mitigation measures and technologies, and other Goals and Policies. This system governs development and redevelopment in fresh water recharge areas, impaired areas, and water quality improvement areas. The Town must document how these standards will be applied locally.

The "Final Needs Assessment Report for Wastewater Management Facilities Planning Study" (February, 1997) highlights the major issues to be addressed by the project overall as follows:

Provincetown's sandy soils are generally appropriate for on-site septic systems, but areas at lower elevations and close to beaches often cannot meet standards without construction of raised systems. In the downtown area, such raised systems have faced strong opposition on aesthetic grounds.

Due to limited space, high groundwater and sandy soils, construction costs for Title 5 systems are extremely high in some areas. Physical constraints such as storm sewers, water lines and other underground utilities, as well as the narrow streets, increase the costs of any

potential sewer collection system in the downtown areas. Potential disruption of summer trade downtown for any proposed sewage collection system construction poses important considerations. Many of Provincetown's residential on-site systems are cesspools. In the August 2, 1995 changes to Title 5, Section 15.03 (1)(b), existing cesspools only fail automatically by being within 50 feet of surface water bodies, wetlands, or salt marshes. Some Provincetown residents believe that their cesspools are not adversely affecting the environment, and the concerns of these residents are addressed as part of the facilities plan. All variances available within the existing Title 5 regulations and their impacts are explored.

B. Public Water Supply and Regional Coordination Issues

Water pumpage has increased dramatically over the last decade. This increase needs to be evaluated and managed in order to maintain compliance with the Permit, both in 1997, 1999 and in 2020.

Some existing and all potential sites for drawing public water are located in Truro and, more importantly, within the National Seashore. The National Park Service (NPS) is mandated to protect all resources that feed surface waters, including groundwater, within the National Seashore. The NPS is not mandated to provide long-term water supplies. Therefore, for other well fields to be considered, not only must the Town demonstrate need, but it must be clear that use of potential well sites would have no negative impact on natural resources.

The Lower Cape Water Management Task Force (LCWMTF) report indicates that use of all the existing sites supplying Provincetown have potential "moderate" impacts on "identified natural resources at a 0.5 MGD [million gallons per day] pumping rate" (Peak summer water consumption in the summer of 1995 exceeded 2.0 MGD). The North Truro Air Force Station wells and a hypothetical Truro "Coast Guard" site are identified as having less impact on natural resources than the present use of Knowles Crossing and Paul Daley wellfields.

Given the physical and political barriers to mainland water acquisition, desalinization has been studied as an alternative solution to the looming water supply crisis and found unfeasible. While use of a desalinization facility could potentially offset the demands of the ever-increasing peak summer population, drawbacks include the high cost of desalinization technology, insufficient available land for the siting of such a facility, and the lack of places to dispose of brine byproducts. Desalinization has been effectively eliminated as a viable option. Peak water demand is difficult to control because tourism is heavily concentrated in the summer months and the influx of day-trippers cannot be directly controlled by regulations governing the issuance of building permits. However, the Town can minimize the potential for water supply shortages by limiting growth, including business activity,

that puts additional strain on the water supply, reviewing the effectiveness of the Growth Management By-law, vigilantly enforcing building regulations, and encouraging a greater commitment to water conservation

Clearly, growth controls must be stronger, as supported by the Community Vision Project Survey, in order to ensure adequate water supply in the future. Provincetown must also continue to seek regional solutions involving neighboring towns and the National Seashore to address long-term water supply needs. Finally, the Town should compare its water rates with other towns and evaluate their impact on usage.

2.1.5 ACTIONS / IMPLEMENTATION PROGRAM

ACTION 1: Continue to actively seek new sources of water within the Town's own borders, and to conduct Environmental Impact Studies and Environmental Impact Review of potential sites.

ACTION 2: Develop a detailed water conservation plan, ensuring compliance with the DEP Permit. The plan should encourage the installation and use of water saving devices and use of non-potable and "gray water" systems for garden irrigation and other uses whenever possible.

ACTION 3: Develop a coordinated water conservation plan for users within the Water District.

ACTION 4: Identify and locate cesspools and leaching systems that are constructed within the groundwater table, especially those serving properties in densely developed areas, and implement inspection and improvement programs (in coordination with the Wastewater Management Facilities Planning Study).

ACTION 5: Develop regulations requiring and establishing procedures for regular maintenance and pump-out of septic systems in accordance with the Cape Cod Regional Policy Plan.

ACTION 6: Implement the recommendations of the final Wastewater Management Facilities Planning Study.

ACTION 7: Minimize the total application of salt and other harmful de-icing chemicals in the removal of snow from roadways.

ACTION 8: Compare local water rates with those of other towns and evaluate the impact on usage. Develop incentives for conservation and educate the public regarding the limited resource and its value.

ACTION 9: Encourage the use of water saving devices such as non-water toilets and low-flush toilets through cooperation with the Board of Health and Department of Regulatory Management and with financial incentives to homeowners and businesses.

ACTION 10: Protect groundwater quality by limiting and regulating the use of pesticides, herbicides and toxic cleaning products.

ACTION 11: Protect ponds as sensitive habitats for rare plants and animal species by

discouraging use of their shorelines for recreational purposes and ensuring that damage does not occur from excessive water table drawdowns from any new water supply pumping.

ACTION 12: Encourage and support Town, citizen and nonprofit monitoring efforts for Provincetown Harbor.

2.2 COASTAL RESOURCES

2.2.1 INTRODUCTION

This part of the Natural Resources section addresses issues relating to coastal resources including the Harbor, beaches, flood hazard areas, dunes, coastal banks, and tidal flats. Specific issues include protection and enhancement of public access rights, coastal water quality, shell fishing, swimming and other recreational pursuits, marine-related activities and coastal ecosystems

2.2.2 GOALS AND POLICIES

GOAL 1: To protect public interests in the coast and rights for fishing, fowling and navigation; to preserve and manage coastal areas so as to safeguard and perpetuate their biological, economic, historic, maritime, and aesthetic values; and to preserve, enhance and where appropriate, expand public access to the shoreline.

POLICY A: Development and redevelopment along the coastline shall not interfere with existing public access, water-dependent uses, traditional rights-of-way and environmentally appropriate use of the shoreline.

POLICY B: Public access shall be provided at publicly funded beach nourishment sites where such access will not impair or damage natural resources.

POLICY C: Development and redevelopment should reflect the traditional maritime character and architecture typical of the area and should be designed to maintain and enhance views of the shoreline from public ways, access points and existing development.

POLICY D: The walkways, where environmentally acceptable and consistent with public safety, should be encouraged to enhance shoreline access for the public, including people with disabilities.

POLICY E: If an existing water dependent facility is within 250 feet of the historic mean high water line or shoreward of the first public way, whichever is less, such use should not be changed to a non-water-dependent facility. Replacement of a water-dependent use shall not be permitted unless an overriding public benefit is provided to accommodate for the loss of the water-dependent use.

POLICY F: Development or redevelopment of water-dependent facilities should provide coastal access benefits to the general public.

Such access should minimize interference with the water-dependent use.

POLICY G: Coastal engineering structures should be designed so as to allow the public to pass along the shore (either above or below the structure) in the exercise of its public trust rights to fishing, fowling and navigation.

GOAL 2: To limit development in areas subject to coastal storm flowage, particularly high hazard areas, in order to minimize the loss of life and structures and environmental damage resulting from storms, flooding, erosion, and relative sea level rise.

POLICY A: Except as specified in Policy E, below, no development or redevelopment shall be permitted within FEMA V flood zones. Existing structures may be reconstructed or renovated, provided there is no increase in floor area or intensity of use. As an exception, where there is no feasible alternative, water-dependent structures and uses may be permitted subject to the approval of all permitting authorities.

POLICY B: In order to ensure human health and safety, and protect the integrity of coastal landforms and natural resources, all new buildings, including replacements or substantial improvements to existing structures, within FEMA A zones shall be designed to accommodate the documented relative sea level rise rate. That rate in Massachusetts is of at least one foot per 100 years, except as provided in Policy K, below, and in V zones shall be designed to accommodate a relative sea level rise rate of two feet per 100 years.

POLICY C: Except as specified in Policy E, no new development or redevelopment shall be permitted on barrier beaches and coastal dunes as defined by the Wetlands Protection Act and associated regulations and policies. Existing structures may be reconstructed or renovated, provided there is no increase in floor area or intensity of use, or conversion from seasonal use.

In accordance with FEMA standards, if the reconstruction/renovation is greater than 50% of the assessed value of a structure, and is located within a V zone, the lowest horizontal structural member shall be elevated at least two feet above the 100 year flood elevation. If the structure is located in the A zone, the lowest floor shall be elevated at least one foot above the 100 year flood elevation, except as provided in Policy K. On a barrier beach or coastal dune, and in either the V or A zone, the structure shall be on open pilings, to allow for storm flowage and beach and dune migration.

If the structure is on a barrier beach or dune and is outside the 100 year coastal floodplain, and is proposed to be reconstructed or renovated to greater than 50% of its assessed value before reconstruction or renovation, it shall be elevated at least two feet above grade on open pilings to allow dune migration.

Water-dependent public recreational facilities in these locations may be developed, providing that it can be demonstrated that the proposed development will not compromise the integrity of coastal resources, and are appropriately elevated on pilings, or flood-proofed.

POLICY D: Development and redevelopment on or within 100 feet landward of a coastal bank or dune shall be designed to have no adverse effect on the height, stability or the use of the bank or dune as a natural sediment source. In areas where banks or dunes are eroding, the setback for all new buildings and septic systems to the top of the coastal bank or dune crest shall be at least 30 times the average annual erosion rate of the bank or dune. This rate shall be determined by averaging the erosion over the previous 30-year period at a minimum. In instances where shoreline erosion rates are indicative of bank/dune erosion rates, MCZM shoreline change maps may be used in determining the setback.

POLICY E: Where fire, storm or similar disaster has caused damage to or loss of buildings in FEMA A and V zones, on barrier beaches, coastal banks or coastal dunes of greater than 50 percent of their assessed value, all reconstruction shall be in compliance with current applicable regulations. Reconstruction shall be designed in accordance with Water Resources Section, Goal 2, Policy C; Coastal Resources Section, Goal 2, Policies B and D; and Coastal Resources Section Goal 3, Policies A and B. Reconstruction shall not enlarge or expand the use of an existing structure.

POLICY F: Except as provided in Minimum Performance Standard K, below, no new public infrastructure or expansion of existing infrastructure shall be made in flood hazard zones (FEMA A and V zones) unless it is shown that there is an overriding public benefit provided, and provided that such infrastructure will not promote new growth and development in flood hazard areas.

POLICY G: Where land subject to coastal storm flowage is significant to the interests of flood control and storm damage prevention, no activity shall increase the elevation or velocity of flood waters or increase flows due to a change in drainage or flowage characteristics on the subject site, adjacent properties, or any public or private way.

POLICY H: Within the 10 year floodplain no activity shall impede the landward migration of other resources areas within this area of the floodplain. Relative sea level rise and the landward migration of resource areas in response to relative sea level rise shall be incorporated into the design, construction, and location of structures and other activities proposed.

POLICY I: New structures, additions, to existing structures, solid foundations, new or proposed expansions of roads, driveways or parking lots, or impermeable paving of existing ways, new or proposed

expansions of coastal engineering structures, and new septic systems shall be prohibited within the V zone of a beach, dune, barrier beach, or coastal bank where they will result in alterations to vegetative cover, interruptions in the supply of sediment to other wetland resources, and/or changes to the form or volume of a dune or beach.

POLICY J: Notwithstanding the above Policies, the following activities may be permitted provided the applicant demonstrates that best available measures are utilized to minimize adverse impacts on all critical characteristics of land subject to coastal storm flowage. The applicant must also demonstrate that all other performance standards for underlying resource areas are met.

Beach, dune and bank nourishment and restoration projects, including fencing and other devices to increase dune development and plantings compatible with natural vegetative cover.

Elevated pedestrian walkways and elevated decks with appropriate height and spacing between planks to allow sufficient sunlight penetration

Boat launching facilities, navigational aids, piers, docks, wharves and moorings

Improvements necessary to maintain the structural integrity and stability of existing coastal engineering structures

Projects that will restore, rehabilitate or create a salt marsh or freshwater wetlands

Projects that are approved, in writing, or conducted by the Division of Marine Fisheries that are specifically intended to increase the productivity of land containing shellfish, including aquaculture, or to maintain or enhance marine fisheries

Projects that are approved, in writing, or conducted by the Division of Fisheries and Wildlife that are specifically intended to enhance or increase wildlife habitat.

POLICY K: In order to allow alternative means of reducing flood hazard risks in areas where there are serious concerns about protecting the character of historic villages, the following shall apply in certified Village Growth/Activity centers located in FEMA A zones for which a Flood Hazard Mitigation Plan has been prepared and adopted by the Town and has been found by the Cape Cod Commission to be consistent with state coastal policies and regulations. Notwithstanding other Goals and Policies herein, the following standards shall apply to such certified Village Growth/Activity centers located within FEMA A zones:

1. Development and redevelopment shall be subject to the requirements of the adopted Flood Hazard Mitigation Plan and any related policies and regulations.

2. Public infrastructure and private sewage treatment facilities (PSTFs) may be constructed in FEMA A zones (but not within V or AO zones) provided that these facilities are consistent with the Flood Hazard Mitigation Plan and the certified Local Comprehensive Plan; further provided that the infrastructure is itself flood-resistant; and provided that such infrastructure will not promote new growth and development outside such certified Growth/Activity center.

3. All new buildings or substantial improvements to existing structures in the FEMA A zone shall comply with FEMA and State Building Code regulations for elevation and flood-proofing.

POLICY L: Vehicle, boat and pedestrian traffic in critical wildlife and plant habitat areas should be regulated to minimize and mitigate any adverse affects. The Open Space Committee, Conservation Trust and Conservation Commission should develop regulations that control and minimize access to these areas. These areas are identified in the classification system described under Goal 2 of the Wetlands, Wildlife and Plant Habitat section of this Plan Element as follows: wetlands, dunes, shallow estuarine areas, and shorebird breeding habitats.

POLICY M: The Town should develop a beach nourishment program with input from the Conservation Commission and Harbor Committee. Wherever feasible, dredge material should be used for beach nourishment in areas subject to erosion.

GOAL 3: To maintain and improve coastal water quality to allow shell fishing and swimming in all coastal waters as appropriate, and to protect coastal ecosystems which support shellfish and finfish habitat.

POLICY A: Within FEMA V zones new mounded septic systems shall be prohibited except to upgrade existing substandard septic systems where such systems pose a demonstrated threat to public health, water quality or natural resources. If feasible, solid components of the septic system shall be elevated above the 100 year flood level.

POLICY B: No new direct, untreated storm water discharges shall be permitted into any coastal waters or wetlands including discharges above or below the mean high water level.

POLICY C: The design and construction of storm water management systems proposed in V zones shall incorporate the historic rate of relative sea level rise in Massachusetts of two feet per 100 years. For systems proposed in A zones, the historic rate of relative sea level rise in Massachusetts of one foot per 100 years shall be incorporated into the project design and construction.

POLICY D: In order to avoid loss of shellfish habitat and minimize impacts on wetlands, construction of community docks and piers, rather than separate structures serving individual lots, shall be required wherever possible (some properties under Chapter 91 jurisdiction may be required to have dinghy docks). In significant

shellfish habitat areas, as identified and documented by the Division of Marine Fisheries and/or local shellfish officials, the construction of docks and piers shall not be permitted. Docks and piers that are more than 50% damaged or destroyed by storms may be replaced in accordance with federal, state and local regulations, except in areas identified and documented as significant shellfish habitat.

POLICY E: New marinas of 10 or more slips, moorings or active landward storage berths, and expansions of existing marinas by 10 or more slips, moorings or berths shall provide or contribute to the provision of adequate boat sewage pump-out facilities in the Harbor and shall provide restrooms for their patrons. Such marinas shall also provide or contribute to the provision of adequate collection facilities for solid waste and waste oil for their patrons.

POLICY F: New dredging projects or expansion of existing dredging projects shall not occur unless a substantial public benefit can be demonstrated including but not limited to enhancement of fish or shellfish habitat, improvements to the flushing capacity of nitrogen sensitive embayments, or necessary improvements to navigational safety. Establish a waste oil collection tank at MacMillan Wharf.

POLICY G: Undisturbed buffer areas of at least 100' width surrounding coastal wetlands and/or landward of the mean high water of coastal water bodies shall be protected as specified in Wetlands Section, Goal 1, Policy B.

POLICY H: Waterfront fueling facilities should be upgraded to ensure that best management practices are used to avoid adverse impacts to water quality

2.2.3 INVENTORY

A. Provincetown Harbor

The Harbor Plan for the Town of Provincetown (Adopted by the Town in 1997 and by the State in 1998) serves as the primary source of inventory and analysis of Harbor-related resources.

Harbor Definition and Use:

Provincetown Harbor is defined in its entirety as the area contained within an imaginary line extending from Long Point to the Truro/Provincetown boundary. The mean tidal range is 9 feet and prevailing winds come from the south/southwest. Over the course of hundreds of years the Harbor has provided a deep natural anchorage and attractive setting for fishermen, tourists and residents.

In recent years the Harbor has seen declining use as a commercial and fishing port and a rise in tourist-related uses. Where once there were numerous piers and wharves, now just three piers remain: MacMillan Wharf, Fisherman's Wharf, and the Coast Guard Pier. Only MacMillan Wharf, constructed in 1957, is owned and operated by the Town. Its

uses include fishing berths, some fish off-loading facilities, the Marine Superintendent's office and facilities for whale watching, sailing excursions, Harbor tours, charter fishing, and drop-off points for cruise boats.

A breakwater built by the Army Corps of Engineers protects MacMillan and Fisherman's wharves and Harbor moorings from the southeast. Records show that the Harbor shoreline was located just seaward of Commercial Street before fill extended the shore to its present configuration. Shoaling occurs around piers and the Federal Breakwater. Shoaling at the east end of the breakwater is such that only boats drawing less than four feet can pass through (shoaling also occurs in other locations, notably at the west end of the Harbor).

Additional marine structures in the Harbor include the following: Federal rubblestone dike running from the West End Rotary to Wood End, used for fishing and recreation;

Eight designated Town Landings: Pearl Street Extension, Freeman Street Extension, Gosnold Street Extension, Court Street Extension, Atlantic Street Extension, Good Templar Place, the Coast Guard Station alley on the west side, and Captain Jack's Wharf.

Three non-designated landings owned by the Town: Kendall Lane, Johnson Street and the West End parking lot. The Town-owned West End Boat Ramp, which is limited in its usefulness by tidal constraints, the lack of support floats and limited parking.

The Town issues approximately 470 moorings, renewable each year for a fee. These include individual moorings and rental moorings (for marinas, clubs, hotels, etc.). Marina facilities include a total of some 160 moorings and approximately 65 slips. Water-based transportation is dominated by seasonal ferry excursion lines running to and from Boston, Plymouth and Gloucester. Freight service is non-existent.

Water Quality:

Administered by the Harbormaster or Marine Superintendent, a 300 gallon pumpout boat services the Harbor. A 1993 Town General By-law prohibits discharge of septic or other waste from any vessel.

According to a 1994 study undertaken by the Woods Hole Oceanographic Institute's Sea Grant New Initiative Program, Massachusetts Coastal Zone Management (CZM), and local citizens, major water quality concerns center on land-generated marine debris, discharge from street drains, septic discharge from waterfront systems and boats, boat-generated marine debris, and nets and lines lost at sea. Public awareness was lacking with respect to the impacts of debris, the existence of disposal facilities and appropriate means of handling garbage in a marine setting.

B. Flood Hazard Areas

Under terms of participation in the Federal Flood Insurance Program, new shorefront development must meet flood-proofing standards. Provincetown has an estimated 24 dwellings along Commercial Street located in a flood velocity zone or V Zone. These are high risk areas where storm surge or direct wave action occurs. According to the Open Space and Recreation Plan, "State and local wetlands protection legislation should help prevent future development in the high hazard Harbor area." (OSRP, p. 30)

A Zones are located landward of V Zones; these are areas where flooding can be expected when 100-year storm events occur, primarily salt marshes and shore areas up to 15 feet above sea level. The municipal parking lot and Town Hall Square are located in an A Zone. Past hurricanes and major storms have caused considerable structural damage and erosion.

C. Dunes, Beaches, Coastline

Provincetown is a barrier beach created by deposition and accretion, sea level rise and shifting sands some 5,000 years ago. Geologically much younger than the rest of the Cape, steep dunes were created by sand built up by wind on the wave-driven landform.

"The dunes exhibit the same essential features as the classic ones in the National Seashore, but they are "older, relatively stabilized by vegetation and retaining walls and more manipulated by development." They pose "significant development obstacles due to erosion and aesthetic issues, while at the same time being very attractive for residential development owing to the magnificent water views they afford." (OSRP, p. 23)

Twenty of Provincetown's dune hills reach close to 100 feet in height. In 1991, a High Elevation Protection District was established, protecting particularly scenic and vulnerable dunes.

Provincetown's 21.3-mile shoreline is actively used for swimming, fishing, shell fishing, boating and other recreational pursuits, especially during the summer months. Most of this activity is concentrated in the major marine areas: Provincetown Harbor, Herring Cove (New Beach), Hatches Harbor, and at sea.

D. Shellfish Habitats

Provincetown has some 480 acres of Harbor shellfish beds. They include sea clams, soft-shell clams, quahogs, blue mussels, and occasionally bay scallops. All are harvested recreationally, except for sea clams, for which commercial licenses are issued. The popularity of shell fishing (over 200 recreational permits are issued annually) means that the shellfish population is constantly challenged. Hatches Harbor is seasonally off-limits to shell fishing due to the presence of parasites.

Over two million quahog seeds were planted on the West End flats in 1992. Other aquaculture projects include a 30,000 seed quahog bed in the West End and an experimental spat collection for oysters and steamers. (OSRP, p. 42)

E. Coastal Access

Public facilities providing access to the coast include the eight designated Town landings, MacMillan Wharf, and numerous right-of-ways in the Harbor area, some of which are generally not recognized as such by the public.

F. Federal, State, Local Regulations

Local, state and federal authorities regulate the Harbor. The State regulates construction, dredging, filling, changes in use, and other activities in filled and flowed tidelands and other waterways under Chapter 91 of the Massachusetts General Laws. Dating from 1866, with several major amendments and regulatory revisions between 1979 and 1990, Chapter 91 is based on the time-honored public trust doctrine, which regards as common property the air, running water, sea, and seashore. Amendments and revisions stress water-dependency of uses and provision of public access to the water and water-dependent facilities, and encourage local involvement in Chapter 91 licensing through municipal Harbor plans. Chapter 91 is applicable to tidelands and great ponds, as well as along some rivers and streams. "Tidelands" include all land currently or formerly underwater, including land that is always submerged and inter-tidal areas (below the historic mean high water mark).

There are two types of tidelands: 1) Commonwealth tidelands which are, for most of the Massachusetts coastline, all lands below the low water mark extending out three miles to the limit of state jurisdiction. This area is owned by the Commonwealth or held by private persons in accordance with the public trust. 2) Private tidelands are those areas between mean high and mean low water which are usually privately owned but on which the Commonwealth reserves and protects public rights of fishing, fowling and navigation.

In Provincetown there are three jurisdictional distinctions as follows:

1) Lands east of Howland Street, outside the former Provincelands, which were formerly part of Truro. These "private tidelands," were owned by adjacent upland landowners, but were subject to easements granting public rights of fishing, fowling and navigation. As such, they are governed by the same rules as land titles in any other coastal Town in Massachusetts.

2) The coast west of Howland Street, or "Town" lands in the former Provincelands where "private ownership of property is limited to the area landward of the (historic) mean high water mark," with land on the waterward side designated Commonwealth tidelands.

3) "Wild lands" in the former Provincelands, located northeast of Howland Street. This land is owned by the Commonwealth and managed by DEM, except where the National Seashore has assumed control. No private ownership is possible without explicit grant of the Commonwealth.

Through the Army Corps of Engineers (ACOE), the federal government regulates dredging, filling and other activities below the mean high water mark. Local zoning regulates the uses, density and dimensions of waterfront development, and additional local rules and regulations apply to the management and operation of MacMillan Wharf. The National Park Service regulates and otherwise controls all activity within the Cape Cod National Seashore.

Other coastal activities are regulated through various laws as follows: Section 404 of the Federal Clean Water Act and Section 401 of the State Clean Water Act regulates the effects of Harbor activities on water quality.

Chapter 131, Section 40 of the State Wetlands Protection Act regulates the Harbor and its wetlands through the local Conservation Commission.

The State Division of Marine Fisheries through the Natural Heritage Program regulates shellfish and conservation areas, as well as the Endangered Species Act.

Coastal waters are regulated by the State CZM, and the ACOE conducts federal consistency review.

Annual private mooring permits are issued under the jurisdiction of the Marine Superintendent.

2.2.4 ANALYSIS

A. Environmentally Sensitive Resources

Provincetown Harbor:

Harbor-related issues include overcrowding, access problems, commercial/recreational conflicts, and water quality concerns. The Harbor Plan for the Town of Provincetown addresses these and other issues. Key themes expressed in the goals and objectives outlined in the Harbor Plan are the following:

- prioritizing water-dependent uses
- balancing multiple (compatible) uses
- protecting and enhancing tourism and recreation
- reorganizing responsibilities for the effective management of public facilities and interests

- enhancing and protecting public access
- supporting the fishing industry
- improving launching ramps
- improving moorage and berthing for small boats.

Beaches:

Having no dedicated beach of its own, the Town only has jurisdiction over the Harbor beach areas that are used de facto by the public. Continued and improved access to these areas as well as attention to water quality and maintenance concerns should be a Town priority.

Tidal flats:

Expansive tidal flat are among Provincetown's defining features and support a variety of shellfish. Because of the popularity of shell fishing, both commercially and recreationally, there is always pressure on the shellfish supply. The Town should ensure the protection of its tidal flats from road runoff contamination and other degradation. Efforts to protect and restore shellfish beds should be continued and supported.

B. Coastal Land Use and Water-Dependent Uses

Revised Chapter 91 regulations call for a renewed commitment to water-dependent uses on the waterfront. This comes at a time when Provincetown's large vessel fishing industry is in decline, though pleasure boating and other recreational use of the Harbor and shoreline is very popular, and some small boat fishing remains active. The Community Vision Project Survey clearly indicates that public access to the waterfront is very important to the people of Provincetown. Clearly, established rights-of-way should be identifiable and usable but respect must be paid to the rights of shorefront property owners.

C. Water Quality and Impacts on Use of the Harbor and Shoreline

To ensure that a high level of water quality is maintained, steps should be taken to minimize septic discharges, manage road runoff, control marine-related debris (both land- and boat-generated), eliminate discarding of marine nets and lines at sea and eliminate petrochemical discharge. Public education relating to the impacts of debris, proper use of disposal facilities, and appropriate procedures for handling garbage in a coastal setting should be an essential component of such efforts.

D. Shorefront Use Conflicts and Adequacy of Facilities

In the not-so-distant past, commercial fishing dominated use of the Harbor and piers. Today, conflicts exist between a wide variety of recreational and commercial marine activities vying for space in the Harbor and on MacMillan Pier. Though recreational use is ever-increasing and diversifying, Provincetown Harbor has a reputation as an unfriendly port, lacking adequate signage and information,

convenient provisions, sufficient launch service, and laundry and shower facilities for boaters. The Harbor Plan stresses the need for careful management of uses and delineation of responsibilities to ensure compatibility of uses on the waterfront.

E. Dredging and Maintenance Needs

Navigation in the Harbor has become increasingly difficult in recent years due to shoaling along both ends of the Federal Breakwater (particularly along the East End) and around the piers. In addition, certain areas of the Harbor lack sufficient depth and have resulted in the grounding of vessels. Periodic dredging is necessary to ensure the viability of the Harbor. In accordance with Goal 2, Policy M., dredge material should be used for beach nourishment in areas subject to erosion wherever feasible.

The Town should develop a beach nourishment program involving the Conservation Commission and Harbor Committee. The Municipal Harbor Plan recommends establishment of a regular maintenance program for areas outside of the Federal channel, not under the responsibility of the Coast Guard. The Plan also recommends removal of mooring floats within the Harbor navigation fairways and channels.

F. Public/Private Shore Access Issues

The Commonwealth tidelands that make up most of Provincetown's waterfront have been ignored and encroached upon by abutting property owners for years, reducing public access to the waterfront and potentially affecting shellfish populations. Enforcement of revised Chapter 91 regulations by the state is entering a new, more stringent phase and should ultimately result in clarification of public and private use and access rights along the waterfront.

In August of 1996 a Waterfront Access Gift Fund was established by the Board of Selectmen "to receive Chapter 91 public benefit mitigation funds and other donations, the proceeds of which shall be used without further appropriation to enhance the public's access and use and enjoyment of the shoreline and waters of Provincetown Harbor, including but not limited to maintenance and improvements of Town landings and other public properties for water dependent use."

The Harbor Plan recommends development of an administrative process for "collecting, expending and accounting for the Harbor Access Fund." (p. VI-2)

The Harbor Plan also recommends the establishment of a volunteer committee to research historic rights-of-way to the Harbor in the hopes of re-establishing important accessways.

2.2.5 ACTIONS/IMPLEMENTATION PROGRAM

ACTION 1: Designate a "working waterfront" overlay zone to ensure the preservation and expansion of traditional maritime uses. All new

buildings or accessory uses constructed within such zone should directly benefit maritime-related uses and should complement the Town's historic character.

ACTION 2: Establish a committee to research and document public access areas to and along the shoreline and, where possible, reestablish and/or designate traditional rights-of-way to the shore through appropriate legal means. This should be coordinated with the Chapter 91 licensing process.

ACTION 3: Identify sensitive coastal areas where public access and development should be restricted in order to maintain the integrity of coastal features, and take measures to protect these areas and maintain the historic waterfront.

ACTION 4: In accordance with the Cape Cod Regional Policy Plan, strengthen local regulations, including those governing development, health, the Harbor, and wetlands, beyond minimum state and federal standards to reduce the potential impacts of coastal storms on public health and safety, wetlands shellfish populations and the economy. (Refer to Goal 2 and the Policies following at the beginning of this section).

ACTION 5: Develop a list of projects that provide or enhance coastal access and use of the shoreline to be used in conditioning Chapter 91 licenses, including maintenance and upgrading of Town landings to enable legal public access to coastal waters.

ACTION 6: Develop an administrative process for "collecting, expending and accounting for the Harbor Access Fund as established by the Waterfront Access Gift Fund.

ACTION 7: Evaluate long-term dredging and dredge disposal needs and alternatives.

ACTION 8: Evaluate areas appropriate for aquaculture in coordination with local planning efforts. In so doing, minimize conflicts with other users of coastal and marine waters (considering mooring areas, recreational boating, natural resource habitats, and tidelands ownership issues).

ACTION 9: Encourage "soft" solutions to coastal erosion, such as beach nourishment, planting of beach grass, and related measures, as an alternative to "hard" coastal engineering structures, and amend local regulations to address this issue.

ACTION 10: Adopt a "No Discharge" designation for Provincetown Harbor to protect the eelgrass and shellfish resources located just off shore. The intensity of recreational and commercial use of the area, the existence of pump-out facilities and the fact that residents use the entire shoreline as a public beach make this designation critical to protect the health and well being of the Town's residents.

2.3 WETLANDS, WILDLIFE AND PLANT HABITAT

2.3.1 INTRODUCTION

Although Provincetown has the smallest land area of any Cape Cod Town (excluding National Seashore holdings), it is unusually rich in natural resources. Dunes, wetlands, forested areas, rare plant and wildlife species, and a variety of uncommon habitats, such as white cedar swamps, quaking bogs, sphagnum bogs, and coastal plain pond shores, are located within Town.

Because of its location, Provincetown is an important stopover for migrating birds, and many species exist here at or near the northernmost or southernmost limits of their range. Recent public attention has focused on a number of significant areas including the Shank Painter Pond/Bog ecosystem, Clapps Pond, Foss Woods, and Hatches Harbor, bringing natural resource issues to the fore locally. Many of the most important natural resource areas are located in the National Seashore, while the two largest ponds in Provincetown (Clapps and Shank Painter) are in divided ownership, with portions in the National Seashore. Cooperative efforts between Town and National Seashore authorities will continue to be necessary to protect these resources from degradation resulting from inappropriate use, new development and overuse.

Provincetown's 1995 Open Space and Recreation Plan (OSRP) provides additional natural resource inventory, supplementing this and other sections of the Natural Resource Element.

2.3.2 GOALS AND POLICIES

GOAL 1: To preserve and restore the quality of inland and coastal wetlands in Provincetown.

POLICY A: Wetland alteration shall not be permitted except as provided in these Goals and Policies. As an exception, where there is no feasible alternative, water-dependent projects involving wetland alteration and appropriate mitigation may be permitted subject to the approval of all permitting authorities. Such permission may be granted subject to a finding that there is no feasible alternative location for the project and that any necessary alteration is the minimum necessary to accomplish the goals of the project. Appropriate mitigation shall not include wetland creation or replication.

POLICY B: Vegetated, undisturbed buffer areas of at least 100' width shall be maintained and/or provided from the edge of coastal and inland wetlands including isolated wetlands, to protect their natural functions. This policy shall not be construed to preclude pedestrian access paths or construction and maintenance of water-dependent structures within the buffer area, which may be permitted at the discretion of permitting authorities where there is no feasible

alternative to their location. The Cape Cod Commission and the Town Conservation Commission shall require a larger buffer area where necessary to protect sensitive areas or where site conditions such as slopes or soils suggest that a larger buffer area is necessary to prevent any adverse impact to wetlands and associated wildlife habitat. In making this determination, the Commission shall use the Wetland Buffer methodology, Technical Bulletin 96-00x as guidance.

Where a buffer area is already altered such that the required buffer cannot be provided without removal of structures and/or pavement, this requirement may be modified by the permitting authority, provided it makes the following findings: 1) that the proposed alteration will not increase adverse impacts on that specific portion of the buffer area or associated wetland and 2) that there is no technically demonstrated feasible construction alternative.

POLICY C: Disturbance of wetlands and buffer areas for operation and maintenance of underground and overhead utility lines (electrical, communication, sewer, water, and gas lines) may occur. Installation of new utility lines through these areas may occur where the permitting authority finds that the proposed route is the best environmental alternative for locating such facilities. In all instances, disturbance of wetland and buffer areas shall be minimized and surface vegetation, topography and water flow shall be restored substantially to the original condition.

POLICY D: Storm water management plans for new development shall preclude direct discharge of untreated storm water into natural wetlands and water bodies. New storm water discharges shall be located a minimum of 100' from wetlands and water bodies.

POLICY E: Measures to restore altered or degraded inland and coastal wetlands, including nonstructural bank stabilization, re-vegetation and restoration of tidal flushing, should be encouraged. However, such areas should not be used as mitigation for wetland alteration projects (mitigation banking).

POLICY F: Construction of artificial wetlands for stormwater and wastewater management may be permitted in appropriate areas where there will be no adverse impact on natural wetlands, waterways, and groundwater.

GOAL 2: To prevent the loss or degradation of critical plant and wildlife habitat, to minimize the impact of development on plant and wildlife habitat, and to maintain existing populations and species diversity.

POLICY A: Developments of Regional Impact (DRI) that propose to alter undeveloped areas shall contain a natural resources inventory. Such inventory shall identify the presence and location of wildlife and plant habitat, including vernal pools, and serves as a guide for the layout. Developments shall be planned to minimize the impacts to

wildlife and plant habitat. In sensitive areas, Natural resources inventories shall be prepared in accordance with Cape Cod Commission Plant and Wildlife Habitat Assessment Guidelines Technical Bulletin 92-002.

POLICY B: Clearing of vegetation and alteration of natural topography shall be minimized, with native vegetation planted as needed to enhance or restore wildlife habitat. Standing specimen trees shall be protected. The permitting authority may require designation of building envelopes (for structures, driveways, lawns, etc.), where appropriate, to limit removal of vegetation.

POLICY C: Fragmentation of wildlife and plant habitat shall be minimized by the establishment of greenways and wildlife corridors of sufficient width to protect not only edge species, but species that inhabit the interior forest, as well as by the protection of large unfragmented areas, and the use of open space or cluster development. Wildlife shall be provided with opportunities for passage under or across roads and through developments where such opportunities will maintain the integrity of wildlife corridors. Fencing shall not be constructed so as to interfere with identified wildlife migration corridors.

POLICY D: Development should only be permitted where the proponent can demonstrate that such development will not adversely affect critical plant and wildlife habitat areas as identified in this plan. A wildlife and plant habitat management plan may be required when development or redevelopment is permitted in critical wildlife and plant habitat areas.

POLICY E: Development shall be prohibited in vernal pools and within a minimum 100' buffer around these areas. This buffer area may be increased up to 350' based on the guidelines contained in Cape Cod Commission Wetland Buffer Methodology, Technical Bulletin 96-00x. These areas shall not be used for storm water management.

F. Measures to restore altered or degraded upland habitat areas should be encouraged where ecologically appropriate.

2.3.3 INVENTORY

A. Wetlands in Need of Special Protection

Wetlands are areas of land which are inundated or saturated for a portion of each year. These areas tend to exhibit hydric soil conditions, and contain greater than fifty- percent wetland vegetation. Wetlands serve a variety of functions including aquifer recharge, flood control, pollution prevention, and fish and wildlife habitat. Provincetown's location, geological makeup, high water table, and vulnerability to the forces of wind and water make its wetlands extremely fragile and

susceptible to degradation from development and accompanying septic waste.

Provincetown has many different types of wetlands in need of special protection including sphagnum bogs, quaking bogs, cedar swamps, and salt marshes. The White Cedar Swamp is the only one on a barrier beach in New England, on the East coast and possibly in the world. All such wetlands are identified as critical habitat areas (listed below). The Shank Painter quaking bog system is especially vulnerable due to its size, habitat diversity and evidence of previous degradation. These bogs exist in other places, but no where else are they part of a barrier beach system. It is the largest quaking bog in the world, and serves as a food factory and habitat for most of our wild animals.

B. Local Wetlands Protection

The Town's Zoning By-laws contain several provisions for the protection of wetlands and habitat areas. A setback of 35 feet is required from the mean high water mark of any salt water body for structures other than piers, wharves and other facilities requiring waterfront contact. In addition, the definition of lot area excludes wetlands from calculations, requiring that the minimum lot area be comprised entirely of upland. The Zoning By-law (Section 3700) prohibits development in "Inland Wetland Areas" 200 square feet or greater. Following a contour line two feet above the outer (upland) boundary of the wetland delineates such areas.

Finally, Section 4331 of the By-laws enables the use of a Development Impact Statement as a planning tool for any project requiring site plan or special permit approval. The purpose of the Impact Statement is to assess project impacts with regard to runoff, water quality, clearing, grading, septic systems, wetlands, and the ecology of the area.

C. Wetlands Restoration

Planning and research efforts have been ongoing since 1986 concerning salt marsh restoration efforts at Hatches Harbor. A Memorandum of Understanding (MOU) has been completed between the Cape Cod National Seashore and the Town on the restoration of some 90 acres of salt marsh. Other involved parties include the Federal Aviation Authority (FAA), Army Corps of Engineers (ACOE), and the U.S. Environmental Protection Agency (EPA). It has been determined that restoration involving reintroduction of tidal flow through a redesigned culvert system may be carried out in a manner consistent with current and future operations at Provincetown Airport. The project will proceed incrementally to ensure that it does not cause environmental harm or negatively affect the airport or navigation aids. A runway extension and the addition of runway safety areas are also proposed for the airport. Under the latest proposal this would call for the filling of four acres of wetlands. The airport project is under review

by federal, state and regional agencies. By agreement in the MOU, the Hatches Harbor restoration can be used as wetlands mitigation for the airport safety project.

D. Wetlands Land Use Changes

Due to the small amount of remaining developable land and the high water table in Provincetown, development and subsequent septic system use is a constant threat to wetlands throughout Town. Shank Painter Pond, bisected by Route 6 in the 1950s, has since seen filling, pollution from substandard campground waste facilities and illegal dumping, as well as intense development pressure. Illegal dumping is also evident at Clapps Pond, as is erosion caused by dirt bike use.

E. Critical Habitat Areas

The Outer Cape has a wide range of coastal habitats supporting a diversity of organisms. The following are identified by the Association for the Preservation of Cape Cod's "Critical Habitat Atlas" and the Cape Cod Commission's "Cape Cod Significant Natural Resource Areas" map of 1996 identifies the following as critical habitat areas:

Sphagnum Bogs	Vernal Pools/Amphibian Breeding Habitats
Southern Shank Painter Pond System	Three identified pools
Quaking Bogs	Coastal Plain Pond Shores
Northern Shank Painter Pond System	All ponds, including Shank Painter, Clapps, Clapps Round, Pasture, Bennett, Great, Grassy
North of Harry Kemp Way	Salt Marshes
Two bogs west of Duck Pond	Along Town shoreline
In Pond to east of Pasture Pond	Shellfish Habitats
East of Grassy Pond	Throughout Town salt waters
Northwest of Telegraph Hill	Barrier Beaches
North of Route 6 near Atkins Mayo Road	Two State-designated beaches
Two bogs north of Clapps Pond	Critical Woodland Communities
Cedar Swamps	Southwest of Provincelands Visitor Center (American Beech)
Four swamp system northeast of Provincetown	near Atkins Mayo Road

Shank Painter Pond is the largest known quaking bog on a barrier beach system in the world and home to a number of rare and interesting plants and animals. Species including dragon's mouth orchid, adder's tongue fern, pitcher plant, nodding ladies' tresses, spadefoot toad, and eastern box turtle have been identified at the pond and associated bogs. "Although the state has not designated any Areas of Critical Environmental Concern...in Provincetown, the Shank Painter ecosystem would be the most obvious site and in 1979 state agencies suggested that the Town pursue such a designation." (OSRP, p. 43)

Mammals living in Provincetown include red squirrel, gray squirrel, white-tailed deer, raccoon, red fox, rabbit, skunk, opossum, shrew, muskrat, bat, weasel, mouse, vole, and coyote. In addition to the more common species, birdlife includes songbirds such as prairie warbler, pine warbler, northern parula warbler, red-eyed vireo, cedar waxwing, red-breasted nuthatch, horned lark, black-billed cuckoo and eastern phoebe. (OSRP, p. 40) Other notable bird species include northern harrier (marsh hawk), osprey, bald eagle, red-tailed hawk, black duck, and wood duck. Numerous frog, turtle, salamander, snake, and other amphibian and reptile species also make Provincetown their home.

Protection of rare piping plover nesting sites on the shore has caused sections of the National Seashore to be closed to off-road vehicles in recent years. The number of nesting pairs increased from three in 1988 to 29 in 1993 at Race Point alone, while 11 more pairs were officially counted in 1994 at Wood End by the State Division of Fisheries and Wildlife. A total of 109 nesting pairs of rare least terns were reported in 1994. In addition, numerous pelagic (or open sea) birds are supported by Stellwagen Bank and the waters off Provincetown, including fulmars, gannets and shearwaters, and the diversity of fresh and salt water wetlands provide habitat for a variety of waterfowl and wading birds. The ever-popular Harbor seal makes frequent appearances in Hatches Harbor and whales are seen in Provincetown Harbor. And, lower in profile but significant nonetheless, a rare invertebrate, the water-willow borer moth, nests in the hollow stems of water willows at Jimmy's Pond.

The Outer Cape Capacity Study points out that, in addition to the impacts of development and subsurface waste disposal on environmental resources, intense recreational use can also take its toll. The Capacity Study is an excellent resource for detailed information about habitat impacts and priorities for "open space considerations."

F. Rare Species

The Natural Heritage and Endangered Species Program has recorded occurrences in Provincetown of seven endangered species, ten threatened species and seventeen species of special concern. The end of this section provides descriptions of all these rare species.

G. Vernal Pools

Vernal pools, seasonal fresh water bodies in isolated depressions, are important amphibian and invertebrate habitat areas. Not every little spring pool of standing water is a "vernal pool" but those that are have a rich diversity of life and provide significant quantities of food to large populations of animal life. Even though much of this activity seems

invisible, it is going on around us and is critical to maintaining the overall ecosystem.

In order to be protected under state law, they must be mapped and certified by the Massachusetts Natural Heritage and Endangered Species Program. Three identified vernal pools in Provincetown are located within the Cape Cod National Seashore. Another pool was certified in 1999 by the MNHESP at 35 Conwell Street. Other pools may exist but have not been mapped and certified.

H. Wildlife Habitat and Migration Corridors

A recent report by Sabatia, Inc. noted a stretch of almost unbroken woodland area, or a greenbelt, that extends from the Foss Woods parcel near the Truro line, straddles Route 6 and continues to the Clapps Pond and Shank Painter Pond areas. This area functions as a wildlife migration and dispersal corridor that stretches across Town to Clapps Pond. The report cites the importance of these wooded areas as refuges from the heat and openness of the dunes and the built-up environment along Commercial Street. The acquisition of the Foss Woods parcel has protected a significant patch of forestland for migration and one that contains extremely rare species such as the checkered rattlesnake orchid, found in only one other location on Cape Cod.

While Provincetown lost a smaller percentage of forestland over the past quarter century than did the Cape as a whole, the importance of any loss of this crucial wildlife and plant habitat is underscored by the scarcity of forestland overall in Provincetown. By way of comparison, as of 1990, Truro had 7330 acres of remaining forestland, Wellfleet 6441 acres and Provincetown only 1572 acres, despite the fact that growth rates were higher in Truro and Wellfleet than in Provincetown. It is important to keep enough forest, wetlands and other open space in large continuous areas for birds and animals to move from one area to another.

Some 480 acres of shellfish beds are protected along the harborfront and, as noted above, in the Coastal Resources section, quahog seeds have been planted on the West End flats. Hatches Harbor is seasonally off limits to shell fishing.

Designation of the Stellwagen Bank National Marine Sanctuary in 1993, stands to benefit Provincetown marine life. The widespread emergence of eco-tourism adds to the economic viability of such environmental protection efforts. While the local fishing industry has fallen off significantly in recent years, whale-watching cruises from MacMillan Wharf have become an important aspect of the tourist economy over the last fifteen years or so. The Stellwagen/Cape Cod Bay area has been proposed as a critical habitat area for the endangered North American right whale by the National Marine

Fisheries Service. Other marine mammals include finback whales, humpback whales, dolphins, and Harbor seals. (OSRP, p. 39)

2.3.4 ANALYSIS

A. Addressing Potential Conflicts with Wetlands Protection

The Regional Policy Plan for Barnstable County recommends that Cape Cod towns adopt local wetlands by-laws or ordinances that include measures to specifically protect vernal pools and isolated wetlands, enact policies of "no alteration/replication of wetlands for both public and private applicants," expand jurisdiction beyond 100 feet where appropriate, and improve enforcement. (p. 38)

The RPP also recommends improved wetlands mapping and development of a definition of wetlands that is acceptable to all involved parties. The RPP suggests that the local Conservation Commission work closely with the Board of Health in implementing these measures. In developing a local by-law that is consistent with RPP standards, the Town can work with the Cape Cod Commission to ensure that the by-law is simple and easy to apply, in recognition of the lack of Town staff. The Conservation Commission had its first Conservation Agent appointed in 1999 as part of the re-organization of the Department of Regulatory Management.

One of the primary problems facing Provincetown is wastewater disposal and related environmental and public health issues. Though densely developed, the Town still relies entirely on on-site subsurface disposal systems and, though soils are generally permeable, system failure does occur due to overloading, especially in the summer months. High permeability allows nitrogen to be transmitted to surface waters. As recommended in the RPP, consistent standards for the siting of new subsurface disposal systems should be developed to help minimize impacts.

A public education program would be helpful in better familiarizing the public with the uniqueness and sensitivity of Provincetown's natural resources, the types, locations and functions of local wetlands, and the threats that they face.

B. Critical Habitat Areas in Need of Special Protection

Much of undeveloped Provincetown is critical habitat area. Specific identifiable areas that may require special protection include Shank Painter Pond, the Clapps Pond/Duck Pond ecosystem and Jimmy's Pond.

Protection of habitat and endangered species should be made more explicit in the Development Impact Statement section of the Zoning Bylaw and consideration should be given to increasing the required lot

area in proximity to sensitive resources. Other potential measures include the institution of provisions for open space set-asides and dedications and mandatory clustering.

C. Wildlife Corridors and Strategies for Their Protection

As listed in the Goals and Policies at the beginning of this section: "Fragmentation of wildlife and plant habitat should be minimized by the establishment of greenways and wildlife corridors of sufficient width to protect not only edge species, but species that inhabit the interior forest, as well as by the protection of large unfragmented areas, and the use of open space or cluster development. Wildlife should be provided with opportunities for passage under or across roads and through developments where such opportunities will maintain the integrity of wildlife corridors." Foss Woods is a vital parcel of land already protected, but the Town should continue to protect the greenbelt corridors as they extend to Clapp's Pond, to the Truro line and Shank Painter Road.

2.3.5 ACTIONS & IMPLEMENTATION PROGRAM

ACTION 1: Maintain accurate, appropriately scaled and accessible wetlands maps for use in local regulatory programs. Maps should include isolated inland wetlands and vernal pools.

ACTION 2: Develop a clear and acceptable definition of the boundaries of wetlands and set a consistent standard for siting new subsurface disposal systems in proximity to these areas; Improve and retro-fit areas with failing systems.

ACTION 3: Continue improving the mitigation plan to address existing storm water management problems involving runoff and drainage systems adversely affecting water quality in wetlands and water bodies.

ACTION: 4: Develop a public wetlands education program, addressing the types, locations and functions of Provincetown's wetlands and other critical habitats and the threats facing them.

ACTION 5: Educate Town officials, landowners and other citizens on land preservation options in order to ensure the protection of critical habitat areas. Methods of preservation include regulatory measures such as mandatory cluster subdivisions, DRI set-asides and minimum lot size increases; Non-regulatory measures include fee acquisition, access easements and conservation restrictions.

ACTION 6: Improve management of Town land holdings, paying special attention to littering, beach cleanliness, illegal waste disposal and erosion caused by dirt bike use. Dedication of specific Town holdings to conservation and clear definition of uses for other Town properties, including authority over harborfront beaches, can also help establish Town protection priorities and mitigating the impacts of degrading uses.

ACTION 7: Add language developed by the Planning Board, Conservation Commission and Zoning Board of Appeals to the Development Impact Statement section of the Zoning Bylaw ensuring more explicit protection of habitat and endangered species.

ACTION 8: Identify and certify any vernal pools within the Town in collaboration with the Natural Heritage and Endangered Species Program.

ACTION 9: Establish guidelines within the Zoning By-law and other wetlands regulations to include expanded wetland buffers and a prohibition of wetland replication.

ACTION 10: Develop a clear cutting and site disturbance by-law to protect wildlife corridors and critical plant and animal habitat.

2.3.6 APPENDIX

A. Rare Species (as identified by the Natural Heritage and Endangered Species Program)

ENDANGERED SPECIES

This classification refers to any species of plant or animal in danger of extinction throughout all or a significant portion of its range, and species in danger of extirpation as documented by biological research and inventory.

Shortnose Sturgeon

One of the smallest species of sturgeon, rarely exceeding 1 meter in length, this fish winters in saline estuaries and the open ocean, with spring habitat including freshwater rivers and estuaries. There are no recently documented occurrences in Provincetown.

Sea Lime Grass

No recorded sightings since 1913.

Northern Right Whale

Also on the federal endangered list.

Spine-Crowned Clubtail

No verifiable observation of this plant species has occurred in Provincetown since 1878.

Weak Rush

The first and last sighting of this plant species in Provincetown occurred in 1984.

Oysterleaf

A distinctive perennial that flowers in August, the Oysterleaf is found on the foredunes of beaches where there is active sand deposition. It is susceptible to damage from off-road vehicles, foot traffic and storms. First observed in Provincetown in 1974, the Oysterleaf was seen locally as recently as 1992.

Lion's Foot

Not verified in Provincetown since 1905.

THREATENED SPECIES

This term applies to any species of plant or animal likely to become an endangered species in the foreseeable future throughout all or a significant portion of its range. It also defines any species declining or rare as determined by biological research and inventory and likely to become endangered in the foreseeable future.

Blueberry Sallow

This invertebrate was last reported locally in 1983.

Few Fruited Sedge

This plant was last officially observed in 1987.

Gerhard's Underwing Moth

Last observed in Provincetown in 1981.

Piping Plover

This small shorebird is perhaps Cape Cod's most well known rare species as a result of debates over off-road vehicle use threatening nesting sites. Listed as a threatened species on the federal level as well, the Plover requires sandy beaches which are relatively flat and free of vegetation, preferring the dry light-colored sand found along the outer coastal shores. They often nest in the narrow areas between the high tide line and the foot of coastal dunes. The Piping Plover is protected at two sites in Provincetown.

Least Bittern

This smallest member of the Heron family inhabits freshwater wetlands where cattails and reeds predominate. This wading bird is thought to breed at less than 20 wetland sites in Massachusetts.

Adder's-Tongue Fern

Adder's Tongue is a small terrestrial fern, up to a foot in height, which is found in boggy meadows, marsh borders, wet fields, and moist woodland clearings where they thrive in open and sunny habitat. Once widespread in Massachusetts, there are currently eight known occurrences statewide.

Prickly Pear

The only cactus that is widespread in the eastern United States, Prickly Pears grows in sprawling clubs 2 to 3 feet across and generally less than a foot high. On the Outer Cape, it grows in dry, sandy fields, dense grassy areas which have been mowed, cemeteries, and roadside embankments.

Golden Club

This is an aquatic plant generally found in silty, muddy or peaty bottoms of shallow ponds, bogs and marshes.

Water-Willow Stem Borer

This nocturnal moth is found only in southeastern Massachusetts and nowhere else in the world. It is always found in association with water willows in shallow waters where they lay their eggs. Research indicates these moths may depend on water level fluctuations unique to this part of the state. They are vulnerable to changes in hydrology and to pesticides, as well as trampling of water willows along paths near pond edges. This species is also a candidate for federal listing with the U.S. Fish and Wildlife Service.

Eastern Spadefoot

A nocturnal, burrowing toad, the Spadefoot requires sand or sandy loam soils in pitch pine barrens, coastal oak woodlands or sparse shrub growth, interspersed with temporary ponds. It burrows up to eight feet below the surface of the ground, coming up to breed after heavy rains. With documented home range of up to 108 square feet, this species is vulnerable to habitat loss and pesticide use.

SPECIAL CONCERN SPECIES

This category includes any species of plant or animal which has been documented by biological research and inventory to have suffered a decline that could threaten the species if allowed to continue. Also, any species that occurs in such small numbers or with such restricted distribution or specialized habitat requirements that it could easily become threatened in Massachusetts.

Coastal Heathland Cutworm

Last observed locally in 1982.

Chain Dot Geometer

This invertebrate has not been officially observed in Provincetown since 1891.

Broom Crowberry

Found only in southeastern Massachusetts, this is a low-growing, bushy evergreen shrub that blooms between March and May. It occurs in clumps or scattered patches in low shrub or moor communities, inhabiting dry, sandy flats. It can also be found in dry pitch pine/scrub oak barrens, relic sand dunes, and road bed embankments, often colonizing open areas created by human and natural disturbance.

Common's Panic Grass

This is a short perennial grass that grows in dry sandy fields and barrens on the coastal plain. It also is found in dry pitch pine/oak woods, colonizing openings and disturbed soil where there is little or no leaf litter. There are eight known occurrences in the state, its rarity due to habitat loss, forest succession, and the limits of its range.

Spotted Turtle

This turtle species dwells in marshy meadows, bogs, swamps, small ponds, ditches, and other shallow bodies of water. It often suns itself and hides in mud or debris when approached. Most occurrences are in southeastern Massachusetts.

Common Moor Hen (Gallinule)

Duck-like in habits but without webbed feet, the Moor Hen inhabits dense vegetation in freshwater marsh/cattail pond areas. It is currently documented at eight sites in Massachusetts.

Bushy Rockrose

This perennial flowering herb grows in dry open sandplains, low shrubby moors and grassy openings in pine barrens. It is also found occasionally in cemeteries and golf course roughs and is intolerant of shade and moisture.

Pale Green Pinion Moth

The first and last local sighting of this moth species occurred in 1983.

Coastal Swamp Metarranthis Moth

Not sighted in Provincetown since 1981.

Chain Fern Borer Moth

Not officially sighted since 1981.

Sandplain Blue-Eyed Grass

This low-growing perennial herb has blue flowers with yellow centers that bloom in summer. It occurs in loose colonies or as scattered individuals in dry, sandy fields near the coast.

Least Tern

The smallest of the four tern species that nest in Massachusetts, the Least Tern inhabits coastal beaches and barrier islands, nesting in dry, exposed unvegetated areas on sandbars or beaches between the drift line and the upland. It is vulnerable to predation and loss of nesting habitat due to natural disaster, development and recreational use of beaches.

Common Tern

The Common Tern frequently nests on barrier beach sand dunes and less frequently on sand spits and shingle beaches. It prefers areas with open ground for nesting and patches of vegetation as cover for the chicks.

Arctic Tern

The largest of the terns found on the Cape, the Arctic Tern migrates across the Atlantic Ocean to Africa and then south to Antarctica, traveling as much as 22,000 miles round-trip. It inhabits sandy, gravelly areas and nests above the high tide mark.

Eastern Box Turtle

This is a terrestrial turtle that inhabits fields, meadows, thickets, marshes, pastures, bogs, stream banks, and well-drained forest bottomland. It roams widely during rainy weather, often to forage in low, wet places. Home range is generally 150 to 750 feet in diameter and habitat loss has led to declining numbers. Since 1978, only 26 sites have been identified in the state.

Pine Barrens Zale

No recorded local observations since 1983.

WATCH LIST

Rich's Sea Blite

This is a fleshy prostrate plant found in the flat open areas in salt marshes above the level of daily tides. Massachusetts is the southern limit of its range.

In addition, the Checkered Rattlesnake Orchid was documented for the first time in Provincetown in 1994.

2.4 AIR QUALITY

2.4.1 INTRODUCTION

This part of the Natural Resources section addresses issues relating to air quality. Recognizing that Cape Cod generally enjoys good air quality, it is important to address the fact that in recent years, ozone levels have exceeded health-based standards during the summer months. Ground-level ozone is formed when volatile organic compounds (VOC) and oxides of nitrogen (Nox) – primarily from motor vehicle fueling and tailpipe emissions - combine in the presence of sunlight. Ozone occurs most frequently in the summer and it can affect people's health in a variety of ways: irritating the eyes, causing lung dysfunction, making existing respiratory ailments worse. An increase in traffic flow, boat usage, and bus traffic is no longer only a summer phenomenon – the tourist season continues to extend into the

“fringe” months before and after the summer season.

2.4.2 GOALS AND POLICIES

GOAL 1: To maintain and improve Provincetown’s air quality so as to ensure a safe healthful, and attractive environment for present and future residents and visitors.

POLICY A: Development of Regional Impact shall be in compliance with the Massachusetts State implementation Plan (SIP) and DEP’s Air Pollution Control Regulations, 310 CMR 7.00..

POLICY B: Mixed use Development which results in a net decrease in automobile mileage and air emissions should be encouraged.

POLICY C: Development and redevelopment should use energy-efficient means of construction, operation, and maintenance in order to reduce air emissions from stationary area sources.

POLICY D: Drive-through facilities should be discouraged in order to decrease emissions from engine idling.

2.4.3 ACTIONS/IMPLEMENTATION PROGRAM

ACTION 1: Examine existing land use patterns and identify suitable locations for mixed use development to reduce automobile travel and air emissions.

ACTION 2: Work with the Cape Cod Commission and the DEP to provide public education about ways that residents and businesses can improve air quality.

3. OPEN SPACE and RECREATION

3.1 INTRODUCTION

Provincetown's Open Space and Recreation Plan (1995) is adopted by reference and, although separately published, is declared as part of this Plan. While the OSRP constitutes the bulk of this Plan Element, the following represents a synopsis of the Inventory for easy reference, as well as minor updates and additions to conform to the revised Cape Cod Regional Policy Plan.

3.2 GOALS AND POLICIES

The Goals of the 1995 Provincetown Open Space and Recreation Plan (OSRP) are repeated below. For detailed "Objectives" refer to the OSRP, SECTION 8 GOALS AND OBJECTIVES. While many of the objectives effectively fulfill the standards expressed in the form of Goals, Policies, Minimum Performance Standards, and Development Review Policies in the RPP, this Plan supplements the OSRP by including many of the RPP standards below. The OSRP ACTION PLAN (SECTION 9) contains a comprehensive list of actions designed to implement the Goals and Objectives of the OSRP; these actions are consistent with and overlap with many of the issues addressed in the RPP standards.

GOAL 1: (Conservation): Protect and enhance Provincetown's fragile environmental resources and unique habitats.

GOAL 2: (Open Space): Preserve and manage sufficient areas to maintain a healthy natural environment, provide habitat for wildlife, encourage outdoor recreation and retain community character, not only within the National Seashore, but also throughout the Town.

GOAL 3: (Recreation): Meet residents' recreational needs by providing a balanced, year-round recreational program with adequate facilities, while protecting sensitive natural resources and keeping maintenance costs within a limited budget. Address the immediate need for a playing field to replace Evans Field.

POLICY A: Development or redevelopment within Significant Natural Resource Areas, as illustrated on the Cape Cod Significant Natural Resource Area Map dated September 5, 1996 as amended, shall be clustered away from sensitive resources and maintain a continuous corridor to preserve interior wildlife habitat. Where a property straddles the boundary of an area shown on this map, development shall be clustered outside the boundary. The primary function of these areas is the provision of ground water recharge, wildlife habitat, open

space, scenic roadways, appropriate recreational opportunities, and protection of the Cape's natural character.

POLICY B: Preserved open space within proposed developments shall be designed to be contiguous and interconnecting with adjacent open space, and shall be subject to permanent conservation restrictions.

POLICY C: Residential, commercial and industrial developments which qualify as Developments of Regional Impact shall provide permanently restricted upland open space in accordance with Cape-wide standards as spelled out in the RPP.

POLICY D: Developments of Regional Impact involving redevelopment proposals shall maintain the existing percentage of open space on the lot or shall provide off-site open space or make a cash contribution toward open space which offsets by an equal amount any reduction in open space resulting from redevelopment. In addition, redevelopment in Significant Natural Resource Areas shall provide a minimum of 30% of the upland area of the lot as open space or an equivalent cash or off-site contribution.

POLICY E: In the design of developments, significant natural and fragile areas shall be protected. These areas include critical wildlife and plant habitat, water resources such as lakes, rivers, aquifers, shore lands and wetlands, historic, cultural and archaeological areas, significant scenic roads and views, unfragmented forest (as mapped by the Cape Cod Commission), and significant landforms.

POLICY F: Where development is proposed adjacent to land held for conservation and preservation purposes, the development shall be configured so as to prevent adverse impacts on these lands and in a manner that maximizes contiguous open space

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3.3 INVENTORY

A. Open Space Areas

Town-owned

Provincetown's protected open space and recreation land is limited to its two cemeteries, totaling about 22-acres, eight Town landings, totaling less than an acre, nearly 15-acre Foss Woods, the 24.44 acre Railroad Right-of-way abutting Foss Woods to Howland Street, the 7.52 acre Shankpainter Pond uplands, the Water Resources District, and Motta Field, a 4 1/2-acre playing field. Evans Field, although historically an important ballfield, has recently been subject to increased groundwater and flooding, and has been reclassified as a protected wetland based on its changed vegetation .

Other Town-owned properties are used "de facto for conservation and recreation. The 45-acre Clapps Pond/Duck Pond parcel, which includes

Evans Field and the former burn dump, is an important wetland and woodland ecosystem." (OSRP, pp. 53-54) Other such properties include the 24-acre railroad right-of-way, almost all of which is owned by the Town. Plans to construct a paved bicycle path failed to be realized due to concerns about paving the track bed.

Herring Cove Beach (formerly state-operated and known locally as "New Beach") and Race Point Beach (where swimming is less popular due to stronger currents and surf) are both large public facilities with bathhouses and adequate parking. Both are operated by the National Park Service. De facto beach use by the public occurs throughout the Harbor area, particularly at the East End near the Town line, and at the West End boat ramp. The Town provides no lifeguards or facilities. Half-acre MacMillan Wharf is the primary Town-owned access point to the Harbor, used for a variety of transportation, commercial fishing, and tourist-related activities.

Cape Cod National Seashore

The National Park Service controls 4500 acres within the Cape Cod National Seashore, making it the largest landowner in Provincetown. The National Seashore is committed to protecting the coastal, fresh water, vegetative, wildlife, architectural, cultural landscape, and archaeological resources located in the Seashore.

State-owned

The 238-acre Route 6 right-of-way is owned by the Commonwealth of Massachusetts, varying in width from 250 to 650 feet. The road bed is generally less than 100 feet wide, with the shoulders providing a natural greenbelt (OSRP, p. 52). Discussions are ongoing with the Massachusetts Highway Department (MHD) about transferring control of the right-of-way to the Town. The Route 6A rotary, also owned by MHD, is being refurbished by the Town through a DEM grant to commemorate the site as the first landing spot of the Pilgrims. A 68.4-acre conservation area on the south side of Clapps Pond is owned by the Massachusetts Division of Fisheries and Wildlife, but it is largely unmanaged. No parking is provided at the site, and it has become an unauthorized "transfer station" for old tires, mattresses and other trash.

Private

Fourteen parcels of land totaling 28 acres are protected by the non-profit Provincetown Conservation Trust (PCT). Since being founded in 1980, the PCT has dedicated 14 parcels of land to conservation (28 acres total). The Open Space and Recreation Plan lists the eight largest parcels of "developable, unprotected land remaining in Provincetown." (OSRP, p. 56) The combined area of these parcels is 109 acres.

B. Recreation Areas and Facilities

Town

The Town only owns one "useful" playing field, 4.39-acre Motta Field, as well as two pocket parks, half-acre Chelsea Earnest Playground and quarter-acre Mildred Greensfelder Park. Town Hall Park and Bas Relief Park near the Monument are sitting parks only. (OSRP, p. 53)

The Recreation Department considers the 3.12-acre parcel abutting the railroad bed and the Route 6 right-of-way to have potential recreation use. It was formerly a turnaround for trains terminating at Provincetown. The usefulness of this site has not been thoroughly investigated.

Other

As noted above, the public has de facto use of a number of properties in both public and private ownership, including Harbor beach areas.

C. Ponds

Provincetown has nine state-recognized ponds covering approximately 94 acres, none of which drain to the sea. Three of the ponds are over ten acres in size and classified as Great Ponds of the Commonwealth, meaning they are publicly owned. Totaling 65 acres, they are Clapps, Great and Shank Painter. Smaller ponds can be privately owned and public access prohibited.

All of the freshwater ponds are Class B, the top ranking for ponds not used for public drinking water. "The significance of Provincetown's ponds lies not in their recreational importance, as is the case in other Cape Cod towns, but rather the fact that they are the Town's primary sites for rare plant and animal species and should be protected as sensitive habitat." (OSRP, p. 29)

D. Coastline

Provincetown has 21.3 acres of shoreline, used extensively for swimming, fishing, walking, and other recreational pursuits. As noted earlier, most lies within the National Seashore and the Town itself owns no beaches. In the Harbor area, the Town owns eight Town landings and there are numerous right-of-ways to the water.

E. Conservation Restriction Areas

While most of the land protected by the Provincetown Conservation Trust was donated outright, three parcels on Atkins Mayo Road totaling 3.11 acres are protected by conservation restrictions. Town owned Conservation areas include 15-acre Foss Woods, the 24.44 acre Railroad Right-of-way abutting Foss Woods to Howland Street and the 7.52 acre Shankpainter Pond upland.

3.4 ANALYSIS

For analysis of Provincetown's recreation, conservation and open space inventory and needs refer to the OSRP.

3.5 ACTIONS and IMPLEMENTATION PROGRAM

SECTION 9 of the OSRP is the ACTION PLAN for this Plan Element. Additional Actions are included here so that this Element conforms more closely to the Regional Policy Plan.

ACTION 1: Actively seek to protect high priority areas which have been identified by the Cape Cod Commission and Town boards as Significant Natural Resource Areas. Local by-laws and regulations including mandatory cluster, increased lot sizes and overlay districts, are encouraged to preserve the sensitive resources within the greenbelt.

ACTION 2: Work with the Provincetown Conservation Trust and the Open Space Committee in identifying, acquiring and managing open space to meet community needs.

ACTION 3: Maintain and protect public access for recreation to freshwater and saltwater bodies.

ACTION 4: Properties of environmental significance such as wetlands and rare species should be placed under the jurisdiction of the Conservation Commission or Conservation Trust.

ACTION 5: Where appropriate, encourage land owners to restore blighted or abandoned areas to open space, whether it be to landscaped parks or natural areas.

ACTION 6: Form a local Pathways committee to work with the Cape Cod Commission to identify and designate suitable locations for walking paths as part of the Cape Cod Pathways network.

ACTION 7: Establish procedures for approval and assessment of conservation restrictions.

ACTION 8: Work with the Cape Cod Commission to identify and designate suitable locations for bicycling facilities to further the Cape Cod Bikeways program. Improve connections between Town streets and bicycle paths within the National Seashore.

ACTION 9: Fund a study of Town owned property to identify parcels available for recreation to replace Evans Field.

4. HISTORIC PRESERVATION AND COMMUNITY CHARACTER

4.1 INTRODUCTION

Provincetown is historic in both the many important events that have taken place here, but also in what remains, an all wooden nineteenth century seaport village. Consideration of the physical constraints imposed by water supply limitations and septage disposal notwithstanding, there is strong public support for controlling Provincetown's growth solely in the interest of preserving Town character. The 1988 Master Plan stressed this point and the 1995 Community Vision Project Survey confirmed the overwhelming consensus for preserving Provincetown's scenic, historic character. As the 1988 Master Plan states, "Provincetown's future is uniquely linked with its past because so many of the attractive features of the Town stem from its historic character." (I-5)

Distinctive in its isolated setting, surrounded by water on three sides with magnificent dunes and beaches, Provincetown also consists of a concentrated, urban downtown, the result of historic settlement patterns marked by tiny lots, narrow streets and small, historic buildings. The traditionally fishing-based economy having largely given way to tourism, downtown Commercial and Bradford Streets are filled with vacationers throughout the summer months. The architectural review guidelines currently in place will not preserve Provincetown's collection of historic buildings far into the future. This will be important to our future quality of life and our economy.

4.2 GOALS AND POLICIES

GOAL 1: To protect and preserve the important historic and cultural features of the landscape and built environment that are critical to the heritage and economy of Provincetown.

POLICY A: Visible exterior additions or alterations to a historic structure shall be consistent with the building's architectural style and shall not diminish its historic and architectural significance.

POLICY B: The distinguishing original qualities of the visible exterior of an historic building, structure, landscape or site and its setting shall be preserved. The destruction, removal or alteration of historic material or architectural features shall be avoided. The Provincetown Historical Commission (PHC) reviews projects to determine if they substantially alter or destroy the visible exterior integrity of the building or the site

(see the Cape Cod Commission's Guidelines for Referral of Historic Structures).

POLICY C: Where development is proposed on or adjacent to prehistoric or historic archaeological sites or sites with high archaeological sensitivity as identified by the Massachusetts Historical Commission (MHC) or the PHC, it shall be configured so as to maintain and enhance such resources where possible. A pre-development investigation of such sites shall be required before a final design proposal is submitted. This will minimize difficulties and expense should the site be of archaeological or historic importance.

POLICY D: Historic buildings that may be slated for demolition or relocation should be preserved on-site and reused or incorporated into the overall design of the project. Distinguishing original stylistic features or examples of skilled craftsmanship of historic or aesthetic significance should be maintained unless the PHC determines another alternative to be historically appropriate.

POLICY E: The reuse of historic structures in the downtown area will have appropriate use for that particular building. New structures should be built of similar character, mass, proportion, and scale and the surrounding building fabric taken into account in the Historic District.

GOAL 2: To encourage redevelopment of existing structures as an alternative to new construction, and to ensure that future development and redevelopment respects the traditions and character of historic architecture and settlement patterns so as to protect and improve Provincetown's visual character.

Existing local zoning by-laws are consistent with many of the following standards. Nonetheless, inclusion of these standards reinforces regional and local objectives with respect to compatible design and reinforcement of community character. Applicable sections of the zoning by-laws that may require modification to meet these standards include the following:

Article I, Section 1320 of the Provincetown Zoning By-laws includes building height regulations, among other dimensional requirements; Article III, Sections 3050 and 3053 apply site plan review and design standards/landscaping requirements, respectively, to Commercial Business and Industrial Development; and Article 3, Section 3900, High Elevation Protection District, applies more restrictive height requirements and more detailed site plan and landscaping requirements to new construction and additions to all elevations above the 40' contour line. The scale by-law adds additional protection of the Town's character and historical integrity.

POLICY A: The height and scale of a new building or structure and any addition to an existing building shall be compatible and harmonious

with its site and existing surrounding buildings. The Town should continue to enforce its Building Scale by-law in order to ensure that new structures are harmonious with their surroundings and contribute to the historic development pattern of the Town.

POLICY B: Where proposed development and redevelopment is surrounded by buildings with distinctive architectural styles, building height and exterior materials shall be harmonious with the character of the surrounding area, and new construction shall not obscure views of existing historic structures from public ways. Where new buildings and additions are proposed, building mass and scale, roof shape, roof pitch, and proportions and relationships between doors and windows shall be harmonious among themselves and consistent with traditional Provincetown and Cape Cod architectural styles.

POLICY C: All new development shall successfully integrate into its surroundings in order to limit adverse visual impacts on the surrounding community. When new development is proposed adjacent to significant vistas, open landscapes, scenic roadways, historic districts, or individual historic structures, landscaped buffers shall be provided in order to limit visual impacts on these resources from the new development. Preservation of existing natural vegetation in these buffer areas is preferred.

POLICY D: Expansion or creation of strip development shall not be permitted. Redevelopment of existing strip development shall provide adequate buffers between parking areas and the street, and significant improvements to interior parking lot landscaping, as well as facade improvements and frontage buildings as necessary to enhance the visual character of the site.

POLICY E: Landscaping that integrates buildings with their environment, enhances architectural features and provides amenities for pedestrians shall be provided on-site by all new development.

POLICY F: All development shall implement landscape plans which address the functional aspects of landscaping, such as drainage, erosion prevention, wildlife enhancement, screening and buffering, wind barriers, provision of shade, energy conservation, sound absorption, dust abatement, and reduction of glare.

POLICY G: Exterior lighting in new development or redevelopment shall comply with standards including design, light source, total light cutoff, and foot-candle levels defined in the Cape Cod Commission's Exterior Lighting Design Standards, Technical Bulletin 95-001.

POLICY H: The installation of billboards, off-site advertising (excepting approved directional signs) internally lit signs and vending machines and flashing signs shall not be permitted.

POLICY I: All utilities for development including cable shall be placed underground except where the presence of natural features such as wetlands or archaeological resources prevents such placement.

POLICY J: Parking shall be located to the rear or the side of a building or commercial complex in order to promote traditional village design in commercial areas unless such location would have an adverse or detrimental impact on environmental or visual features on the site, or is completely infeasible. Recognizing the importance of the Harbor as a point of entry and the high visibility of the waterside of many buildings, parking areas should be designed and situated to have minimal impacts on views from the Harbor.

POLICY K: Open storage areas, exposed machinery, refuse and waste removal areas, service yards and exterior work areas, and parking lots shall be visually screened from roads and adjacent residential areas through fencing, stone walls or landscaping. Where landscaping is used as screening, it should be equally effective in summer and winter. Landscape screening should be installed at a height, density and depth that provides for the full desired effect within three years growing time. If plantings are not an alternative due to site limitations, the facilities shall be screened from public view with materials that are harmonious with the building.

POLICY L: The integrity of natural landforms and broad, open views of the landscape as seen from County or State designated scenic roads and Route 6 should be maintained.

POLICY M: Existing views to the shore from surrounding areas should be maintained wherever possible.

POLICY N: The planting of shade trees along roadways to improve the visual quality of the area is encouraged. Such trees should be tolerant of roadside conditions and a minimum of 3" caliper/diameter at breast height at the time of planting and should be of indigenous or historical type (i.e., elm or maple).

POLICY O: Parking lots should be designed to accommodate average usage (rather than peak day usage), have pervious surfaces where appropriate, and be planted with shade trees in the interior portions of the lot.

POLICY P: Landscape materials should be used which are suitable to the climate and location of the site.

POLICY Q: Distinguishing original features of a site such as trees of greater than 6" diameter, existing plantings and topography should be preserved where possible. Plantings on the street-facing and water-facing sides of buildings, window boxes and planters are encouraged. Benches or other seating and walkways within the development and linking to other buildings should be provided where appropriate.

POLICY R: Traditional building materials such as wood shingles and clapboards should be used for new construction and rehabilitation of existing structures.

POLICY S: In general, the size and color of all signs should be in scale and compatible with the surrounding buildings and street. When more than one sign is used, the graphics should be coordinated to present a unified image.

POLICY T: All exterior lighting should be part of the architectural and landscape design concept. Fixtures, standards and exposed accessories should be concealed or harmonious with other project design materials.

4.3 INVENTORY

A. Historic Resources

The "1993-1994 Comprehensive Survey Project Stage One," prepared for the Provincetown Historical Commission (PHC), lists known historic structures in Provincetown according to architectural type and significance. The survey concentrated on three areas of Town corresponding to the earliest periods of settlement: the West End, East End, and Town Center East. Collectively, the structures in these areas constitute the bulk of the National Register Historic District. "Roughly bounded by Provincetown Harbor and Bradford Street, running along Commercial Street", the district includes 1,830 properties, making it the second largest National Register District in the state (MHC Register, 1995). National Register designation gives the area recognition and, under the Cape Cod Commission Act, provides some protection from demolition and substantial alteration.

In addition to listing and describing examples of the impressive variety of historic architectural styles found in Provincetown, the building survey also cites fourteen "endangered" buildings; twelve of these structures are located on Commercial and Bradford streets and all are in the downtown area. The survey cites "neglect" as the most prevalent threat to these historic properties.

While not listed as "endangered," Provincetown's five identical firehouses (built between 1868 and 1872 and in service until 1991), are among the Town's most notable structures and are in need of upkeep. The Heritage Museum, a former church, is currently in a state of serious disrepair and has been targeted for restoration. Rose Wharf is another structure that raises preservation concerns; it dates from the 1850s and is the only remaining wharf of historic importance. Less obviously historic is the group of early twentieth century summer cottages at Beach Point, which represents a link to the beginnings of the local tourist economy.

Outside of the downtown area, significant historic resources include the dune shacks, lighthouses and shipwreck remains located within the National Seashore. The remains of a twentieth century fishing vessel in Provincetown Harbor has been partially documented. In general, resources in the National Seashore are not adequately inventoried or regulated and the dune shacks that are eligible for historic listing have not been listed by the National Seashore as of June 1997.

Historic District and Regulations

Using Cape Cod Commission guidelines for referral of historic structures, the Provincetown Historical Commission (PHC) reviews proposed alterations to structures listed on the National Register. Recommendations are then made to the local building inspector as to whether or not the proposal should be considered a Development of Regional Impact (DRI). The CCC guidelines under which the PHC operates are written for the entire Cape and are deliberately general, and therefore, are inadequate for preserving Provincetown's historic buildings and architectural heritage.

Local zoning includes height restrictions--a maximum of 2½ stories, with the actual height in feet varying according to roof type, as well as a scale by-law. Regulations applying to lighting and signage are also included in local zoning by-laws. All of these regulations help maintain community character.

B. Scenic Landscapes and Vistas

The primary attributes of Provincetown's scenic landscape are its 21-mile coastline, the adjacent salt marshes and the dunes which form the backdrop. Many of these features are located within the National Seashore but are visible from numerous vantage points.

The 1981 "Massachusetts Landscape Inventory" gave high rankings to a greater percentage of Provincetown (about three-quarters) than of any other Cape Town. The entire National Seashore holding in Provincetown was classified as "Distinctive" (the highest ranking) or "Noteworthy" (the second highest ranking).

C. Culturally Significant Landscapes

Urban landscapes are not included in DEM's "Massachusetts Landscape Inventory", but downtown Provincetown is certainly both scenically and culturally distinctive in its own right and is an important aspect of Provincetown's attraction to tourists and year-round residents.

D. Scenic Roads

Most of Provincetown's scenic roads are located in the National Seashore, the landscape dominated by dunes and other coastal features. While this fact alone ensures a high level of protection, tree-cutting planned in conjunction with repaving Race Point Road by the National Park Service and the Massachusetts Highway Department (MHD) sparked protests in the Fall of 1995. Many residents felt the

cutting would significantly undermine the tree canopy that contributes to the road's scenic character. The Route 6 corridor is scenic and should be respected in any development proposals for use of the Route 6 right-of-way.

4.4 ANALYSIS

While unique community character and impressive natural features represent the drawing power that fuels the local economy, ensuing development pressures pose a threat to the very qualities that make Provincetown a desirable place to live and visit. In a community with such historic and scenic character, represented by more than the sum of individual historic structures, over-development is particularly ominous.

The results of the Community Vision Survey provide the Provincetown Historical Commission with a clear mandate to retain the existing built environment, preserve community character and control growth. In response to the question "Is it important to preserve Provincetown's historic areas and qualities?," 91% of all respondents indicated it was "important" (the choices were "important," "not important," and "unsure/no opinion").

The "traditional architectural styles of buildings" were cited as "very important" by 68% of respondents and "somewhat important" by another 26%. Moreover, "historic buildings and sites in the downtown" were deemed "very important" by 73% of respondents and "somewhat important" by 21%.

In response to the question "should the Town develop design guidelines for new buildings and major alterations?" a total of 77% responded "yes," 45% "for all areas" and 32% "for historic areas." Only 14% responded "no" to the development of such design guidelines.

A. Threats to Historic Resources

Provincetown's historic character is embodied as much in its tight pattern of narrow streets and footpaths as in its buildings. Recognizing this historic settlement pattern, alterations to storefronts, front yards and other street-facing elements downtown have major aesthetic and community character impacts. The PHC finds that oversized, single-pane front windows on commercial buildings are particularly inappropriate in the downtown area and Title 5- and parking-related streetscape alterations compromise the relationships of houses to streets. Once known for magnificent gardens, Provincetown's downtown residences now, in many cases, have parking spaces and mounded septic systems in their front yards. (It should be noted that some fine gardens do currently exist, reflecting a continuing interest in

this aspect of Provincetown's legacy and character, despite the intrusions.)

The Provincetown Historical Commission has identified a number of threats to historic structures, and has considered sponsoring zoning by-laws or other regulations that would help control modifications and renovations that are inconsistent with the character of the Historic District and individual structures. These areas include second and third floor decks, synthetic siding, large expanses of glass in residential and commercial structures, sliding glass doors and raising the roof and ceiling heights of existing structures. In many cases, the PHC has found the regulations of the Cape Cod Commission inadequate to control these types of changes.

B. Protection of Historic Resources and Community Character

Since the Cape Cod Commission guidelines for referral of historic structures are general and not specific to Provincetown, they require significant interpretation by the PHC to tailor them to each application under review.

Reflecting widespread local interest in preserving and protecting historic buildings and sites (as reflected in the results of the Community Vision Project Survey), the PHC has requested the Provincetown Board of Selectmen to appoint a local historic district study committee, as is required under Massachusetts General Law to enact an enforceable historic district. A study committee must include realtors, lawyers and architects and must meet for one year or more and present a report on the validity of an historic district. The Board of Selectmen appointed the Historic District Study Committee in January of 1999. The Committee anticipates making a report to Town Meeting in 2001.

The PHC and the Historic District Study Committee can gain a better understanding of the nature of Provincetown's community character and how it is perceived by residents through the collection of data related to character-defining features and other information that helps form local design guidelines. Greater public outreach by the PHC will be necessary to explain the reasons behind regulations and the benefits of those regulations.

C. Vista and Landscape Preservation

Concerns expressed by the PHC over the loss of view corridors to the Harbor are echoed by the Community Vision Project Survey. "Views of the Harbor from Commercial Street" were considered "very important" by 78% of survey respondents. Clearly, this is an increasingly serious concern. Possible steps to improve or restore views include stronger enforcement of public access via historic rights-of-way and greater control over the type and amount of construction and activity in the Harbor area.

D. Preservation of Scenic Roads

Roadway scenery can be protected through various local measures, beginning with the designation of scenic roads. By-laws or guidelines can be enacted to regulate clearing, planting, signage, and utility placement, and to protect scenic features. The Town should inventory its scenic roads and pathways and consider measures for their future protection.

4.5 ACTIONS AND IMPLEMENTATION PROGRAM

ACTION 1: Develop a local historic district, design guidelines and a design review process through zoning by-laws, overlay districts or site plan review by-laws (the Cape Cod Commission will defer to local standards in reviewing Developments of Regional Impact, per the Cape Cod Regional Policy Plan). Demolition delay by-laws should be considered to protect historic structures throughout the Town.

Once local design guidelines and a design review process are in place, the Cape Cod Commission will defer to local standards in reviewing Developments of Regional Impact. However, should a district smaller than the existing National Register district be established, any historic structures outside the new Local District would still be covered under Cape Cod Commission regulations. Any demolition of these structures or major alterations that might jeopardize their listing on the National Register could result in a referral to the Commission as a Development of Regional Impact or Discretionary referral.

ACTION 2: Continue to inventory historic resources and complete Form B surveys, and consider the nomination of historic sites and landscapes for State or National Historic Register listing. The Town should consider making discretionary referrals to the Cape Cod Commission for DRI review of projects affecting these structures or sites, regardless of their Register status. If a local historic district is in place, CCC review authority will be relinquished over structures within the new district. However, historic structures outside a new district would remain under the jurisdiction of the CCC.

ACTION 3: Identify scenic roadways and scenic vistas within the Town and establish local by-laws or guidelines to preserve scenic character. Inventory and map key scenic views. Measures could include the following:

- guidelines for clearing and planting
- rules for signs and utilities
- rules for fencing
- plan review procedures for key locations
- regulations or guidelines to preserve scenic views
- tree cutting guidelines

- tree planting programs
- guidelines for mitigating the impact of raised septic systems and front yard parking areas

ACTION 4: Continue the local awards program recognizing preservation, rehabilitation and development projects that are consistent with traditional character and design goals.

ACTION 5: Encourage and continue the planting program of indigenous and historic trees.

ACTION 6: Develop a by-law limiting land clearing and alteration of natural topography prior to development review. In addition, develop a landscape ordinance that protects existing trees and requires screening and landscaping of development from major roads.

ACTION 7: Adopt a by-law regulating the placement of utility structures such as power sub-stations, radio towers, high voltage lines, and other transmission structures.

ACTION 8: Where feasible, require the placement of new utility lines underground and actively encourage the undergrounding of existing lines and structures in locations where they detract from historic and cultural features, community character and scenic views.

ACTION 9: Revise site plan review guidelines and Commercial District dimensional requirements to discourage "strip" development and encourage the creation and reinforcement of streetscapes along Shank Painter Road and Conwell Street.

5. ECONOMIC DEVELOPMENT

5.1 INTRODUCTION

Economic Development in Provincetown, An Evolving Plan for Action (hereafter referred to as the Economic Development Plan) is the primary source of information and direction for this section. Without reiterating all of its details, the spirit and intentions of that plan, along with those of the 1988 Provincetown Master Plan and the updated Cape Cod Regional Policy Plan, are represented in this section.

Statistical information in this section such as that contained in part 5.3, INVENTORY, should be updated with the 2000 census data. During the most recent updating of this section, the Local Comprehensive Plan Committee recognized that a number of significant changes have occurred in Provincetown's economic climate since Economic Development in Provincetown, An Evolving Plan for Action, was prepared in 1995. Goals and policies were updated using the best information available regarding doing business in Provincetown in 1999 and the potential for future growth and development.

5.2 GOALS AND POLICIES

GOAL 1: To promote businesses that are compatible with Provincetown's environmental, cultural and economic strengths in order to ensure balanced economic development.

POLICY A: The economic impacts of proposed developments should be evaluated by the Town, taking into account job creation and services and/or products provided.

POLICY B: Enterprises with year-round as well as seasonal economic potential should be identified and encouraged. The Town should work with various organizations to promote those activities, including but not limited to tourism-related activities, fishing, marine science, aquaculture, shellfishing, environmentally-oriented business, cultural activity (especially those that are arts-related), education, and enterprises that provide transportation solutions.

POLICY C: The Town should encourage tourist activities that highlight and enhance Provincetown's natural and cultural qualities and promote year-round activity. Such activities include but are not limited to those involving museums, art, theater, music, and natural recreation areas. A step toward this goal was taken in 1999 when Provincetown hired its first Tourism Director to work with the business community and Visitors Services Board to enhance the tourist experience, with focus on the shoulder seasons.

POLICY D: The Town should encourage the development of local businesses which can be integrated into the community without adverse impacts on Provincetown's resources. Such activities include but are not limited to consulting, direct-mail business, home-based

business, art, and crafts, including potential arts education-related economic development.

POLICY E: The Town should encourage the reuse and rehabilitation of existing buildings for residential and year-round commercial growth.

POLICY F: The Town should encourage development that will enhance the availability and quality of health and human services in Provincetown and Barnstable County.

POLICY G: The Town should encourage, protect and maintain water-dependent uses and accommodate uses that are not water-dependent but support water-dependent uses, especially those uses that support the recreational boating industry.

POLICY H: The Town should ensure that non-water-dependent uses do not interfere with the operation and viability of water-dependent uses.

GOAL 2: To locate development so as to preserve Provincetown's environmental and cultural heritage, minimize adverse impacts and enhance the quality of life.

POLICY A: Resource-based economically productive areas including the Harbor, fishing grounds, shellfish beds, and recreational areas should be maintained specifically for those uses.

GOAL 3: To encourage the creation and diversification of year-round employment opportunities.

POLICY A: The Town should encourage projects which provide permanent, well-paying, year-round jobs and employment training opportunities for Provincetown residents.

POLICY B: The Town should encourage projects reviewed as Developments of Regional Impact to employ local contractors, suppliers and workers.

POLICY C: The Town should encourage projects reviewed as Developments of Regional Impact to use minority and women contractors listed with the State Office of Minority and Women's Business Assistance (SOMWBA), and encourage the employment of minorities, disabled, elderly, unemployed, and underemployed persons in permanent positions.

GOAL 4: To improve the economic well being of Provincetown's low and moderate-income residents.

POLICY A: In order to serve the interests and needs of low- and moderate-income residents, economic development planning should include strategies for job creation, job training and affordable housing.

GOAL 5: To better utilize existing resources, structures and commercially zoned space for economic development activities.

GOAL 6: To strengthen local partnerships between businesses and Town government that promote, encourage and support year-round

economic activities and which lead to improvements in the local infrastructure that contributes to Provincetown's industries. It is important to note that the newly formed Visitors Services Board provides improvements to the Town's infrastructure and services as well as promoting off-season tourism.

GOAL 7: To provide housing that is affordable to the year-round and seasonal workforce, and to develop a definition of affordable housing that is specific to Provincetown.

GOAL 8: To build on Provincetown's arts heritage to pursue year-round economic opportunities, including educational programs and facilities.

GOAL 9: To develop commuter access to and from Boston, Providence and Cape Cod Community College.

5.3 INVENTORY

A. Number and Types of Businesses and Employers

As of 1995, an estimated 626 businesses and organizations were located in Provincetown. Retail (approximately 340) and accommodations (127) are the predominant businesses, chiefly serving tourists on a seasonal basis. These figures do not factor in condo rentals, which total approximately twice the number of commercial accommodations. Businesses in Provincetown are typically small and independently owned and operated.

With the departure of many part-time residents and tourists in the Fall, the local economy experiences a dramatic drop-off, with many businesses closing down until late Spring. Based on unemployment compensation figures, businesses, non-profits and organizations provided an estimated 4,540 full and part-time jobs in 1994; of this total, approximately 33% were year-round and 67% seasonal.

While it is no longer the dominant economic force in Provincetown, the fishing industry remains an important contributor to the local economy, as well as a crucial element of local heritage and ambience. Provincetown is the largest fishing port on the Cape. Currently, 66 fishing vessels are federally permitted to operate out of Provincetown, down from 89 permitted vessels in 1993. While fish landings and values fluctuate from year to year, overall there has been a sharp decline throughout the 1980s and 1990s. Like tourism-related business, fishing peaks in the summer and declines in the colder months.

Sea clams are the only commercial shellfish harvested. This activity occurs on the outside of Long Point. There is no commercial shellfishing in Provincetown Harbor other than at private grants, which

are available for \$25/acre. Aquaculture is a new industry in Provincetown.

Other water-related businesses include marinas, whale watch tours, and fishing excursions. These businesses are largely seasonal in nature.

Art is a major contributor to the local economy, both directly, as a generator of jobs, income and tax revenue, and indirectly, as a tourist draw that helps fuel the retail economy as a whole. Currently, Provincetown is home to some 38 galleries. A 1987 study showed that non-profit art institutions accounted for four million dollars in the local economy. Economic Development in Provincetown (EDIP) reports that at the same spending levels, this translated into seven million 1995 dollars.

B. Occupations of Residents

Tourism-related businesses make up approximately two-thirds of Provincetown employment (compared to a Cape-wide estimate of 44%). (EDIP, p. 20) Most tourism-based jobs pay low wages and provide little in the way of benefits or long-term economic security. Retail businesses employ an estimated 50% of Provincetown's work force while another 25% are employed by service businesses and 15% are government employees. Based on the 1990 Census, 19% of Provincetown's workforce was self-employed, compared with a countywide figure of 13%.

C. Seasonal Employment/Unemployment Trends

With tourism as the backbone of the local economy, seasonal employment/unemployment trends are well established. While many resort areas have seasonal fluctuations, few are as dramatic as Provincetown's. The Provincetown economy operates well below its summer peak for at least six months of the year. Employment typically peaks in July and August and is at its lowest in January and February. The average annual unemployment rate is over 25%, with a 1995 January high of 51% and a low of just under 8% in August. (Cape Trends, p. 75) Both of these figures far exceed those of all other Cape towns. It should be noted that use of the unemployment compensation system is generally considered a necessary and accepted supplement to income among Provincetown's year-round residents.

While unrecorded economic activity may be substantial (employees being paid off the books; incomplete declaration of income), the seasonal nature of the economy, short-term employment opportunities and the high cost of unemployment insurance all contribute to "the overall conclusion that Provincetown's residents are faring much worse than their counterparts in the County or State". (EDIP, p. 19) In fact,

Provincetown maintained its last-place countywide ranking in median household income through both of the last two U.S. Census recordings. It is for this reason that a definition of affordable housing must be specific to the income levels of Provincetown's residents. Because Provincetown is primarily a fair weather resort, cold temperatures and an unforgiving geographical setting constrain efforts to expand the traditional tourist season. Cold weather tends to be the norm from mid-November through March. Both the 1988 Master Plan and the Economic Development Plan support efforts to promote the attraction of holiday shoppers in the fall and early winter (typically, some 25% of spending on non-consumables occurs during the Christmas season). Greater promotion of the offerings of Provincetown's arts community is probably essential to such an effort. The viability of this and other strategies are discussed in the Analysis section.

5.4 ANALYSIS

A. Strengths and Weaknesses of the Local Economy and Strategies for Economic Development

As the Economic Development Plan bluntly states, "Provincetown's economy is structurally unbalanced and dominated by retail." (EDIP, p. 29) The very qualities that make Provincetown an attractive place to live and visit are intrinsically linked to the strengths and weaknesses of the local economy. Provincetown's beaches, coastal scenery, arts, and pedestrian-oriented shopping opportunities are major drawing points and fuel the local economy.

However, the dominance of seasonal tourism in the local economy has its drawbacks. With the arrival of cold weather, the majority of local businesses are closed, limiting employment opportunities and shopping and recreational options for year-round residents. It has become increasingly difficult for businesses that do remain open during the off season to find staffing. Due in large part to the cost of housing, the number of workers decreases each year during and after the season. It is important to note that, despite its isolated location, access to Provincetown is maintained through year-round air and bus service.

Traditional economic development strategies geared toward luring industry are generally inappropriate for Provincetown due to the Town's remote location and lack of available, developable land. Recognizing this, economic development efforts should emphasize Provincetown's unique attributes, address local needs and target specific industries. Key strategies recommended by the Economic Development Plan for improving the local economy are summarized below. Regardless of the ultimate direction of local efforts to expand

the economy, emphasis should be placed on business diversity (after all, what is Provincetown without mixed use?) and on encouraging the use of local skills and labor whenever possible.

Extending the Tourist Season

Because current tourist activity already strains the Town's resources, it is in Provincetown's interest to limit increases in peak season "day-tripper" visitors and concentrate instead on extending the length of the tourist season. One strategy is to make some key summer attractions available in the off-season, particularly during the fall. The traditional tourist season runs from mid-May to early September, but temperatures are usually still pleasant enough into November for outdoor recreation such as hiking and walking.

Provincetown has thus far been unsuccessful in drawing consistent numbers of off-season visitors but has done some very successful niche marketing for various weeks and weekends from mid-September through December. Extension of the seasonal economy to draw visitors during the off-season could be facilitated by improved insulation and heating of accommodations facilities, and scheduling and promoting special activities such as festivals and concerts.

Promotion of holiday shopping opportunities coinciding with Thanksgiving and Provincetown's distinction as the first landing place of the Pilgrims is being developed. The annual Holly Folly celebration the first weekend in December has grown each year since it began in 1995. Obviously, for such a strategy to be a success, a significant number of shops and galleries must be open during the holiday season.

The potential off-season role of the arts cannot be overstated. The link between the arts industry and tourism is generally underutilized. In addition, there is growing concern that many artists can no longer afford to live in Provincetown. The marketing of off-season shopping in conjunction with gallery openings and other cultural events can benefit artists as well as other segments of the year-round population. Further, activities linked to the arts and education need to be explored, including increased access to the arts.

In addition to promoting Provincetown during the holiday period between November 20 and New Year's as a "Shopping Destination," the Economic Development Plan recommends several other strategies for extending the tourist season. Chief among them is the following: Identify and target organizations interested in hosting annual events in Provincetown, such as Women's Week and the "Roundup" have done. Targeted groups should have attributes compatible with Provincetown. Package thematic week-long events coordinated among local shops, restaurants and guest houses in coordination with arts and other events.

Continue development of regionally promoted annual events such as the Provincetown International Film Festival, first held in 1999, food festivals and arts events.

Teen Entrepreneurship

The Economic Development Plan recommends the development of an inclusive (not just for "academic achievers") teen entrepreneurship program to help prepare teenagers for "planning, starting and operating a business" through a hands-on practicum (EDIP, p. 40). Such a program would be designed to expose local teens to successful role models and start and operate a local business catering to all ages. This strategy is particularly relevant to Provincetown's youth because the Town relies heavily on small businesses and self-employment. The Academy and mentorship programs underway in the school system are good examples of this.

Small Business Start-up and Expansion

This strategy would establish local support for "the development of new business start-ups and the expansion of existing businesses in Provincetown." (EDIP, p. 41) Among the details of such a strategy would be to educate participants as to existing programs providing entrepreneurial training, assistance in developing marketing, business and financial plans, capital for start-ups and expansion, and job training. Also proposed is the development of a local micro-enterprise service to provide assistance to participants. The Economic Development Plan provides extensive detail beyond the scope of this Analysis.

Childcare

The lack of any licensed child care services in Provincetown has a strong impact on the flexibility of local families and employers vis-a-vis employment opportunities. The nearest child care center, the Children's Place in Eastham, has worked to recruit in-home childcare providers in Provincetown. In so doing, the center has found that outdoor play space requirements, the seasonal nature of the economy and limits to the number of children allowed per in-home license are among a number of obstacles to addressing this need.

Strategies for meeting Provincetown's childcare needs include formalization of a working arrangement with the Children's Place, coordination with the Massachusetts Office for Children in finding in-home child care solutions, preparation of grant proposals and development of a working group of local child care providers. Owners of available space, school representatives, business owners and parents should also be organized to develop viable options. Recent discussions have raised the possibility of using available school space for childcare.

Export Opportunities

This strategy maintains that local retailers have an opportunity to expand their businesses through greater use of direct marketing to reach a greater market than the traditional summer shoppers. Provincetown's peninsular location has effectively created an "island economy" characterized by far more goods coming in than going out. Promotion of local crafts and products, capitalizing on the widely recognized Provincetown name, and development of an export economy would help balance this relationship. Export efforts could be global in reach and would effectively extend the tourist season. The Economic Development Plan discusses this strategy in greater detail.

Computer and Knowledge-Based Industry

The advantage of developing computer-based industry is that location of such businesses is not dependent on proximity to urban centers. In fact, an attractive, out-of-the-way location can be attractive to small publishing, consulting, software programming, marketing, and writing businesses. Incorporation of economic development-related marketing in tourism promotions is encouraged.

In order to ensure the viability of local computer and knowledge-based industry, the Town must provide and maintain reliable power, communications and transportation. Review and updating of licensing and zoning regulations will also be needed to facilitate the successful location of such industries. The Town should also encourage the development of new services such as high speed internet access over cable lines or high speed digital subscriber lines. The availability of year-round air service is critical to this developing year-round economic base.

Recreational Boating

The Town should continue to support recreational boating, expanding available opportunities through provision of additional facilities. The Harbor Plan for the Town of Provincetown recommends improvements such as the addition of dinghy docks, showers, laundry facilities, and lockers. In addition, the Harbor Plan recommends adding a boat ramp available at all tides with easily accessible parking, improvements to the West End boat ramp, improved facilities for dinghy tie-ups, and marina facilities for transient and seasonal docking of recreational boats if economically self-supporting.

Whale Watching

The whale watching industry has become a major tourist-drawing resource in recent years. Its continued viability is contingent on maintenance of the pier infrastructure as well as environmental factors. Greater coordination between the whale watching industry and other local industries and attractions should be investigated. Cold

weather limits the extension of the season for whale watching and sport fishing excursions.

Aquaculture

While it presents a potential opportunity for the Town to build on its economic relationship to the sea, the aquaculture industry faces an uncertain future. Recent local aquaculture efforts have been slowed by the Quahog Parasite X disease (QPX), which kills clams when they reach harvestable size. Continued local development of this industry will entail experimentation and organized commitment to affecting change in current regulations. The Economic Development Plan recommends the development of a co-op or association among aquaculture farmers to address local production and facility needs, as well as strategies for marketing and distribution.

The Harbor Plan proposes that aquaculture should be one of the Harbor's priority uses, not only as an industry with potential to grow, but as one that can help sustain and revitalize the fishing industry. Recommendations in support of local aquaculture include initiating "studies and programs to grow other types of shellfish such as steamers, oysters, mussels, or sea urchins," coordination with State and regional authorities to address the QPX problem, and protection of specific areas suitable for shellfish. (Harbor Plan, V-8)

Arts

Though the arts are still a key component of local life and an economic force, dramatic arts have experienced a sharp decline in recent years, due largely to the lack of available, affordable, usable space. Given the legacy of theater in Provincetown, it is unfortunate that, while a few small groups are struggling to revive local theater, out of Town companies enjoy the greatest success and that only in the summer. Provincetown should capitalize on the recognition of its name in association with the American theater in reviving this legacy.

Visual and written art forms continue to thrive. Nonetheless, the arts industry has the potential to play a larger role in local tourism, especially as an off-season attraction. The Economic Development Plan offers an in-depth strategy for maximizing the viability of the arts and the community that supports and creates it. Key steps include greater involvement of the arts community in local decision-making, development of arts education institutions locally, promotion of local artists as educators on the national and international levels, and cooperation of artists, Town government and developers in identifying and establishing rehearsal and performance space.

An arts education institution or extension to be located in Provincetown has been discussed as a local objective. Campus Provincetown, collaboration among many of the Town's arts

institutions, will offer courses for the first time in 1999 in collaboration with the Art Association, Fine Arts Work Center. Bringing an educational entity in Provincetown must address the availability of space for both institutional and dwelling needs.

Historic Preservation

A largely overlooked but potentially significant economic development generator is historic preservation. Provincetown has the second largest National Register Historic District in the Commonwealth, providing opportunities for maintenance and repair as well as education and additional tourism.

Local historic buildings in need of repair could be used as case studies for historic preservation programs at institutions of higher learning. Of additional benefit to the Town and its economy would be a training program for local carpenters, offering education on historic preservation standards and historic building techniques. Besides boosting the local economy, such endeavors would also improve the Town aesthetically and as a historic resource, potentially providing a draw for tourists extending into the off-season.

Fishing

Provincetown should ensure the maintenance and improvement of infrastructure supporting the commercial fishing fleet. The Harbor Plan recommends that maintenance of commercial fishing facilities be accompanied by improvement in the configuration and condition of off-loading facilities. The Plan also calls for construction of an off-loading dock, designed and dedicated for small boat fishing, as well as supporting facilities such as dedicated parking or loading/unloading zones, storage lockers for gear, and freezer(s) for bait.

Despite its decline, the fishing industry continues to provide an important link to Provincetown's past and as of 1995 ranked fourth in the total number of local businesses by category. Continued advocacy on behalf of the fishing industry on the State, regional and national levels should be a high priority. Emphasis should be placed on support of small boat fishing and the establishment of regional and local markets. The Town should work to ensure that small boat fishing receives priority in all near-shore and offshore fishing regulations.

Restaurants in Provincetown should be encouraged to purchase local seafood and it should be an objective of the Town and the local fishing industry that the Provincetown name come to be associated with high quality fish, much as Wellfleet is identified with oysters.

B. Economic Opportunity Areas

The Economic Development Plan identifies two sites for inclusion in Provincetown's Economic Opportunity Area (EOA) application. Various State benefits are available to towns for the development and

redevelopment of such areas including a 5% State investment tax credit, a 10% abandoned building tax credit and priority for State capital funding. Other details are enumerated in the Economic Development Plan. The areas identified as potential EOAs are as follows:

EOA #1: Parcels within the Class P Commercial Zone on Shank Painter Road.

EOA #2: Waterfront parcels 6-4-018 and 6-4-020A and 11-3-019A of Class R Commercial Zone.

C. Town Resource Constraints

It is important to recognize that implementation of any of the above economic development strategies must occur within the limits of Provincetown's available space, services and natural resources. Development, redevelopment, expansion, or other significant change that results in an influx of people and additional strain on the water supply and wastewater capacity in particular must be carefully planned and monitored.

D. Affordable Housing and Work Space

Approximately half of Provincetown's year-round population falls into the low to moderate-income range and, as the Economic Development Plan states, "a significant gap exists between the cost of housing and what the incomes of the low and moderate-income households can afford. The price paid for housing by summer renters, second home owners, and new owners who originate from outside the community bears no relationship to what most Provincetown residents can pay," based on local salaries. (EDIP, p. 31) The Plan goes on to recommend the development or redevelopment of existing sites for affordable housing, workspace and year-round economic opportunities.

Affordable work space for artists is a crucial need for the continued survival of the arts "scene" and for the artists themselves, many of whom find it increasingly difficult to stay in Provincetown. A number of existing businesses have chosen sites outside of Provincetown for production due to the lack of appropriate and affordable commercial space. Affordable housing is addressed at greater length in the Affordable Housing section.

5.5 ACTIONS AND IMPLEMENTATION PROGRAM

Strategic options for many of the following actions are detailed in Economic Development in Provincetown, An Evolving Plan for Action. ACTION 1: In order to effectively extend the tourist season, develop and implement a strategy that promotes appropriate local attractions, makes better use of off-season business capacity, develops and promotes local events, and facilitates coordination among businesses,

cultural institutions and the Town in developing such a strategy. As stated earlier, an important first step has already taken place with the creation of a Tourism Director and Visitor Services Board as part of Town government.

ACTION 2: Establish local support for appropriate new business start-ups and expansion of existing businesses through entrepreneurial training, marketing and financial planning assistance, and coordination of existing programs to meet specific local needs. Targeted businesses should include small computer and knowledge-based industries, arts-related businesses and retail businesses with the capacity to expand through direct marketing and development of export activity.

In order for this to be a viable option, the Town must pursue the upgrading of the electronic infrastructure and providing additional services such as reliable cell phone service that are currently not available.

ACTION 3: Develop a formal relationship between Town government and private businesses and organizations to pursue appropriate economic development in Provincetown. The intent of such a public/private partnership is to share and better utilize public and private resources and facilities, and encourage environmentally-sound practices in undertaking economic development.

ACTION 4: Develop and implement a plan to improve and maintain the qualitative and economic well-being of the theater and performing arts, crafts and visual arts in Provincetown. Potential plan components include establishment of an entity for advocacy on behalf of the arts, integration of art and cultural projects in public and private infrastructure improvements, and promotion of stronger complementary ties between the arts, tourism and cottage industries.

ACTION 5: Develop a campaign for the expansion of export retail opportunities. Key components of such an effort should include national and international promotion and marketing of Provincetown products, cooperative efforts among local retailers, and locally based training in mail and electronic marketing techniques. Again, this option requires improving the available electronic infrastructure and other communication services.

ACTION 6: Create affordable manufacturing and artist work space through redevelopment of under-utilized commercially zoned properties and development and promotion of models for long-term leasing of under-utilized space. Consider allowing suitable structures in the P zone on Shank Painter Road by modifying the Building Scale requirement for that zone.

ACTION 7: Investigate and support alternative, affordable housing strategies for seasonal workers in coordination with local businesses. Continue working with business owners to develop dormitory style

worker housing that might be used in the off season as housing for students at the Fine Arts Work Center or Campus Provincetown.

ACTION 8: Implement a strategy to address Provincetown's childcare needs. Such a strategy should include an inventory of available and potential services and funding, identification of potential facilities, local training, and preparation of grant applications.

ACTION 9: Develop and implement a teen entrepreneurship training program to provide local teenagers with a hands-on practicum for planning, starting and operating a business.

ACTION 10: Support the local fin-fishing and shellfishing industries through management and protection of natural resources and maintenance of Harbor space, infrastructure and services.

ACTION 11: Develop and support a successful aquaculture industry by streamlining the regulatory and licensing process, encouraging regional industry partnerships, promoting applied research and local resources, ensuring off-loading space, and identifying new growing sites.

ACTION 12: Encourage computer and knowledge-based businesses to operate in Provincetown by first improving the Town's attributes and infrastructure, and reviewing and updating licensing and zoning regulations to facilitate and encourage use of residential properties for home occupations.

ACTION 13: Investigate the potential for capitalizing on Provincetown's historic resources as a source of economic development. Such an effort should consider the prospect of attracting an established academic historic preservation program to conduct hands-on case studies in Provincetown, as well as the possibility of establishing a historic preservation-based training program for local carpenters and builders.

ACTION 14: Continue to review the local permit and licensing process and continue to improve communication between business owners and Town regulators and between Town regulatory boards.

ACTION 15: Pursue arts-related economic development, including additional year-round educational opportunities. Campus Provincetown is an important first step in this direction. Expand access to the arts for educational purposes.

ACTION 16: Encourage in any way possible the development of new technology services such as high speed internet access over cable lines or the availability of high speed digital subscriber line services through companies like Media One and Bell Atlantic to counteract the unreliable phone and electrical services that currently exist.

6.AFFORDABLE HOUSING

6.1 INTRODUCTION

Provincetown's popularity as a summer resort and as an increasingly coveted location for second homes has made it extremely difficult to find and retain affordable housing here. The scarcity of developable land and the wide gap between the incomes of most year-round residents and those of vacation homebuyers and renters has exerted intense pressure on the housing market. The demand for housing far outstrips the capacity of the existing and potential housing stock. Lower income households are particularly affected and cuts in federal programs will have an increasing impact on local resources.

It is clear that without the benefit of major, coordinated efforts on the part of Townspeople, local committees, Town officials, representatives of nearby Towns, the Lower Cape Cod Community Development Corporation, and other local and regional community-based non-profits, a large percentage of the year-round population will continue to be shut out of the rental and ownership housing markets in Provincetown.

It is also important to note that a number of the Goals and Performance Standards from the RPP are not addressed in this section because local regulations developed by the Provincetown Local Housing Partnership (LHP) exceed the requirements of the RPP. The Local Housing Partnership was established by Town Meeting vote in 1996, and one of its first tasks was to develop a detailed set of criteria for reviewing proposed developments. Working with housing specialists and consultants from the Cape Cod Commission, the LHP developed an amendment to the zoning by-law that has produced no less than 48 units of affordable housing in one year. The LHP developed a set of criteria for reviewing applications that is thorough and protects the Town and prospective tenants and owners. In addition, the Town's growth management by-law requires a minimum of 25% of the units in a project to be deed restricted for forty years in order to qualify as affordable, and provides an even greater incentive for projects that include 26%-50% and 51%-100% affordable units.

6.2 GOALS AND POLICIES

The 1996 Cape Cod Regional Policy Plan (RPP) provides a good framework for the Goals, and Policies of this plan element. However, many of the standards specified in the RPP to provide affordable housing in conjunction with the development of market-rate housing are not directly applicable to Provincetown: 1) RPP affordable housing standards apply only to residential Developments of Regional Impact

(DRIs) and natural constraints to development virtually preclude residential DRIs; 2) Provincetown's density is far greater than any other Cape Town at over 390 persons per square mile, excluding National Seashore holdings; 3) the Town's Growth Management By-law controls the number of permits allocated, although it was recently amended to make 91 unused permits available for affordable housing; 4) the presence of the Commonwealth Provincelands now protected by the Cape Cod National Seashore seriously limits the amount of developable land. It is the intent of this plan element to go beyond the standards of the RPP in applying its "inclusionary" affordable housing objectives to Provincetown's unique location and circumstances.

GOAL 1: To promote the provision of fair, decent, safe, affordable housing for rental or purchase that meets the needs of present and future Provincetown residents. The Town shall seek to raise its affordable housing stock to 10% of all housing units (or approximately 290 units) by the year 2015. "Affordable housing" shall be defined as housing affordable to 50% of the median household income for Barnstable County.

POLICY A: Affordable housing shall be encouraged in all areas that are appropriate for residential and mixed-use residential development.

POLICY B: Incentives to maximize the number of affordable units should be considered. These should include but not be limited to, waivers of certain fees, expedited permitting processes, priority in issuance of permits under the Growth Management By-law, and density bonuses in the B Zone.

GOAL 2: To promote equal opportunity in housing and give special consideration to meeting the housing needs of the most vulnerable segments of the population including, but not limited to, very low income (50% of median income), low income (51% - 80% of median income), families with children, single parent heads of households, racial minorities, people with AIDS, the elderly, the homeless, the disabled, and others with special needs.

POLICY A: The Town shall work to prevent discrimination in housing based on race, color, creed, religion, sex, national origin, primary language, age, political affiliation, disability, sexual orientation, family type (i.e. the presence of children), or any other consideration prohibited by law, and shall not knowingly approve any development that so discriminates.

GOAL 3: To seek out, provide support for and encourage the development of innovative strategies designed to address the housing needs of Provincetown residents, paying special attention to the needs of low and moderate income renters.

POLICY A: Reuse of existing structures shall be prioritized for the creation of affordable housing. New construction shall also be supported and encouraged.

POLICY B: Use of public and private funds available through the Barnstable County HOME Consortium, Massachusetts Department of Housing and Community Development, U.S. Department of Housing and Urban Development, and other regional, State and federal sources shall be encouraged.

POLICY C: New seasonal developments shall make provisions for employee housing or assist in placing summer employees in housing designed specifically for summer use that does not deplete the existing year-round rental housing stock.

POLICY D: The development of congregate, single-room occupancy and other similar affordable housing types shall be supported and encouraged.

POLICY E: Non-profit housing developers shall be given preference in developing parcels of Town-owned or Town-leased land for affordable housing.

POLICY F: The Town shall seek to limit the number of multi-unit properties converted from year-round rental to condominium ownership unless 50% of the units are deed-restricted for year-round affordable housing.

POLICY G: Existing and future Town-, State- and federally-owned developable land and buildings, including that which is acquired through the tax title process, shall be targeted for affordable housing as a first priority.

POLICY H: The zoning by-laws shall be modified to allow accessory apartments and cottages provided that they meet year-round affordable housing standards as dictated by the Town.

GOAL 4: Coordinate the development of affordable housing with protection of the environment.

POLICY A: Use of alternative septic technologies in the development of affordable housing should be encouraged.

POLICY B: Use of cumulative loading analyses to identify and set aside areas where there is adequate nitrogen capacity for the development of higher density affordable housing should be encouraged.

6.3 INVENTORY AND EXISTING CONDITIONS

A.Housing Types

Provincetown's housing stock breaks down according to units and types as follows:

Type	Units
Single-family dwellings	771
Condominium units	1,312
Two-family dwellings	498
Three-family dwellings	216

Multiple dwellings on a single lot	709
4-8 Unit apartment building	165
TOTAL	3,671

(SOURCE: Provincetown Assessor's Office, 12/10/99)

As of December 10, 1999, the Provincetown Assessor's Office listed 4,260 total living units; the additional 589 units not in the categories listed above consist of apartments in mixed use properties, owner-occupied apartments in guest houses, and accessory apartments. Based on 1990 US Census figures, the Outer Cape Capacity Study categorized 37% of all housing units in Provincetown as "seasonal," leaving 63% (2,386) "year-round." The number of units capable of being occupied year-round with a minimum of improvements is conservatively estimated at closer to 75% of the total, or approximately 2,928 units. (Assessor conversation 12/12/96) Conversion from seasonal use is permitted without Growth Management permits.

B. Housing Conditions

The age and small size of most residential buildings in Provincetown set it apart from the rest of the Cape. The Provincetown housing stock's "median year built" is 1932, compared to a Cape-wide median of 1971. The mean number of rooms in Provincetown residences is 4.1, compared to 5.5 Cape-wide. (1990 US Census) Substandard housing conditions are not uncommon in Provincetown, exacerbated by the fact that many residential buildings were not built for year-round occupancy and "winterizing" frequently consists of inadequate insulation and inefficient heating systems. Underscoring the plight of year-round renters is the widespread perception that "affordable" rents are often so only because of insufficient maintenance and repairs and high heating costs.

C. Subsidized Housing Stock

The Provincetown Housing Authority administers a total of 42 housing units, 8 of which are family units scattered throughout Town, 10 are Single Room Occupancies (SROs) and 24 of which are elderly and disabled units.

Regionally, elderly housing is the "most significant affordable resource, with over 400 units of subsidized housing available in the Towns of Harwich, Chatham, Brewster, Orleans, and Provincetown." (Affordable Housing on the Cape: Needs, Resources, and Strategies, Lower Cape Cod CDC, 1993) While these elderly units, half of which are in Orleans, represent an important resource for the Lower Cape's sizeable and growing older population, the need exists for more units in Provincetown itself.

D. Affordability Standards

Under Chapter 40B of the Massachusetts General Laws, 10% of the year-round housing stock in each city and Town in the Commonwealth must be affordable for low and moderate income households by the year 2015. Affordability is based on payment of 30% of household income for housing costs (including utilities) for a household earning 80% of the median income for Barnstable County. According to the federal Department of Housing and Urban Development (HUD) the 1999 Barnstable County median family income is \$45,000; 80% of the median is \$36,000. Based on that figure, the maximum affordable monthly housing expense for a moderate-income household is \$900, including utilities. However, because Provincetown residents have the lowest average income in the county, this plan defines "affordable" for Provincetown as based on a payment of 30% of household income for housing costs (including utilities) for households earning 50% and 65% of the county median income. This translates to \$562.50 per month for rental housing and \$731.25 for ownership housing. Based on the 2,386 units categorized as year-round (1990), the 10% threshold for meeting the County affordable housing requirement would be approximately 240 units. Recognizing that many Provincetown residences that are categorized as "seasonal" are occupied for more than just the summer months and have the potential for year-round habitation, this plan categorizes 75% of existing residential units, or approximately 2,900 units, as year-round. Using this number, 10% of the "year-round" housing stock is approximately 290. Existing affordable units, consisting of the Provincetown Housing Authority and scattered subsidized units total approximately 90 units, leaving the need for approximately 200 affordable units to meet the State requirement (assuming the current number of total units). Housing subsidies alone do not qualify housing units as "affordable;" affordability must be ensured through mechanisms controlling rent levels and restricting resale.

E. Loss of Year-Round Rental Housing Stock

In recent years, conversions of multi-unit rental housing to condominium units have been on the rise, depleting the number of rental units available to year-round residents. Assessor's records indicate that 924 of the 1,305 condominium units are owned by non-residents (71%). The percentage of single family homes owned by non-residents stands at 38%. The number of additional condominium units generated from conversion of the existing stock of multi-unit dwellings is expected to be considerable in the coming years, further depleting year-round housing opportunities.

Contributing to the loss of year-round rentals is the increasing tendency of second homeowners to spend greater lengths of time in

their Provincetown residences and rent out their houses or units only during the high season.

F. Potential for Growth

Available land for development of any kind is limited in Provincetown and the Town experienced the lowest rate of increase in total housing units from 1990 to 1995 of any Town on the Cape, (2.42% compared to 5.12% for the County as a whole). A total of 94 units were added to Provincetown's housing stock over that period, 79 of which were single-family and 15 multi-family units. The rate of growth is controlled by the Growth Management By-law due to water supply limitations.

G. Economic Conditions

As the Economic Development Element spells out in greater detail, the Provincetown economy has undergone significant changes in recent years. The decline of the local fishing industry and increasing reliance on a tourism-based economy has had obvious ramifications with respect to housing availability and affordability. Low wages, high unemployment rates and the increasing popularity of Provincetown as a location for second homes results in rather bleak prospects for year-round residents with limited incomes--a characterization that applies to the majority of the year-round population.

Tourism-related businesses now account for 60 to 70% of Provincetown employment, generally paying low wages and offering little in the way of benefits and long-term economic security. The seasonal nature of tourism in Provincetown results in a huge drop-off in the economy in the fall and by January the unemployment rate often exceeds 50%.

H. Income Levels and Housing Affordability

In 1989, 14.4% of all Provincetown residents were below the poverty level based on reported income, in contrast to the County rate of 7.5%, and the median household income was \$20,487, or 64% of the County median of \$31,766 (all figures 1990 US Census).

At 50% of the County median income, or \$22,500, the maximum affordable housing cost is \$562.50 per month. Assuming a an average utility cost of \$120 per month, as estimated in the HUD CPD Consolidated Plan (1995), the current maximum affordable rent, excluding utilities, is \$437.50 a month. With rentals now commanding upwards of \$650 without utilities, in the rare instances that they are available, the current affordability gap for the average prospective renter in Provincetown is substantial.

"Affordability" of reasonably habitable year-round housing in Provincetown is further conditioned by high heating costs in the winter. Many units "converted" to year-round use have electric heat and minimal insulation. Energy costs on the Cape are among the highest in

the nation and the energy inefficiency of many units leaves low-income renters vulnerable in that the vast majority pay for at least one utility. (HUD CPD, p. 10) Small unit size, and often building layout and kitchen facilities make much of the local housing stock less than suitable for use as adequate year-round housing.

The median 1999 price for a home in Provincetown was \$240,000 (1996 figure: \$140,000). The county median was \$147,000 and the median sales prices in Provincetown's closest neighboring Towns were as follows:

Provincetown	\$240,000
Truro	\$180,000
Wellfleet	\$159,000
Eastham	\$139,000

(Source: Banker and Tradesman, September 1999)

Given Provincetown's lower median income compared to the rest of the Cape, the "affordability gap" here is more severe.

I. Special Needs Populations

Residents with special needs vis-a-vis the availability of and access to appropriate housing (as well as specific care services) include the elderly, people with AIDS, the physically and mentally disabled, and the homeless. NIMBY (Not In My Backyard) attitudes are particularly strong when it comes to the siting of housing and other facilities for these segments of the population. The lack of developable land and high cost of existing property in Provincetown limits the viability of local housing solutions for those with special needs; regional approaches may be more realistic. However, Provincetown is the site of Foley House for people with AIDS. The Provincetown Housing Authority provides some housing for the elderly and disabled.

The Elderly

Provincetown's large elderly population is particularly at risk (18% of the population was over 65 according to the 1990 US Census and this segment of the population has grown since). Census figures show that 23% of the population over 65 years of age was living below the poverty level in 1989. Most of the elderly are long-time residents and many live on fixed incomes. As their earning power and actual incomes have diminished, the cost of living in Provincetown has risen rapidly, making it difficult for the elderly to keep pace with rental costs and taxes and the upkeep of single family homes.

A housing needs assessment conducted by the Lower Cape Cod Community Development Corporation (Lower Cape Cod CDC) in 1993 reported that there was considerable interest in congregate care or assisted living facilities for the elderly on the Lower Cape. The development of independent senior housing and assisted living facilities would not only provide the elderly with needed resources but

might have the simultaneous effect of adding to the available housing stock as the elderly opt out of homeownership. For, in the meantime, many existing living units are inefficient for elderly residents' mobility and regional advocates often cite the need for home assistance to help address this concern.

Many elderly residents are homeowners and are often financially unable to adequately maintain their properties. This raises the potential for shared housing solutions if single-family homes were to be subdivided and young families could assist senior homeowners with maintenance and repairs.

People with AIDS

Provincetown has the highest ratio of people with AIDS in the Commonwealth. Some 35% of people with AIDS are homeless or at risk of becoming homeless and many of these people are Provincetown residents.

The Provincetown AIDS Support Group estimates that some 300 Provincetown residents have a diagnosis of full-blown AIDS, with an additional 100 with an HIV+ diagnosis. About 200 Provincetown residents receive support from the organization.

Adequate, affordable housing and support services are extremely important to the population of people with HIV/AIDS. The Provincetown AIDS Support Group, with offices in Yarmouth and Falmouth as well as Provincetown, is the regional leader in facilitating the acquisition of housing and other services.

Foley House in Provincetown provides 10 units of housing with common living space for people with HIV/AIDS who would otherwise be homeless. In addition, 30 vouchers for housing assistance are provided for people with HIV/AIDS through the regional non-profit Housing Assistance Corporation (HAC). The waiting list for vouchers is very long and growing.

The Physically Disabled

Cape-wide, the disabled make up approximately 17% of the total population, although this may be a conservative estimate given the large elderly population, many of whom may be disabled but are not counted as such.

Housing for disabled persons is generally located within elderly housing developments on the Cape, such as the units administered by the Provincetown Housing Authority (PHA). Cape-wide and in Provincetown specifically, these units do not come close to meeting the need for affordable housing for the disabled. The lack of affordable housing in general limits the availability of housing for disabled residents.

The Mentally Disabled

As of 1994, 36 group homes were in operation on the Cape, providing housing for 260 mentally disabled people. (HUD CPD Consolidated Plan, 1994 figures) With a long waiting list and vacancies quickly filled, there is a clearly a need for additional housing for this segment of the population. Given the lack of affordable, developable land in Provincetown, it is likely that regional resources must be utilized to meet local needs.

The Homeless

Factors including the lack of affordable housing and the seasonal nature of many rentals contribute to homelessness in Provincetown. Especially vulnerable are women fleeing domestic violence, people suffering from alcohol or drug dependency, the physically and mentally disabled, veterans, and people with AIDS. Homeless shelters on the Cape serve over 500 people and HAC estimates that an additional 500 are at risk of homelessness. Eleven persons are known to have spent the winter of 1996-1997 living under boats on the beaches of Provincetown.

Area resources for the homeless include Foley House, Recovery at Canal House in Orleans, under construction in 1997, which will house eight persons recovering from substance abuse, the Lower Cape Council for the Homeless and the Inter-Faith Council for the Homeless.

Families with Children

Families with children must also be considered part of the "at risk" population. The increasing rental and sales costs and the declining availability of housing that is adequate for the year-round needs of a family have already forced many families to move. Provincetown families in need of more housing space have tended in recent years to move to Truro, where housing for families is more readily available, if not always less expensive.

Artists

Artists, many of whom have incomes at the lowest end of the spectrum (\$10-15,000), also represent a vulnerable segment of the population. Widely considered vital to Provincetown's economy and community character, their future is also of special concern. Workspace needs add to the difficulty facing artists in need of affordable housing.

Seasonal Employees

Seasonal employees, also crucial to the local economy, face particular difficulty--not only do they need lodging, but also they require housing during the summer season when its availability is most limited. Also, because of the reliance on summer employment, unemployment peaks in the winter, limiting the financial resources of many year-round residents.

J. Organizations with the Capacity to Develop and/or Manage Affordable Housing Provincetown Housing Authority

The PHA administers low-income housing only and, like most local housing authorities operating state and federal programs, has little flexibility. Most of the housing administered by the PHA is for the elderly and disabled, and the authority is not adequately staffed to comprehensively address Provincetown's affordable housing needs. Nonetheless, additional PHA units that can be gained will address an obvious need. Cuts in the Massachusetts Rental Voucher Program (MRVP) have had a significant impact on the affordable housing resources of Provincetown and other Lower Cape communities.

Housing Assistance Corporation (HAC)

HAC runs many housing programs on the Cape, including weatherization, Section 8 and shelters. The remoteness of Provincetown from HAC offices underscores the need for local outreach.

Lower Cape Cod Community Development Corporation

The Lower Cape Cod CDC is a significant new resource for affordable housing development on the Lower Cape. The CDC has the flexibility of a private developer and the ability to receive funding from various housing programs in partnership with local communities to address a wide range of housing needs.

Habitat for Humanity – Cape Cod Affiliate

The Cape Cod Affiliate of Habitat for Humanity builds decent, safe and affordable houses for income-eligible buyers. Habitat has also been crucial in the rehabilitation of 40 Pearl Street, a property owned and managed by the Provincetown Housing Authority

A Role for the Private Sector

Those in the private sector with experience developing and managing market rate housing can be encouraged to provide affordable housing through tax incentives, below market loans and grants to develop affordable housing and by prioritizing affordable housing in the issuance of growth management permits.

6.4 ANALYSIS

A. Availability and Affordability

As a tourist Town with a seasonal economy, Provincetown has acute housing problems. The 1988 Master Plan aptly summed up the situation as follows:

The price visitors can pay for housing bears no relationship to what most Provincetown residents can pay. Provincetown residents, both year-round and seasonal employees, suffer because their incomes are relatively low compared to the incomes of vacation home purchasers and renters. (PMP, I-8)

In contrast to most places, Provincetown is a Town where high and low income groups compete for the same housing units and the size of units does not determine their demand according to income level--summer residents of considerable means desire the same small units that ordinarily would be affordable to permanent residents with lower incomes. The increasing demand generated by out-of-Towners has elevated the price of even the smallest units beyond the affordable range of many year-round residents, particularly in the summer. Over 40% (1,590 units) of the living units in Provincetown are owned by non-year-round residents and this figure will continue to increase as baby boomers attain second home-buying status and consider investment property for future retirements.

Another point touched on by the 1988 Master Plan and still relevant today is that seasonal cost disparities cause some residents to move twice yearly--they spend the winter living in good quality winterized buildings only to move into poorer quality housing in the summer when rental prices go up for the season. However, current perceptions are that fewer winter rentals fall into this category as more property owners are keeping their property for personal use in the off-season and renting during the lucrative summer months.

The summer population, several times larger than the year-round population (with a peak population of 19,559 for 1990, according to the Outer Cape Capacity Study), stretches the capacity of the existing housing stock to its limits, in addition to putting a tremendous burden on the water supply, wastewater disposal and other services. Some large employers house workers in Truro motels but this does little to diminish the overall need for employee housing.

Provincetown's remaining developable land is very limited, even under the most optimistic conditions vis-a-vis water supply and wastewater facilities. It is likely that even at build-out the demand for housing would far exceed the projected capacity of the housing stock. Build-out projections calculate a gain of 1346 units. The affordability of a significant percentage of those potential units to low and moderate income residents will only occur if measures are instituted to ensure it happens. Otherwise market demand will bid up the cost of housing beyond what year-rounders can afford.

B. Economic Conditions

The loss of fishing industry jobs and the increasing reliance on tourism have had the simultaneous effect of reducing the incomes and spending power of a significant segment of the local population and producing higher housing costs and a scarcity of available housing units.

C. Condo Conversions

No regulatory approval is currently required for condominium conversions. As a result, rental units have been converted with little consideration given to the impact on the community. Some communities have general by-laws that regulate condo conversions.

D. Regulatory Constraints and Incentives

In addition to the lack of developable land and available housing and the high costs of both, barriers to the provision of affordable housing include high construction costs, restrictive zoning and the lack of regulatory incentives. The B-zone is prohibitive to affordable housing on the basis of the relatively low density and high land costs, while the W-zone is less restrictive in terms of density, higher density development has Title 5 constraints. Past attempts to allow affordable accessory units in the B-zone have been unsuccessful, with objections based largely on the desire to keep the zone single-family--even though a number of properties already contain illegal accessory units. While the Growth Management By-law gives priority to development that includes affordable housing units, incentives have not been strong enough and should be modified. As an additional incentive, April 1997 Town Meeting allocated unused growth management permits for affordable housing development.

For the development of additional housing to measurably improve the housing situation for year-round residents, some assurance of affordability in the form of regulated rent and price controls would have to be instituted through deed restrictions.

E. Sense of Community

When families and other residents move to Truro or Wellfleet because of greater housing opportunity in those Towns, Provincetown's economic diversity, and, it could be argued, its community character are threatened, as year-round working residents are replaced by vacationers and part-time residents. The effects of such departures are felt not only by the family that moves, but also by the community as a whole.

F. Affordable Housing Strategies, Objectives, Priorities, and Options

Affordable housing in Provincetown should ensure stability and quality, as well as affordability objectives, in accordance with the following general objectives and measures.

AFFORDABILITY: focus on housing for year-round residents, targeting those with below 50% of median income

maintain long-term affordability through measures such as deed restrictions and non-profit ownership

aim for higher than 10% of the housing stock to be affordable by the year 2015 to reflect the real need in Provincetown

STABILITY: housing opportunities should be year-round with no seasonal moves required
 there should be no fear of displacement due to market-driven rent increases or condo conversions
 different forms of ownership should be considered such as housing cooperatives and non-profit-owned rental housing to ensure
 the long-term stability of the housing stock

QUALITY: meet basic housing code/housing quality standards
 develop housing for lower maintenance costs over the long term
 ensure energy efficiency
 units should have appropriate layout, design, and size for year-round use

With developable land rapidly diminishing, it is important for the Town to prioritize reuse, redevelopment and new development of multiple unit buildings and minimize the number of new single-family dwellings. Whenever possible, existing units should be the focus of affordable housing efforts, and mechanisms such as subsidies should be put in place to facilitate the conversion of underutilized properties to affordable housing as part of the overall affordable housing effort. The growth management by-law has been modified to ensure that when development does occur, affordable housing is more directly given special consideration.

Steps must be taken to minimize the conversion of units to condominium ownership through a Special Permit process and the rental of unoccupied units in the off-season should be encouraged. Consideration must be given to "alternative" forms of housing such as shared housing or "co-housing." To directly address the housing needs of seasonal employees of limited means, alternative forms of temporary housing should be considered.

Crucial to Provincetown's affordable housing efforts was the creation of the Local Housing Partnership, a pro-active Town Committee, to spearhead development, rehabilitation and promotion of affordable housing--and to serve as a clearinghouse for public information and for sorting out the intricacies of available programs. Part of the work of this entity is to forge important links to facilitate public/private partnerships. This organization, in coordination with the Lower Cape Cod CDC, Habitat for Humanity and the Cape-wide Housing Assistance Corporation (HAC) should be encouraged to provide homebuyer workshops to help lower-income residents achieve homeownership with the various financial resources available.

Recognizing that the need for congregate care and/or assisted living for the elderly is a regional issue, Provincetown should work cooperatively with nearby communities to address this issue. Affordable housing needs must be addressed in the context of Provincetown's historic community character and scale and not conflict with historic preservation, waterfront planning, the limited availability of water, environmental and other objectives. As much as possible, housing strategies should attempt to enhance and complement historic resources.

G. Potential Sites for Affordable Housing

Developable land is extremely scarce and specific sites have not been identified for the development of affordable housing. Use of existing buildings has been given top priority; however, new construction may be more cost-effective. Town-owned land and buildings, including properties acquired through the tax title process, should be targeted for affordable housing. Most of the land in the Route 6 easement is not suitable for the construction of housing due to the presence of wetlands, inadequate parcel size and inaccessibility. However, the Town should investigate the development potential of these and other lands, particularly those located near large undevelopable tracts of land such as Foss Woods and the Water Resources District, where the aggregate effects of nitrogen loading from septic leach fields can be maintained at acceptable levels. Clearly, NIMBY (Not In My Backyard) attitudes add further constraints to the already strained affordable housing situation. Given the open-mindedness that Provincetown prides itself on and for which the Town is well-known, such exclusionary attitudes should not be insurmountable.

H. Utilization of Local, Regional and State Resources

Affordable housing strategies should capitalize on the full array of local, regional and State resources in attempting to find housing solutions that specifically address Provincetown's unique needs and constraints. Many regional and state programs are funded through federal channels; the complexity of government bureaucracy and the tenuous nature of funding for some programs underscores the need for the Local Housing Partnership.

Local Solutions/Resources

The Local Housing Partnership should provide important local resources for educating developers and those in need of affordable housing, interpreting and determining the applicability of available programs and funding sources, and actually developing and rehabilitating structures for affordable housing. Town-owned land, while scarce, should be earmarked for affordable housing whenever possible, including any properties taken in the future through the tax

title process. Payments of delinquent property taxes should be considered for an affordable housing fund.

Provincetown should investigate the full potential of Small Cities funding through the State's Department of Housing and Community Development. DHCD programs have assisted with rental rehabs, loans for homeowner rehab, funds for site acquisition and development, and housing counseling.

Conventional lenders, such as local member banks of the Federal Home Loan Bank of Boston should also be considered. Local use of tax abatements or deferrals could help promote the development of affordable housing as well.

Regional Solutions/Resources

The Cape Cod Commission has provided technical assistance and consultants to assist in developing a growth management by-law that encourages development of affordable housing and in developing criteria for evaluating applications to build affordable units. Housing specialists work closely with our Local Housing Partnership to develop creative solutions to our affordable housing shortage. The CCC also oversees the County's Soft Second Loan Program (SSLP) as part of the HOME Consortium. This program offers a variety of resources including "gap" funding for small housing development, the Soft Second loan program, down-payment assistance, and rental assistance.

Community partnerships and utilization of regional resources can help to ease the burden on the Town itself. Housing for elderly and special needs residents in particular can be best served on a regional basis. Special needs facilities and services serving the Cape, including Department of Mental Health group homes, Department of Mental Retardation group homes, assisted living facilities, Provincetown AIDS Support Group services and facilities, and shelters for the homeless should be supported and utilized.

The Lower Cape Cod Community Development Corporation (Lower Cape Cod CDC) is a significant regional resource for assistance with both rental and homeowner rehabs. The Housing Assistance Corporation (HAC) provides assistance to low- and moderate-income Cape residents. Services including rental subsidies, weatherization, homeownership counseling, housing rehabilitation, and technical assistance to developers for planning and marketing affordable housing should be fully utilized. The Cape Cod Affiliate of Habitat for Humanity is also a significant resource, not only for homeownership opportunities, but for rehabilitation work as well.

Another regional resource is the Cape Affordable Housing Loan Consortium, consisting of 8 area banks and community

representatives, provides financing for construction and rehab of affordable housing.

Due to the scarcity of developable land, the need for seasonal worker housing may require regional efforts as well; participation in existing regional programs may help open lines of communication with neighboring Towns. Provision of affordable seasonal housing is crucial to the tourist-oriented service economy of the Outer Cape.

State Solutions/Resources

The Community Economic Development Assistance Corporation (CEDAC) and Massachusetts Housing Partnership an important resource for pre-development loans, equity guarantees, site control loans, and other funding sources. DHCD resources include the housing innovation fund, rehab initiatives and the Small Cities grants program.

6.5 ACTIONS/IMPLEMENTATION PROGRAM

ACTION 1: Develop a Provincetown Housing Action Plan using the LCP for guidance.

ACTION 2: Utilize the Local Housing Partnership to coordinate affordable housing efforts including development, rehabilitation, education of tenants, landlords and developers, and technical assistance.

ACTION 3: Develop and implement strategies to facilitate conversion of underutilized and unoccupied properties to affordable housing.

ACTION 4: Ensure affordability for all housing designated as affordable through deed restrictions.

ACTION 5: Control the number of units converted to condominiums by adopting a zoning by-law, as recommended in Section 1, Land Use and Growth Management.

ACTION 6: Acquire multi-unit properties for rehabilitation for cooperative ownership.

ACTION 7: Acquire multi-units properties for rehab for non-profit ownership as permanent rental housing.

ACTION 8: Work cooperatively with other Towns on the Outer Cape to develop regional congregate care and/or assisted living facilities for the elderly.

ACTION 9: Work cooperatively with Outer Cape Towns to comprehensively address housing and service needs of special needs populations including people with AIDS, the homeless, the mentally disabled, the physically disabled, and the elderly.

ACTION 10: Develop alternative approaches to affordable housing, such as shared housing and congregate care.

ACTION 11: The Town shall adopt an Inclusionary By-law to fund affordable housing in relation to new construction as well as extensive, non-routine rehabilitation.

ACTION 12: Establish a Housing Trust Fund as a depository of any affordable housing funds generated or collected.

7. COMMUNITY FACILITIES AND SERVICES

7.1 TRANSPORTATION

7.1.1 INTRODUCTION

Provincetown's roadway layout reflects its historic past, when horse-drawn vehicles serviced the working waterfront. As the Town grew it spread out along the waterfront with Commercial and Bradford streets developing as the main streets. As the Town's popularity as a tourist destination grew and the fishing industry declined, automobile and pedestrian traffic began to place tremendous burdens on the small-scale streets, especially in the downtown area, most specifically along Commercial Street and its cross-streets.

Substantial road expansion or other improvements have not accompanied changes in use and increasing numbers of cars and pedestrians to the circulation system. Current problems during the summer include difficulty in parking cars, conflicts between pedestrian and automobile traffic and difficulty getting in and out of Provincetown. Efforts to address these issues must be undertaken without compromising Provincetown's scenic and historic character.

The Provincetown Transportation Center Master Plan (1995) addresses parking issues in the downtown area. It was intended "to improve the conditions for transportation and circulation in the downtown area while simultaneously improving its open space and townscape qualities." (p. 1) That plan focuses on the area surrounding the Municipal Parking Lot (MPL), including MacMillan Wharf and Fisherman's Wharf. Its findings and recommendations are incorporated in this Section of the Community Facilities and Services Element.

Automobile mobility during the tourist season is very limited as large numbers of pedestrians and tourist vehicles crowd the overburdened streets. In part, this is the price to pay for reliance on a tourism-based economy. However, appropriate measures for reducing pedestrian automobile conflicts and congestion and increasing mobility should be investigated.

Limited access to and from Provincetown by automobile is more the result of congestion on Route 6 in neighboring towns than in Provincetown itself. Improved air and water transportation service, primarily between Provincetown and Boston are recognized needs, including regular daily commuter services to and from Boston and Cape Cod Community College. Recent improvements in this area

include the construction of a new terminal building at the airport and the introduction of high speed ferry service to Boston. The Town should continue implementing the transportation goals outlined in the 1988 Master Plan.

7.1.2 GOALS AND POLICIES

GOAL 1: To foster and maintain a multimodal transportation system for present and future year-round and seasonal needs which is safe, convenient, accessible, efficient, economical, and consistent with the Town's historic, scenic, and natural resources, and land use development and growth management policy.

POLICY A: Development projects shall mitigate all year-round and summer transportation impacts at regional intersections and on all regional road links where the project traffic is expected to add 25 new vehicle trips or more during the project area's typical peak hour.

POLICY B: The Town shall recognize the regional road system and functional classification of highways for Cape Cod as adopted by the Cape Cod Commission.

POLICY C: Regardless of project size or traffic generation, there shall be no degradation in public safety as a result of a development project. Public safety should include consideration of pedestrians and bicyclists.

POLICY D: Transportation mitigation measures required of development projects shall be consistent with community character and shall not degrade historic, scenic or natural resources.

POLICY E: In recognition of the seasonal changes in traffic, measures such as road widening, intersection widening and signalization are to be avoided unless the improvement will be of substantial benefit to the transportation system (including pedestrian safety and mobility) throughout most of the year. Improvements should not adversely affect Provincetown's scenic historic character.

POLICY F: Permissible mitigation strategies shall be as follows, and must also be consistent with Policies D and E above, as well as local and regional transportation plans. Strategies should include public education programs.

a) Travel demand management strategies including the development and use of transit, park & ride lots, bicycle and pedestrian facilities, car/van pooling, and employee incentive programs that reduce automobile trips.

b) Transportation systems management strategies that preserve the capacity of existing facilities and increase the efficiency of existing facilities. These strategies include the application of real-time information-based technologies, signage, changes to pavement

markings, turn restrictions, changes in traffic patterns, and limited removal of obstructions to provide safe sight distances.

c) Access Management strategies such as curb cut consolidation, joint access, connections between adjacent parcels, and conflict point reduction.

d) Road widening, intersection widening and new traffic signalization are to be avoided, as stipulated in Policy G, below.

POLICY G: Since structural improvements to the local circulation system are undesirable, unwarranted and unlikely to occur, the widening of public ways or intersections or new traffic signalization shall not be allowed as traffic mitigation measures. In rare circumstances, they might be considered in limited locations if, and only if, the following conditions are met:

The road widening, intersection widening or new traffic signalization is necessary to provide public safety. Solely peak season travel demands shall not be mitigated by road widening, intersection widening or new traffic signalization, and

The road-widening, intersection widening or new traffic signalization is not within a historic district, on any designated Scenic Road or Scenic/Historic Byway, and

The road widening, intersection widening or new traffic signalization is consistent with community character and will not have an adverse impact on historic, scenic or natural resources.

POLICY H: Existing transportation rights-of-way shall be preserved for transportation and transportation-related uses.

POLICY I: Adjacent commercial uses shall share access points and provide connections between parcels so as to minimize curb cuts, driveways, and vehicular turning maneuvers, where appropriate.

POLICY J: Internal site circulation and access/egress shall be designed to minimize impacts on the adjacent road system.

POLICY K: New development and redevelopment should minimize adverse traffic impacts on the adjacent road system.

POLICY L: New development and redevelopment should not increase traffic on road links or through intersections with safety deficiencies such as inadequate sight distance or adverse grades.

POLICY M: Roadway access for new development should be consistent with the functional classification of the road. Where possible, driveways should gain access to collector and arterial streets via the local street system.

POLICY N: Transportation improvements and proposed mitigation should be consistent with the Americans with Disabilities Act, the Clean Air Act Amendment of 1990, the Transportation Equity Act for the 21st Century (TEA 21), and the Cape Cod Long Range Transportation Plan.

POLICY O: Road and intersection improvements should include the burying of overhead utilities and the removal of utility poles and associated structures, where possible.

GOAL 2: To decrease dependence on private automobiles, address demonstrated public needs for convenient, accessible, economical alternatives to private automobiles, and promote energy efficiency and reduced pollution. Develop and integrate alternate modes (e.g., rail, bus, ferry, air, bicycle, and pedestrian) into the transportation system and promote telecommunications and other substitutes for transportation.

POLICY A: Road or intersection improvements shall provide for safe bicycle and pedestrian travel and accessibility, where appropriate.

POLICY B: Bicycling and walking shall be encouraged as an alternative to automobile trips. Where appropriate, historic footpaths shall be maintained and safe bicycle and walking links shall be created to establish an interconnected regional transportation system. Where appropriate, bikeways and footpath connections between commercial and residential neighborhoods, and between compatible uses shall be provided to create a safe alternative to travel on major roads.

POLICY C: Bus, ferry, water taxi, air, and rail modes of public transportation should be encouraged not only as alternatives to automobile trips but also to improve mobility for non-drivers, those preferring not to drive and those without access to a car. To serve both residents and visitors, transit service frequency should be increased and the routes expanded.

POLICY D: New developments shall be designed to reduce dependence of private automobiles and to specifically provide a 20% trip reduction by encouraging alternative modes of transportation within the project area or site or by making contributions to shuttle services and bicycle and pedestrian facilities.

GOAL 3: To support transportation solutions that preserve and enhance Cape Cod's character by considering the interrelationship between land use and transportation.

POLICY A: Mixed use development that minimizes dependence on the automobile shall be encouraged.

7.1.3 INVENTORY

A. Roadway Network

Major Regional Roadways

This classification refers to limited access roadways and other roads that provide mobility to and within highly developed commercial areas. Route 6 is the only major regional roadway. Though it is the major regional road on Cape Cod, the Outer Cape portion of Route 6 is

particularly scenic. This is the road by which one dramatically enters Provincetown. The portion of Route 6 that runs through Provincetown has a landscaped median separating two double lanes, with widely-spaced intersections limited to public roads.

Regional Roadways with Scenic and Historic Value

These are regional roads that have scenic and historic value inherent to Cape Cod and must be preserved as such. Route 6A is the only such road that runs through Provincetown.

Rural Major Collectors

The following Provincetown roads are classified as rural major collectors:

Snail Road , Conwell Street, Shank Painter Road, Commercial Street, Province Lands Road

Local Roadways

The following are some of the most important local roads in Provincetown providing circulation within the Town:

Howland Street, Harry Kemp Way, Race Point Road, Cemetery Road, Bradford Street, Alden Street, Winslow Street, Captain Bertie's Way

B. Parking

Downtown parking is limited to several lots and on-street parking in specific locations. There are three large lots, including the Grace Hall lot and the centrally located Municipal Parking Lot (MPL) between MacMillan and Fisherman's wharves. Parking use and availability is conditioned by the peaking characteristics at the MPL. The peaking is associated with whale watching schedules and the weather and time of day during the summer. During the off-season, some on-street parking is available on Commercial Street and convenient resident parking is marginally protected downtown, with restricted spaces. As the Provincetown Transportation Center Master Plan points out, there is a distinct relationship between use of the National Seashore lots and downtown area parking during the summer peak. Good weather tends to attract greater numbers to the beaches rather than to downtown, leaving downtown parking space below capacity. When the weather is poor, beach use is minimal and the downtown spots are filled. (PTCMP, p. 11)

Residents generally have less interest in parking in the MPL for brief stops, preferring the resident spots near Town Hall and on the northern edge of the Ryder Street extension.

C. Pedestrians and Bicycles

During the tourist season the safety of pedestrians and bicyclists is compromised as Provincetown's narrow streets become overcrowded. On the bicycle path in the National Seashore the presence of rollerbladers and joggers causes additional conflicts. Downtown,

beachfront access is limited, particularly when traffic volume is high. Bicycle racks are limited.

D. Public Transportation--Land

The Plymouth and Brockton (P&B) Street Railway Company operates bus service between Provincetown and Hyannis. Many scheduled trips are through-trips to Boston. Others, including the Logan Airport Express, require a change at Hyannis. An adequate daily commuter schedule is not provided to and from Boston. In the winter, the frequency of scheduled bus transportation is sharply reduced, causing difficulties for Provincetown residents with off-Cape business.

Bonanza Bus Lines operates inter-city express buses from Falmouth to Boston and from Hyannis to Providence and New York. Connector bus service to Hyannis, the nearest point of departure and arrival, is not adequately coordinated with train and bus schedules in Boston and Providence.

In the "high season" only, a flat rate shuttle runs a loop from Truro through Provincetown to Herring Cove and back on an hourly basis. Additional local transportation service is provided by the "B Bus," which is operated by the Cape Cod Regional Transit Authority, providing door-to-door service by appointment to seniors and the disabled.

E. Water Transportation

Three ports in Massachusetts, Gloucester, Boston and Plymouth, offer seasonal water transportation to Provincetown. The companies are privately owned and operated with respective business and marketing arrangement. They can be characterized as providing both excursion and transportation services in varying degrees. Combined, their current daily seasonal capacity offers the potential of delivering 1,725 car-less visitors to Provincetown. This qualifies them as a serious transportation asset, especially given their record of 96% reliability and exemplary safety record.

F. Air Transportation

Provincetown Municipal Airport (PMA) is a 378-acre facility with parallel taxiways surrounded by the Cape Cod National Seashore. Parking is provided at the PMA for both commuter and private aircraft.

In 1990 there were 17,490 operations (landings and takeoffs) at the PMA, with a projected estimate of 20,000 operations annually by the year 2010 (Provincetown Municipal Airport Master Plan, 1991). The number of operations peaks in the summer but an increasing number of off-season flights is needed by year-round residents. The total number of aircraft of all types on a typical summer weekend is expected to reach 85 by the year 2010.

Planned improvements at the PMA include the development of unpaved safety areas beyond the end of each runway and additional parking areas. Extensions to the runway in order to accommodate larger, 19 to 30 passenger aircraft, and improvements to the water

supply, septic system and emergency equipment are also expected. The percentage of the cost of these improvements to be paid by the Town is expected to be minimal.

7.1.4 ANALYSIS

A. Roadway Trends and Patterns

Most roads in Provincetown, particularly in the downtown area, are narrow, reflective of the Town's original settlement patterns. As the local population rises dramatically in the summer, automobiles, pedestrians, bicyclists, and rollerbladers come into increasing conflict with one another. With the potential for road improvements minimized by the existing scale of the infrastructure and community character concerns, non-structural traffic mitigation measures are generally most appropriate.

The lack of available parking contributes to traffic congestion downtown, as cars circle the Commercial Street/Bradford Street area in search of available spaces. The Municipal Parking Lot, in connection with water-based activities at MacMillan and Fisherman's wharves, presents a major source of congestion and pedestrian/automobile conflict as well.

When the ratio of traffic volume to capacity reaches 80% on a road segment it is considered "congested." At 100% or more the theoretical capacity of a road is exceeded. Despite heavy traffic Town-wide in the summer, the only road segments listed as "congested" at summer peak traffic times by the Outer Cape Capacity Study (December, 1996) are a portion of downtown Commercial Street and a small segment of Route 6 near the Truro line. No roads currently exceed capacity. It should also be noted that sections of Route 6 are vulnerable to erosion.

Traffic congestion and automobile, pedestrian and bicycle conflicts are most prevalent in the Commercial Street/Bradford Street downtown area. Peak summer congestion and delay in the downtown area occurs at most intersections, including Bradford/Standish, Commercial/Standish, Commercial/Ryder, Ryder/Bradford, Commercial/Court, and Lopes Square/MacMillan Wharf. Many downtown streets are historic and others in outlying areas have the potential for local "scenic roads" designation.

B. Future Traffic Growth and Impacts

Both the Commercial Street segment downtown and a small stretch of Route 6 near the Truro line are projected to exceed capacity by 2020 (outside Provincetown, the rest of Route 6 on the Cape is projected to exceed capacity). Buildout conditions show the same results.

C. Traffic Mitigation Measures

Clearly, the provision and appropriate siting and use of parking rather than road improvements should be the Town's top priority in

addressing traffic issues locally. Roadway "improvements" should be intended to minimize congestion without expanding road capacity, in keeping with the existing scale and character of the Town. Recognizing the need to maintain local roads at their current quality or better, the OCCS estimates that by the year 2010, Provincetown's 16.4 miles of local roads are likely to require improvement of some kind to approximately 1.15 miles of roadway at a projected cost of \$1.15 million. Intersection improvements could cost the Town another \$240,000 (1993 dollars). Specific intersection improvements recommended by the Provincetown Transportation Center Master Plan and the Conwell Street Traffic study include the following:

Bradford/Standish: reconfiguration of the intersection to meet safety, convenience, capacity, and open space needs.

Bradford/Ryder: pavement widening on Bradford Street east of the intersection, allowing westbound vehicles to take a left onto Ryder Street. Any widening of the pavement in this area should be based on a demonstrated year-round need for such an improvement, and should be designed to not cause degradation of the scenic and historic character of the area.

Commercial/Ryder: marked crosswalks on all four segments of the intersection.

Other possible improvements include redesign of the entrance/exit to Duarte's Parking Lot to reduce congestion on Bradford Street, and clearer striping for the benefit of pedestrians as well as drivers at the convergence of Bradford Street and Shank Painter Road and at other locations throughout the Town. Measures to lessen peak summer congestion entering the Town from Route 6 should be considered, especially at the Conwell Street exit. Additional exit and signage improvements are among potential options.

Alternatives to structural changes that should be considered to mitigate traffic are ride-sharing and carpooling programs. Because Route 6 is the only way in and out of Provincetown, ride sharing would be beneficial to local and regional residents for trips to other Cape destinations.

D. Parking Needs/Measures/Actions

Inefficient signage and driver information contributes to some parking facilities being underutilized; drivers are too-often uninformed about the whereabouts and/or existence of parking other than at the MPL. Signs and promotional material should direct motorists to alternative parking sites

Use of existing parking spaces at churches, schools and beaches should be encouraged. Land in the Route 6 right-of-way should be considered for parking only as a last resort. Employee incentives to park in designated lots and walk to work, reducing extra trips, should

be initiated; Town employees should be encouraged to participate in such efforts.

The Town should cooperate with the National Seashore in coordinating the parking facilities of each as well as encouraging alternative transport modes such as bicycles. Seashore facilities should be considered for additional space needed for shuttle parking and access fees for pedestrians and bicyclists should not be charged. Throughout the Town, but especially in proximity to attractions in the downtown area, there is a need for more and better-marked parking for people with disabilities.

E. Bicycle and Pedestrian Needs and Concerns

The safety of pedestrians and bicyclists should be emphasized in all transportation plans and improvements. While some conflicts with automobiles and rollerbladers are inevitable in a tourist Town where outdoor recreation is popular, the situation could be improved. Encouraging fewer automobile trips, providing better pedestrian and bicycle path systems and bicycle storage facilities, and concentrating on improvements that expand pedestrian and bicycle capacity and safety rather than automobile capacity on local roadways should be considered.

Addressing the need for more bicycle facilities, the Provincetown Transportation Center Master Plan calls for the provision of storage facilities for 100 bikes. Additionally, public and commercial buildings should be encouraged to provide bicycle racks for public use. The locations of any additional racks should be carefully considered. The Rail Trail bicycle path should be completed, linking Provincetown with the rest of the Cape; cooperation with Truro is necessary to make this connection. Improvements should also be made to facilitate a connection between Town streets such as Conwell Street and Bradford Street Extension and the fourteen miles of bicycle trails in the National Seashore.

Specific pedestrian-oriented improvements recommended by the Transportation Center Master Plan include pedestrian paving and improvements to Town landing access points and better downtown beachfront access. The Conwell Street Traffic Study recommended alternative pedestrian access to the downtown via Cemetery Road and Standish Street. Construction of a sidewalk on Conwell Street is also recommended.

F. Signage

The Town has developed a comprehensive signage plan through the collaboration of the Parking Director, staff Transportation Team and Visitor Services Bureau. Key needs addressed include uniform design, clearer and consistent signs, better directions to parking within the downtown area and from Route 6, and clearer marking of existing

available parking (where it is, whether it is at or below capacity, etc.). The Town should continue and expand this program. In coordination with improved pedestrian access to the waterfront, signage should be provided indicating public access.

G. Public Transportation Issues - Land

Clearly, year-round residents are dissatisfied with available land transit. Among the key issues that must be addressed are better connections to and accessibility of bus and train service to off-Cape destinations, especially year-round commuter service to and from Boston and Providence. Winter bus service is severely curtailed and year-round residents have difficulty with inadequate information and scheduling inconsistencies. Concerns about the summer shuttle center on the need for greater frequency, better fare, route and scheduling information and publicity, and the need for a more attractive and accessible vehicle.

H. Water Transport/Ferry Service

Consideration should be given to an intra-Harbor water taxi. Specific services could include high tide beach to beach service and transport between the Town wharf and Herring Cove. Another water transit possibility would link the Pamet River and Provincetown. With an increasing number of Provincetown residents reliant on access to the Boston area, convenient ferry service should be coordinated with 9 to 5 commuter patterns. A concerted effort must be made to influence the introduction of such service. Both Provincetown and general Cape Cod congestion could be addressed by a park-and-ride ferry service on the mainland side of the canal. Immediate efforts should be pursued on this initiative as well.

I. Air Service

The importance of the airport economically for both tourist-related travel and the livelihood of many year-round residents is undeniable. The presence of the National Seashore and the vulnerability of nearby wetlands hold capacity expansion and other improvements in check. Air travel to and from the PMA reduces Cape-wide road congestion, as well as providing more convenient and expedient off-Cape travel options. In order to make PMA service even more effective, connections to T.F. Green Airport and Bradley International Airport, serving the Providence and Hartford areas respectively should be promoted.

7.1.5 ACTIONS AND IMPLEMENTATION PROGRAM

ACTION 1: Establish a traffic impact assessment and mitigation program to identify and mitigate the impacts of new development and redevelopment on the transportation system (in accordance with the Regional Policy Plan), with additional local limitations.

ACTION 2: Review thresholds for traffic impacts of proposed projects within zoning or site plan review by-laws.

ACTION 3: Consistent with community character and historic preservation, establish the development of parking facilities and optimal use of existing facilities as a top local priority and, on an ongoing basis, identify public land appropriate for parking use. Signage should be clear, ensuring easy access to underutilized parking facilities.

ACTION 4: Evaluate parking requirements to assess their effectiveness and relevance to existing local development patterns and circulation issues.

ACTION 5: Work with the Cape Cod Commission to develop an impact fee system for transportation improvements that is consistent with the goals of the Regional Policy Plan and this Local Comprehensive Plan. Such fees could be used to encourage trip reduction and to add to the resources to create and enhance bicycle paths and connections and other alternative transportation such as expanded bus services.

ACTION 6: Continue development of a comprehensive, Town-wide signage plan addressing the need for clear directions and convenient access to the downtown area, appropriate parking facilities, pedestrian and bicycle paths and facilities.

ACTION 7: As part of an overall effort to encourage ride-sharing, carpooling and vanpooling, develop a voice mail ridesharing program for the Outer Cape in coordination with neighboring towns.

ACTION 8: Promote more convenient and frequent express bus service to the Boston and Providence areas and to the Cape Cod Community College campus.

ACTION 9: Complete the Provincetown link of the Rail Trail bicycle way and improve access from Town street to bicycle paths in the National Seashore.

ACTION 10: Develop a comprehensive pedestrian walkway plan, incorporating appropriate public access to the water and throughout Town, considering appropriate signage and individual rights to privacy.

ACTION 11: Assess the adequacy of existing bicycle facilities including the number and locations of bicycle racks, facilities for bicycle storage and the capacity of the existing bicycle paths and connections to paths from Town.

ACTION 12: Develop commuter schedule water transportation.

ACTION 13: Develop a park-and-ride ferry service from the other side of the canal.

ACTION 14: Support improvements which provide safe year-round commuter air service to the Outer Cape; discourage Massport efforts to limit commuter air service to Logan Airport.

ACTION 15: Review and begin implementing recommendations made in transportation studies by the Cape Cod Commission on pedestrian safety at the Veterans Memorial School, Conwell Street traffic improvements and establishing a link between the Town center and CCNS bike trail near the transfer station in order to improve safety for pedestrians and bicyclists.

ACTION 16: Explore opportunities for shared parking and develop a plan to coordinate use of existing parking facilities during off peak hours or hours that businesses and institutions are closed. Encourage the use of shared parking in new developments and consider adopting by-laws and other regulations requiring shared parking.

ACTION 17: Develop and distribute a parking map to distribute to visitors to avoid motorists circulating through the congested downtown area searching for parking. This might be accomplished in collaboration with the Visitors Services Bureau and the Parking Department.

7.2 SOLID AND HAZARDOUS WASTE MANAGEMENT

7.2.1 INTRODUCTION

Along with the rest of the towns on Cape Cod, Provincetown faces a continuing challenge in managing solid and hazardous waste in an environmentally sound manner. Waste management has become increasingly sophisticated in order to comply with regulations and ensure continued environmental protection. Recycling, composting and safe hazardous waste disposal are recent points of emphasis on both the regional and local levels. Solid waste management is increasingly treated as a regional issue on environmentally sensitive Cape Cod.

7.2.2 GOALS AND POLICIES

GOAL 1: To manage solid waste using an integrated solid waste management system that includes waste reduction, recycling, composting, and regional incineration and landfilling, and to emphasize source reduction. The Town will aim to compost and recycle 20% of solid waste by the year 2000 and 25% by 2005.

POLICY A: Waste to be generated will be handled using the following integrated solid waste management system:

The highest priority, and thus the most preferred method of waste management, is to reduce as much as possible the amount of solid waste created. The second priority is to recycle or compost waste that cannot be avoided. The third priority is to utilize and support development of regional facilities to incinerate waste that cannot be recycled or composted, and finally, to landfill only those wastes that cannot be recycled, composted or burned.

POLICY B: Development and redevelopment shall allocate adequate storage space for interim storage of materials to be recycled.

POLICY C: Construction and demolition debris from development and redevelopment shall be removed from construction sites and disposed of in accordance with the integrated solid waste management system in Policy A., above.

GOAL 2: To dispose of hazardous wastes generated by Provincetown households and businesses in an environmentally sound manner.

POLICY A: Reasonable efforts shall be made to minimize hazardous waste generated by development and redevelopment through source reduction, reuse, material substitution, employee education, and recycling.

POLICY B: Development and redevelopment shall comply with Massachusetts Hazardous Waste Regulations, 310 CMR 30.00.

POLICY C: Development or redevelopment using or storing hazardous materials or wastes should prepare an emergency response plan which identifies potential environmental and health risks and recommends ways to reduce those risks. Such plans should be provided to the Provincetown Fire Chief and Police Chief.

POLICY D: Development and redevelopment that involves the use, treatment, generation, storage or disposal of hazardous wastes or materials, with the exception of household quantities, shall not be allowed with Wellhead Protection Districts.

7.2.3 INVENTORY

Existing Conditions

The Town runs a recycling program with curbside pickup. Recyclable materials collected at curbside include newspaper, cardboard, mixed papers, plastics, metals and glass containers. (Provincetown 1996 Annual Town Report, p. 175) There are currently no plans for regional facilities. Composting of leaves and brush is part of the recycling program at the Transfer Station.

Following curbside pickup, non-recyclable refuse is transported to the SEMASS facility in Rochester, MA. After extensive negotiations with the Cape Cod National Seashore (National Park Service) the Town was able to acquire "Site 9" (the old landfill) to use as a transfer station and recycling site. The Town's contract with the SEMASS facility runs through 2015 (OCCS FIA, p. 35). The transfer station has the capacity to adequately serve Provincetown's needs through buildout.

The Bourne regional landfill currently accepts construction, demolition and other bulky waste. While this meets the needs of contractors and other businesses, there is no current local household service or roll-off container available at the transfer station for Provincetown residents needing to dispose of large items not suitable for curbside pickup.

Provincetown's septage waste is hauled to the Tri-Town Septage

Treatment Facility in Orleans. The Provincetown Board of Health conducts hazardous waste collections on a bi-annual basis. The Town should develop a plan for the short-term and long-term management of hazardous waste at the Transfer Station. Currently, the Transfer Station regulations do not accept any hazardous materials.

7.2.4 ANALYSIS

The following are breakdowns of the amounts of waste generated in Provincetown and on the Cape as a whole that were composted, recycled, incinerated, and landfilled in **FY 1998**:

<u>Provincetown</u>	Tons	Percent
Composted	130	2%
Recycled	870	14%
Incinerated	5,154	82%
Landfilled	123	2%
TOTAL	6,277	100%
<u>Cape Cod</u>	Tons	Percent
Composted	22,859	10%
Recycled	19,940	8%
Incinerated	166,653	68%
Landfilled	34,358	14%
TOTAL	243,810	100%

The recycling figures above do not include deposit containers taken to redemption centers, home composting activity, or goods recycled through swap and thrift shops. The Town's composted material as a percentage of total waste is low more as the result of the lack of compostable leaves and grass than due to a lack of diligence; additionally, the Town has facilitated home composting. Provincetown compares favorably to the Cape as a whole with respect to recycling figures and the amount of waste that does not go into landfills. As late as 1985, the Town landfilled all of its waste, making current figures all the more impressive.

An issue not addressed by current waste collection services is the disposal of large household goods including furniture, mattresses, carpeting, tires, and construction and demolition (C&D) waste. Residents are currently left to their own devices with respect to the disposal of these and other large items; unlike businesses, households cannot typically be expected to rent dumpsters and hire private haulers. As of August 1999, the Town of Provincetown now owns the Transfer Station property. The Board of Health, in conjunction with the DPW, is working to add more recycling services. These additional services will include the collection of materials restricted by the State

and Federal government for disposal at incinerators or remaining landfills.

The addition of collection service (or at least a roll-off container at the transfer station) for large household waste items would go beyond added convenience for Town residents, allowing the weighing of trash to be landfilled and undoubtedly resulting in a reduction of illegal dumping. The prompt addition of such service should be a top Town priority. Completion of the land swap will also allow for necessary expansion of the Town's recycling program.

The costs of waste collection, transport and incineration are high and may become severe when the SEMASS contract expires in 2013. For FY 1996, the cost per ton was \$76.20. Recycling, reuse and composting are the best ways of defraying costs in an environmentally sound manner. Other methods of reducing the generation of trash should be considered, including economic incentives. One such measure is a "pay per bag" system whereby residents pay a direct fee based on the amount of waste they generate. This provides an incentive for citizens to reduce and recycle, easing pressure on both the Town budget and waste disposal facilities.

Public education programs should be continued to underscore the link between the use and disposal of potentially toxic chemicals and environmental degradation. Use of alternatives to toxic chemicals should be encouraged whenever possible and the proper storage and disposal of all hazardous materials and waste must be ensured. The vulnerability of Provincetown's wetlands, water table and coastline make this a particularly crucial issue here.

7.2.5 ACTIONS and IMPLEMENTATION PROGRAM

ACTION 1: Continue to promote recycling and reuse and expand the current recycling program.

ACTION 2: Re-establish the Recycling Committee and recruit members.

ACTION 3: Address the need for household bulky waste disposal services.

ACTION 4: Implement accounting methods that reflect all capital costs and operational expenses of municipal recycling and waste disposal services, and inform taxpayers.

ACTION 5: Investigate economic and other incentives to reduce the generation of household waste including a "pay per bag" system.

ACTION 6: Adopt a toxic and hazardous waste by-law or regulation, using the county model.

ACTION 7: Hold regular household hazardous waste collection events and consider establishing programs at the transfer station for paint wastes and oil (as space permits).

ACTION 8: Develop and maintain an emergency response plan for spills of hazardous materials during transit.

ACTION 9: Develop and conduct a public awareness program addressing the environmental hazards of toxic chemicals.

7.3 CAPITAL FACILITIES AND INFRASTRUCTURE

7.3.1 INTRODUCTION

This Section of the Services and Facilities element contains an inventory and assessment of Town buildings, offices, properties, equipment, staff, and services. Further, this section addresses future service and facility needs and the capacity of the Town to provide them while ensuring protection of the environment and the health, safety and welfare of the public.

7.3.2 GOALS AND POLICIES

GOAL 1: To provide adequate community and regional facilities to meet community needs that are consistent with the goals and policies established in the Local Comprehensive Plan and the Regional Policy Plan.

POLICY A: Approval of development or redevelopment that increases the intensity of use shall be based on existing infrastructure and system capability or on a development's ability to provide for or contribute to the infrastructure and services necessary to support it. The provision of infrastructure and services should be consistent with the Regional Policy Plan, the Local Comprehensive Plan, the Capital Improvements Plan, and the Zoning By-laws and Development Impact Standards. Installation of necessary infrastructure shall be timed to meet the need generated by the development or a contribution of funds toward the necessary improvements shall be provided.

POLICY B: Development of new infrastructure shall occur only after an analysis of its impacts with regard to land use, traffic, water supply, natural resources, historic preservation, and community character. Other applicable issue areas identified in the Regional Policy Plan and shall be consistent with the Local Comprehensive Plan and Town's Capital Improvements Plan.

POLICY C: Privately provided infrastructure to service development and redevelopment shall be consistent with the Local Comprehensive Plan and, when constructed off-site, shall receive formal approval from the Town prior to construction.

POLICY D: Public investments, including construction or expansion of infrastructure and facilities, including but not limited to municipal buildings, water supply and distribution, sewage collection and treatment, roads, telecommunications, and related facilities should reinforce Provincetown's traditional character and development patterns.

GOAL 2: To encourage the provision of adequate and appropriately-sited telecommunications facilities so as to promote economic development and preserve Provincetown's quality of life and visual character.

POLICY A: Telecommunication facilities shall be reviewed in accordance with Article X, Wireless Telecommunication Towers and Facilities, of the Provincetown Zoning By-law. The by-law calls for and the Town should support collocation of facilities on any monopoles that are erected in accordance with the by-law.

7.3.3 INVENTORY

A. Government Facilities and Staff

Provincetown Town Hall houses the Town Manager, Director of Municipal Finance, Town Clerk, Town Accountant, Principal Assessor, Department of Regulatory Management (DRM), and the Board of Selectmen. It is also regularly used for Town Meeting, public hearings, meetings of Town boards, commissions and committees, and other public events.

The Grace Gouveia Building on Alden Street houses the Department of Public Works, Water Department, the Town Nurse's Office, the Council on Aging, the Grant Administrator, the Domestic Violence Program, and Veterans Services.

Other Town facilities include the Police Station, Fire Facility, Community Center, Public Library, MacMillan Pier, Heritage Museum, Cape End Manor Nursing Home, Transfer Station, cemetery, and municipal parking lots, as well as the schools.

Town administrative staff includes the Town Manager, Assistant Town Manager, Town Clerk, Grant Administrator and support staff.

The Department of Municipal Finance, which includes the Director of Municipal Finance, the Town Accountant, the Assessor's Office and the Treasurer/Collector's Office, has a staff of 10.

Other municipal departments include the DPW, Parking Department, Department of Regulatory Management, Marine Department, Water Department, Health Department, Cape End Manor, Library Department, Recreation Department, Veteran's Services/Civil Defense, the Council on Aging, and the Heritage Museum.

B. Police

The Police Department is housed in a modern facility on Shank Painter Road. The department employs a staff of 25 full-time employees as well as supplemental summer employees.

C. Fire

The new fire station on Shank Painter Road was built at a cost of \$1.2 million and opened in 1993. Five engine companies serve the Town.

The only paid Fire Department staff for 1995, other than part-time EMTs and paramedics, were the Fire Chief and Department Secretary.

D. Other Public Safety/Rescue

Public safety services include the local Rescue Squad and the Lower Cape Ambulance Association, Inc., which serves Truro and Provincetown.

E. Education

Provincetown's public schools are Provincetown Junior/Senior High School and Veterans Memorial Elementary. The total enrollment in both schools for 1995-96 was 350 pupils, down from 384 the previous year. That total is expected to continue to drop in the near future. The Town is currently recruiting high school students from neighboring towns. Cape Cod Regional Technical High School represents another (regional) educational option for Provincetown youngsters; in 1995-96, six local students were enrolled at Cape Cod Tech, down from a ten-year high of 21 in 1985.

F. Public Works

The Town's Department of Public Works (DPW) employs 28 persons and consists of six divisions: Solid Waste/Recycling, Water, Highways, Cemetery, Buildings and Grounds, and Forestry. The following are summaries of major public works inventories and projects. The DPW has a fleet of some 22 vehicles, as well as mowers, backhoes and other equipment. The Highway Department is currently replacing all of the Town's sidewalks at a cost of \$350,000. No other major road improvement projects are anticipated other than ongoing maintenance and repairs, which are funded partly by the State's Chapter 90 program. (OCCS FIA, p. 41)

The Town continues to consider transferring Route 6 to Town jurisdiction, acquiring land in the right-of-way for potential use for Town facilities. While such a move would increase Town landholdings, the addition of 8 miles of road would also increase local public works operating costs. Additional Highway Department tasks include street sweeping, painting, cold patching, hot mixing, cleaning and repairing drains, and storm and emergency service.

In addition to care of the Cemetery, maintenance responsibilities include the upkeep of other Town grounds including the Grace Gouveia Building, Library, Comfort Station, Harry Kemp Way, Monument Park, and Motta's Field. Cemetery Department personnel are also responsible for the sale of lots for burials.

Public Water Supply

All of Provincetown is served by the municipal water system, which draws its water from the Pamet Lens in Truro (see the Water Resources Section of the Natural Resources Element for more detailed

inventory and analysis of the public water supply). Water consumption continues to rise yearly, despite conservation efforts.

The Town recently completed a corrosion control program in order to comply with the State DEP lead and copper requirements. Total costs are estimated to be \$500,000, to be drawn from Provincetown's Water Enterprise Fund--having no effect on the general fund or tax rate.

Water Department staff includes eight full-time employees.

Sewage Facilities and Septage Disposal

Although the Town currently has no sewer system, an overall strategy for wastewater collection, treatment and disposal is currently being addressed by the ongoing Wastewater Facilities Management Plan. The density of development in downtown Provincetown and recent changes to Title 5, the State Sanitary Code, contribute to problems caused by septic systems; any potential alternative wastewater systems are contingent on the findings of the wastewater plan.

Provincetown maintained septage lagoons at the sanitary Landfill until August 1991, when the Town began disposing of its septage at the Tri-Town Septage Treatment facility in Orleans. The current contract with Tri-Town expires in 2013.

G. Harbor and Marina Facilities and Staff

The U.S. Army Corps of Engineers recently performed harbor dredging operations at no cost to the Town. The Marine Department includes the Marine Superintendent (Harbormaster), Assistant Harbormaster and Shellfish Constable .

H. Health and Welfare

Health Care Facilities and Services

Outer Cape Health Services has a facility in Provincetown and one in nearby Wellfleet. Individual practitioners maintain a small number of private medical offices in Town. It is important to note that the nearest hospital is 60 miles away, Cape Cod Hospital in Hyannis.

Public Housing

The Provincetown Housing Authority (PHA) administers 24 elderly housing units and 8 family units. The Town has developed a 10-unit housing facility for people with HIV/AIDS. This and other public housing is funded through state and federal housing grants and does not entail significant municipal expenditure.

Cape End Manor

Cape End Manor is a municipally operated nursing home. It has a capacity of 55 patients. Sixty administrative and medical staff cares for the patients. It is the only nursing home on the Lower Cape, and one of the few in the State that is operated by a municipality.

I. Culture and Recreation

Provincetown Public Library

The Library has approximately 25,600 volumes and 125 magazine subscriptions. In 1998, the Library circulation reached 44,860 (double that of 1993). Other resources include 6 personal computers, Internet service, a photocopier, a television, and a videocassette recorder. The library staff is equivalent to 3.6 full-time employees, with 56 volunteers assisting the full-time staff. Improvements were recently completed making the Provincetown Public library handicapped-accessible with the addition of an elevator and accessible lavatory facilities.

Heritage Museum

Located in the former Methodist Church on Commercial Street, The Heritage Museum has operated at a loss in recent years and currently faces some \$118,000 in necessary repairs. Approximately half of this amount was approved at Town Meeting if it is matched by State funding.

Senior Center

A grant of \$180,000 from the Massachusetts Executive Office of Communities and Development was recently used for expansion and improvement of the Senior Center at the Grace Gouveia Building.

Open Space

Provincetown has two municipal conservation areas. Totalling nearly 15 acres, Foss Woods was acquired in 1995. Also in 1995, the Provincetown Conservation Trust was given a Conservation Restriction for the Railroad Right-of-way abutting Foss Woods to Howland Street. In 1999, the Town purchased the 7.52-acre Shank Painter Pond Uplands, for a total municipal conservation area of 22.52 acres. No Town on Cape Cod has more protected land--some 70 percent of the total land area. The Province Lands, previously owned by the Commonwealth and now part of the Cape Cod National Seashore, have long been protected and have determined the location of development. Other protected land not under National Park Service jurisdiction includes the Water Resources District and over 30 acres of land held by the private, non-profit Provincetown Conservation Trust.

J. Provincetown Municipal Airport (PMA)

The PMA occupies some 332 acres of land situated within the National Seashore. The airport is operated by the Town through the Provincetown Airport Commission, by virtue of the deed conveying the Provincelands to the federal government and under the conditions of Special Use Permits issued by the National Park Service. The Airport Commission consists of five Commissioners appointed by the Board of Selectmen. Operation and maintenance of the airport are financed by airport revenues while capital improvements are generally financed through combined federal, state and local funds. Acceptance of federal

and state funds to finance capital improvements requires compliance with Federal Aviation Authority (FAA) standards.

The PMA has a single paved runway approximately 3,500 feet long and a full-length parallel taxiway. Facilities include a small terminal building with an attached hangar, a small general aviation pilot's shack, and fuel facilities. Aircraft parking is provided on two apron areas, one for commuter aircraft and the other for private (general aviation) aircraft. There is also a small turf aircraft overflow area and automobile parking.

The Cape Cod National Seashore's draft General Management Plan and a Memorandum of Understanding (MOU) with the Town of Provincetown recognize the right of the airport to exist, to provide year-round commuter air service, and to provide such improvements as are required in the interests of public safety. The MOU specifies that the Town's permitting of the Hatches Harbor restoration will be considered to be mitigation for airport safety improvements

7.3.4 ANALYSIS

The Land Use and Growth Management Element of the LCP provides population and buildout projections which will have impacts on Town services and facilities in the future. The potential for conversion of seasonal homes to dwellings that can be occupied throughout the year raises the prospect of an increasing demand for services and facilities in the future. All future development and expansion of Town buildings, facilities and services must be carried out in a manner that is consistent with the Town's historic preservation and environmental protection goals and policies.

A. Government

In the estimation of the Outer Cape Capacity Study Fiscal Impact Analysis (December, 1996), Town Hall, which houses local government, is not expected to require any major capital investments "in the foreseeable future" besides "ongoing normal maintenance." It further states that "[a]ll future investments are assumed to be fundable from within the General Fund or the normal maintenance debt load." (OCCS FIA, p. 34) The Town DPW has requested \$30,000 for Fiscal Year 1998 for electrical upgrade, structural analysis and repair and replacement of exterior doors at Town Hall, with an additional request of \$20,000 for building insulation and sidewalks in 1999.

Other facilities housing local administration and services are sufficient now and for the near future; given the shortage of available developable land and the limited prospects for expansion of existing facilities, Town employees and residents must accept the likelihood of space constraints in the future.

B. Police, Fire, Public Safety, and Rescue

The Police Department has no foreseeable expansion needs and expenditures are expected to be limited to "normal equipment replacement debt." (OCCS FIA, p. 40) The fire department believes another fire station may be necessary in the future to serve the East End fire companies. No major public safety investments are expected in the near future. (OCCS FIA, p. 41)

C. Education

Current enrollment in Provincetown schools is below the capacity of the physical plant and projections indicate that future expansion of facilities is not likely to be needed. Some growth in enrollment would actually be beneficial in that "existing facilities could be used more efficiently and capital and operating costs could be spread over a broader base, lowering the per-pupil costs." (OCCS FIA, p. 41)

If enrollment continues to decline as expected, the Town will face major decisions as to the best use of its schools. These decisions will, in turn, affect the use of other Town facilities. A plan should be developed to address potential scenarios.

D. Public Works

No expansion of the existing water supply system is anticipated, although the Town faces a tenuous future with regard to the continued long-term availability of sufficient high quality water. Water Conservation efforts should continue, as should cooperative efforts with the National Seashore and neighboring towns to ensure the fulfillment of long-term water needs. (See the Water Resources Section of the Natural Resources Element for more in-depth analysis). A capital project request for \$420,000 is slated for corrosion control at the Paul Daley Wellfield in FY 1998, with another \$200,000 targeted for corrosion control at Knowles Crossing and \$150,000 for "site treatment facility removal" in FY 1999.

The Wastewater Facilities Management Planning Study will cost a total of \$239,000 through FY 1998. Contingent upon the findings and recommendations of the plan, it is expected to be 3 to 5 years before the implementation of any major sewerage program might possibly occur. Because the Town's options are undefined at this point, cost projections are unwarranted.

"Capacity at the Tri-Town facility is said to be adequate, although anticipated improvements in the facility will increase the costs of disposal. However, no significant government costs will be involved, as consumers will pay for higher disposal rates." (OCCS FIA, p. 35) Long term septage disposal is likely to be a regional concern and solutions and costs most likely will have to be addressed regionally. The DPW has solid waste/recycling capital project requests of \$145,000 for equipment in FY 1998 and \$275,000 earmarked for "old burn dump closure construction" in FY 1999.

Highway Department capital projects requests include replacement of two dump trucks, street and sidewalk repairs, reimbursement of state funds for street and sidewalk reconstruction, and purchase of a pumper truck at a total cost of \$200,442 for FY 1998 and an additional \$140,442 through FY 2002.

No Harbor dredging costs are anticipated in the foreseeable future. Pier upgrading is necessary--the Harbor Plan recommends reconstruction, with extensive upgrades to serve small boat commercial fishing and passenger boats. A reconstruction budget has been estimated at approximately \$12.8 million. To receive unfunded authorizations from the Commonwealth totaling \$7.5 million the Town would have to provide a 25% "match" or \$2.5 million. Additional funding sources include the Commonwealth's water access grant program.

E. Cape End Manor

More than forty years ago, the Town of Provincetown decided to get into the nursing home business. It did so because the private sector would not, and because provision of nursing home services was important to and for our residents. As the new millennium approaches, the challenges of the regulated healthcare environment are much more complex, but the goal is the same. To make sure that there is a nursing home in Provincetown for our residents who need it, regardless of their ability to pay.

There remains a commitment by the Town to reexamining how the Manor is governed and operated, in order to agree upon the best means of delivering quality medical services, even if it means changes in how we do business. A number of positive changes have been made recently. With patient census stabilized, excellent ratings from State inspectors, and improved relations between management and the union, the Manor seems well on its way to carrying a greater financial responsibility for the Town. In discussions at recent Town Meetings, residents have made it clear that these services are important to them, in order that our elderly and ill residents not be removed from the community. The nearest facilities would be 20 miles away in Orleans.

F. Library

The Library has approximately 25,600 volumes and 125 magazine subscriptions. In 1998, the Library circulation reached 44,860 (double that of 1993). Other resources include 6 personal computers, Internet service, a photocopier, a television, and a videocassette recorder. The library staff is equivalent to 3.6 full-time employees, with 56 volunteers assisting the full-time staff. Improvements were recently completed making the Provincetown Public library handicapped-

accessible with the addition of an elevator and accessible lavatory facilities.

The lack of sufficient space affects everything that takes place at the library. A recent analysis has shown that a library serving the people of Provincetown needs 14,000 square feet of space. The present Library building has less than 5,000 square feet. The acquisition of new books frequently requires that old books be discarded. The tight quarters make it difficult to offer the new programs and services that patrons expect and deserve.

The Library has undertaken a study to re-locate to the Heritage Museum building. Historically, this building has been underutilized, and is badly in need of repairs and restoration. The Library hopes to solve its space problems and to rehabilitate the building at the same time. Any plan for relocation would not include removing the Rose Dortha ship model from the building.

G. Provincetown Municipal Airport

Proposed airport improvements include construction of a one-story double-bay storage facility for fire fighting equipment and vehicles. Expansion of the parking aprons to handle aircraft that remain at the airport for extended periods of time. Construction of 600' by 300' safety areas at each end of the runway, and extension of the runway by 1,000 feet to provide improved landing/takeoff opportunities for larger aircraft and a new terminal building. Approval is contingent on assurance that the effects on surrounding wetlands will be minimized.

7.3.5 ACTIONS AND IMPLEMENTATION PROGRAM

ACTION 1: Continue to review regulations and develop maps to plan for appropriate locations of community needs such as affordable housing, waste disposal, recreation, economic development, and other necessary services and facilities.

ACTION 2: Identify and plan for necessary infrastructure improvements, such as to public water supply or wastewater treatment facilities, recognizing the limitations imposed by environmental constraints, historic resources and financial considerations.

ACTION 3: Inventory existing and potential sites for cellular and other wireless communications facilities and adopt local by-laws and siting criteria to regulate communications facilities, consistent with the RPP and LCP.

ACTION 4: Maintain a 5-year Capital Improvement Plan (CIP) addressing the following:

- needed facilities & financing mechanisms for construction;
- repair, expansion, replacement of public facilities & services;
- funding priorities & sources of funds;
- impact fees if necessary.

ACTION 5: Establish levels of service for all Town services in order to spot deficiencies and to establish a base line. Develop a preferred level of service for all services which is incorporated with the Town's Capital Improvements Plan to bring deficient areas up to the desired level.

7.4 ENERGY

7.4.1 INTRODUCTION

This Section is made up of Goals and Policies and an Action and Implementation Program. In addressing all of its energy needs and issues, Provincetown must face the reality of paying energy costs that are among the highest in the nation. The average Cape Cod resident pays \$475 more annually than off-Cape residents of Massachusetts, even though usage is 11% less. (RPP, p. 83). In addition, Provincetown's energy infrastructure is years behind most other communities, still relying on above ground lines and poles that provide inadequate and poor quality service, and no pipeline for natural gas. No alternative technologies, such as wind generation, have been implemented or explored, although that is a resource Provincetown has an abundance of, especially in the winter.

The Town must make energy part of its overall plan for the future. Costs are likely to escalate further, and may become a hindrance to doing business. Already the poor quality of the infrastructure, specifically the lack of adequate and consistent electrical current, no facilities for cellular phone service, and the lack of any capability to expand services, makes it impossible for computer based businesses to locate in Provincetown.

7.4.2 GOALS AND POLICIES

GOAL 1: To encourage energy conservation and improved energy efficiency, to encourage and stimulate investment in energy conservation and renewable energy resources, and to manage land uses to maximize energy efficiency.

POLICY A: Development and redevelopment should be designed to promote the efficient use of energy including orienting structures to take advantage of solar gain and to maintain solar access for adjacent sites. Site design should protect and optimize the potential for the use of solar energy.

POLICY B: New development should lay utility lines underground for aesthetic and security purposes and to facilitate the development of walkways and bikeways.

POLICY C: Energy saving transportation activities including carpooling, mass transit programs, bicycling and walking should be

encouraged. Bikeways and walkways should be linked together to facilitate creation of a network that ties together the entire Cape.

GOAL 2: To develop a comprehensive energy policy for the Town, and perform an energy evaluation of the Town as it applies specifically to municipal buildings, vehicles and services.

GOAL 3: To share information with the Town's citizens regarding the ongoing restructuring of the electrical industry, and to protect the interests of the Town by participating in regional planning sessions to organize cooperative purchases of electricity for obtaining a lower price.

7.4.3 INVENTORY

Section 7.4.5 contains actions requiring the Town to establish a baseline inventory of energy need and use. There are questions that should be answered in order to understand how energy is utilized and where the Town could make potential savings and improve efficiency. No such inventory exists at this time.

No reliable figures exist either on how many of the dwelling units and other structures in Provincetown would comply with current energy standards or codes. Because of the age of the building stock, and that fact that many of the structures were not originally intended for year-round use, one can hazard a guess that a substantial amount of energy is being wasted due to lack of proper insulation, windows and doors.

Electricity is provided via a long line of poles stretch along Route 6 from Orleans. Whether related to weather or to the linear nature of the system, power outages are frequent. The line of poles continues marching right down Commercial Street, and at its narrowest point, pose a real hazard to pedestrian and vehicle traffic. The Town has undertaken a study of the cost to relocate these lines underground and remove the poles. Many have suggested that during the construction of a wastewater treatment facility would be an ideal time for relocation.

Problems also exist with fluctuating current levels that adversely affect sensitive electronic equipment. Because these fluctuations consist of both peaks and valleys, installation of a surge protector is not sufficient to protect most of this equipment. The Town does not have natural gas lines. So far the underground pipe has been extended down the Cape only as far as Wellfleet. Propane tanks stored on the property supply all gas in Provincetown.

7.4.4 ANALYSIS

The Town must develop a coherent energy policy to guide its citizens through the ongoing electric industry restructuring. Town government should take the lead in understanding new rate structures and discount options as well as in adopting conservation methods and use of renewable energy sources. The Town must also focus on municipal energy efficiency by determining how much energy it uses in municipal and school buildings and in operating and maintaining Town vehicles. Much of Provincetown's housing stock fails to comply with either State or federal energy

codes. Major steps need to be undertaken to upgrade and retrofit these properties to promote energy conservation. This upgrading should also be done under the guidance of the Historical Commission and with an eye toward the historic character of the Town.

7.4.5 ACTIONS and IMPLEMENTATION PROGRAM

ACTION 1: Revise and enforce energy conservation standards for new development and redevelopment.

ACTION 2: Provide incentives for energy conserving building improvements and renewable energy devices in all existing and new buildings.

ACTION 3: Develop and adhere to an energy efficiency program for municipal buildings, facilities and street lighting. Establish an Energy Assessment for the Town.

ACTION 4: Research carpooling and ridesharing grant programs for regional application in coordination with other Outer Cape communities.

ACTION 5: Consider utilizing clean alternative fuels, i.e. propane gas, consolidated natural gas (CNG) and electricity, for all new Town fleet vehicles and shuttle buses.

ACTION 6: As an ongoing practice, take advantage of options and savings provided in the competitive electric utility market; take advantage of new energy technologies as they are market-proven.

ACTION 7: Establish a priority list of overhead utility lines and associated structures that should be installed underground for reasons of safety, enhancement of community character, heritage preservation, or restoration of scenic views.

APPENDIX A List of References

Reference	Referenced in Plan	Source
Cape Trends	Page 75	
Provincetown Municipal Airport Master Plan	Page 104	Town Clerk
Conwell Street Traffic Study	Pages 105, 106	Cape Cod Commission
Exterior Lighting , Technical Bulletin 95-001	Page 65	Cape Cod Commission
Guidelines for Referral of Historic Structures	Page 63	Cape Cod Commission
Regional Policy Plan	Pages 24,31,43,50, 58, 61, 70, 72, 84, 108, 113	Cape Cod Commission
Designing the Future to Honor the Past	Page 5	Cape Cod Commission
Cape Cod Long Range Transportation Plan	Page 101	Cape Cod Commission
Outer Cape Capacity Study	Pages 15, 16, 17, 48, 87, 93, 105, 117	Cape Cod Commission
Nitrogen Loading, Technical Bulletin 91-001	Page 22	Cape Cod Commission
Cape Cod Water Resources Classification Maps 1 & 2 , dated September 5, 1996	Page 22	Cape Cod Commission
Wetland Buffers, Technical Bulletin 96-00X	Page 44, 46	Cape Cod Commission

Plant and Wildlife habitat Assessment Guidelines, Technical Bulletin 92-002	Page 45	Cape Cod Commission
Provincetown Harbor Plan	Pages 2, 28, 37, 39, 40, 42, 78,79, 80, 119	Town Clerk
Provincetown Harbor Regulations	Page 28	Town Clerk
1988 Master Plan	Pages 1, 4, 63, 72, 75, 93, 99, 103, 104, 105, 106	Town Clerk
Open Space and Recreation Plan, 1995	Pages 27, 38, 42, 58, 60	Town Clerk
Community Vision Project, July 1995	Pages 1, 19, 31, 41, 63, 69	Town Clerk
Comprehensive Survey of Historic Structures, Stage One, 1993-1994	Page 66	Town Clerk
Provincetown Capital Improvements –5 year plan	Pages 113, 120	Town Clerk
Provincetown Wastewater Facilities Management Plan	Pages 18, 24, 29, 115, 118	Town Clerk
Final Needs Assessment Report for Wastewater Management Facilities Planning Study, 1997	Pages 6, 26, 30,	Town Clerk
Cape Cod Critical Habitats Atlas	Page 47	Town Clerk
Provincetown Zoning By-laws	Pages 3, 8, 11, 15, 20, 46, 51, 64, 113,	Town Clerk
Provincetown General By-laws	Page 38	Town Clerk
Economic Development Plan	Pages 72, 75, 76, 77, 78, 79, 80, 81	Town Clerk
Provincetown Transportation Center Master Plan, 1995	Pages 99, 103, 105, 106	Town Clerk
Criteria for Evaluating Affordable Housing Proposals and Procedures for Securing Affordable Housing Permits	Page 84	Town Clerk