

BARNSTABLE COUNTY ASSEMBLY OF DELEGATES
1991 Session
Ordinance No. 91-6

To adopt, pursuant to Section 8(e) of the Cape Cod Commission Act, the Regional Policy Plan, adopted June 20, 1991, for Cape Cod.

Barnstable County hereby ordains:

Section 1. Declaration of Intent

Section 2 of this ordinance adopts, contains and may be cited as "The Regional Policy Plan for Cape Cod". By this ordinance, the Assembly of Delegates and the Board of County Commissioners intend to exercise to the fullest extent possible their responsibilities under Section 8(e) of Chapter 716 of the Acts of 1989, as amended, entitled "An Act Establishing the Cape Cod Commission".

Section 2. The Regional Policy Plan for Cape Cod

(a) Introduction

A Vision

The Regional Policy Plan is an expression of the shared aspirations of Cape Codders for the future. It is also a commitment by Barnstable County, in exercising its authority under the Cape Cod Commission Act, to serve as steward and trustee of the natural and cultural resources of Cape Cod and to work toward the development of a sustainable regional economy.

It is a Plan that recognizes the Cape as a fragile and beautiful place: a land of pine barren, kettle pond and sand dune; piping plover and gray seal; beach, salt marsh and bay; village lane and stone wall. It is a Plan that seeks to protect habitat, in the awareness that Cape Cod is home to endangered species of global significance. And it is a Plan to conserve a cultural landscape shaped slowly over 10,000 years of human habitation.

The Plan also recognizes that Cape Cod is home to 186,605 year-round residents, provider of jobs for 73,466, and the seasonal destination for millions of visitors. It is a Plan about creating the conditions for good jobs and decent, affordable housing. And it is necessarily a Plan to address problems such as traffic jams, waste disposal, and contaminated ground water, and deal with the location of a whole range of land uses from private homes, to amusements parks, to shopping malls.

In short, it is a Plan that seeks to articulate a collective vision, to define the essence of Cape Cod, and to discover a way for us to inhabit and enjoy the Cape without turning it into merely another place. It is a Plan to protect the best of Cape Cod and repair the mistakes of the past.

Not merely a vision, the Regional Policy Plan is a set of expectations and standards. High expectations that the quality of development on Cape Cod will be good, and clear standards to ensure that those seeking to develop Cape Cod will face predictable requirements.

The Regional Policy Plan will come to life only through the continuing work of many individuals -- those who serve on the Cape Cod Commission and weigh the benefits and detriments of Developments of Regional Impact, delegates to the Barnstable County Assembly who designate Districts of Critical Planning Concern, members of Local Planning Committees who prepare Local Comprehensive Plans, state and federal officials who seek to make their agency's actions compatible with the goals and policies of the Plan, developers who build the new Cape Cod, and, above all, citizens who actively participate in the formulation of a vision for their individual communities. For all of them, this Plan will serve as a guide to the future of Cape Cod.

Background

The Cape Cod Commission Act was approved by the voters of Barnstable County in March 1990. Under the Act,

the purpose of the Cape Cod Commission is to further "the conservation and preservation of natural undeveloped areas, wildlife, flora and habitats for endangered species; the preservation of coastal resources including aquaculture; the protection of ground water, surface water and ocean water quality, as well as the other natural resources of Cape Cod; balanced economic growth; the provision of adequate capital facilities, including transportation, water supply, and solid, sanitary and hazardous waste disposal facilities; the coordination of the provision of adequate capital facilities with the achievement of other goals; the development of an adequate supply of fair affordable housing; and the preservation of historical, cultural, archaeological, architectural, and recreational values."

The Commission is charged with reviewing and regulating Developments of Regional Impact, recommending designation of Districts of Critical Planning Concern, and preparing and overseeing implementation of a regional land use policy plan. The purpose of the Regional Policy Plan is to outline a coherent set of planning policies and objectives to guide development on Cape Cod and to protect its resources. The Act requires that the Regional Policy Plan identify the Cape's critical resources and management needs, establish a growth policy for the Cape, set regional goals, and develop a policy for coordinating local, regional and other planning activities.

The Regional Policy Plan is both a planning and a regulatory document and serves several purposes simultaneously. It establishes review and regulatory policies that the Commission will apply to Developments of Regional Impact. As such, it provides direction for developers and the general public as to the standards that the Commission will require of development and redevelopment that falls within its jurisdiction. It also provides the framework for town local comprehensive planning efforts, and will be used as a basis for the Commission's review of Local Comprehensive Plans for consistency with County policies. Finally, the Plan identifies key resources of regional concern that may deserve special recognition and protection through the creation of Districts of Critical Planning Concern or other types of planning efforts.

Planning Process

The Regional Policy Plan is the product of a planning process that was initiated shortly after the formation of the Cape Cod Commission. The Plan has been drafted under the direction of the Planning Committee of the Commission, and has been formed by extensive public participation and comment. Staff members with expertise in the areas of water resources, transportation, solid and hazardous waste management, land use, open space, housing, historic preservation, economic development, wetlands, wildlife and coastal resources have participated in formulating the recommendations in their areas of interest. Members of the Planning Committee have conducted a detailed review of all draft materials as they were produced, and have supervised the revisions in response to public comments.

A key set of participants in shaping the Plan has been the Regional Policy Plan Advisory Board, made up of representatives of a wide variety of different interest groups including: the Association for the Preservation of Cape Cod, the Barnstable County Bar Association, the Cape Cod Board of Realtors, the Cape Cod Home Builders Association, the Compact of Cape Cod Conservation Trusts, the Cape Cod Chamber of Commerce, the Barnstable County Health and Human Services Advisory Council, five representatives of the Barnstable County minority community, and one member representing each of the following groups: a town planning board, a town board of health, a town conservation commission, a town housing authority, and a local housing partnership. The Regional Policy Plan Advisory Board has met regularly throughout the planning process and has provided detailed comments on the draft materials as they were prepared. The Board's input has been invaluable in identifying potential problems in the Plan and in suggesting solutions to meet the diverse needs of Cape Cod residents.

The Local Planning Committees from each of the 15 Cape Towns also have played a key role. Appointed by the local Boards of Selectmen, the Local Planning Committees have worked with the Commission staff and the Planning Committee to identify important issues and comment on the goals and policies of the Plan as they have been drafted. Made up of members of local planning boards and other relevant town committees (such as conservation commissions, historic commissions, boards of health and related groups), the Local Planning Committees will have a crucial role in implementing the recommendations of the Regional Policy Plan through the development of Local Comprehensive Plans in towns that choose to prepare them. These Committees have provided an important perspective in developing the Regional Policy Plan by identifying the regional differences and problems that needed to be addressed in the Plan.

The Governor's Committee, composed of the Secretaries of the Executive Offices of Environmental Affairs, Transportation and Construction, Economic Affairs, Labor, and Communities and Development, have brought an important state perspective to the planning process. The Committee has met several times with the full Commission to discuss the Plan and has provided detailed comments in writing on the draft goals and policies.

Residents' Survey

In addition to the input from these official advisory groups, the Commission contracted with Clark University to conduct an in-depth opinion survey of Cape Cod residents as part of the planning process for the Regional Policy Plan. The purpose of the survey was to ascertain residents' views on a broad range of questions relevant to the Plan such as:

- What kinds and levels of economic development are preferred by Cape residents?
- What resources are residents prepared to commit to support preferred levels of development?
- What are residents' environmental concerns and priorities for Cape Cod and their individual towns?
- What issues do residents feel the Commission should work on?
- What are residents views about various regulations and guidelines the Commission might implement?

The survey was distributed to 4000 Cape residents who were selected through a scientifically developed random sample. More than 2400 questionnaires were returned, for an exceptionally strong response rate of 67%. The findings of the survey indicate strong support for protection of the Cape's water supply and surface waters, preservation of historic areas and open space, and control of traffic congestion as well as support for clean light industry and new cultural facilities. The results of the survey are an important part of the background material for the Plan.

Public Meetings

The Commission has conducted a series of public meetings during the formulation of the Regional Policy Plan in order to solicit input from citizens, town officials, and interest groups. The staff also has held numerous meetings with technical experts, scientists, citizen advocates and state officials to research specific topics of concern. In August and September of 1990, there were three public sessions, one in each part of the Cape, to identify the issues that should be covered in the Plan. More than 300 people participated in these meetings, providing valuable suggestions as to the proper scope of the Plan. Topics covered included land use/growth management, water resources, wetlands and wildlife, historic preservation/community character, open space/recreation, economic development/job creation, affordable housing, transportation, waste management, and coastal planning/shellfishing/water quality.

In November, the Commission hosted a second set of workshops, each focused on a particular subject area. Draft goals and policies in each area were circulated for review prior to these five workshops, and individuals and organizations with particular expertise or interest in each subject were specifically invited to attend. The Commission received over 15 hours of testimony during these sessions, and subsequently received many more comments in writing. The Planning Committee and staff of the Commission reviewed the testimony and written comments in detail and prepared a substantially revised draft that was reviewed by the full Commission in January of 1991 and presented to the public in another series of Cape-wide public hearings in February and March. These hearings were also well-attended, with more than 300 persons participating.

The official Draft Regional Policy Plan was issued on March 27, 1991. More than 650 copies of the draft were distributed to individuals and organizations throughout Barnstable County, as well as to interested state agencies. Following the issuance of the Draft Plan, the Commission held a third set of regional hearings in mid- May to solicit further public input on the Plan before it was revised and forwarded to the County Assembly of Delegates for adoption as a County Ordinance.

Organization of the Regional Policy Plan

Section 2(a) of the Regional Policy Plan contains an Introduction and Definitions for key terms contained in the Plan, as well as a listing of common abbreviations. Section 2(b) of the Plan presents a Growth Policy for Cape Cod and contains background or Issue Papers that define the scope of issues and the nature of problems to be addressed in the Plan. This section also contains numbered Goals and Policies that cover each of the issue areas. Finally, this

section of the Plan addresses Implementation, with specified Commission Actions and Recommended Town Actions. The Commission Actions are listed in order of priority and contain activities that the Commission or staff will undertake in order to further the goals and policies in the Regional Policy Plan. It is anticipated that these actions will be undertaken over a period of years utilizing existing staff and funding. The activities listed as Recommended Town Actions comprise actions that towns will be encouraged to carry out in order to further the goals and policies in the Regional Policy Plan. Towns are expected to consider each of these actions in their Local Comprehensive Plans. The Commission has developed Guidelines for Local Comprehensive Plans as a separate document.

Section 2(c) of the Plan delineates Resources of Regional Importance on Cape Cod. Those resource areas that may benefit from better management are likely candidates for nomination as Districts of Critical Planning Concern. Section 2(d) outlines a strategy for coordinating regional and local planning efforts, including the activities of private parties and local, state and federal governmental authorities.

The Regional Policy Plan and the Regulatory Process

Application of the Regulations

The Regional Policy Plan does not change or alter any existing local, state or federal regulations. The requirements set forth in the Plan are in addition to other regulatory requirements and do not exempt any person from complying with applicable local, state and federal laws.

The Regional Policy Plan includes broad goals which set the direction for future and more detailed policies that specify how those goals can be accomplished. Included in these policies are both Minimum Performance Standards and Other Development Review Policies. The Minimum Performance Standards of the Regional Policy Plan set forth the minimum standards that future development on Cape Cod is required to meet. The Commission will apply these standards in reviewing Developments of Regional Impact, and the towns that choose to prepare Local Comprehensive Plans will incorporate consistent standards in their Local Comprehensive Plans and implementing regulations.

The Other Development Review Policies of the Plan are standards that the County desires to promote. The attainment of these standards shall be considered as a benefit in the Commission's weighing of benefits and detriments of a Development of Regional Impact as required by the Act. These are also the standards that the County urges towns to support through their Local Comprehensive Plans. Because these Policies are recommended rather than required, they contain terms such as "should" and "encouraged."

In general, the Minimum Performance Standards and Other Development Review Policies of the Regional Policy Plan are intended to be used by both the Commission and local regulatory authorities such as planning boards, boards of health, conservation commissions, historical commissions and similar bodies once they have adopted a Local Comprehensive Plan and it has been certified by the Commission. However, in some instances, the Standards apply only to Developments of Regional Impact (DRIs); when this is the case the text of the Regional Policy Plan specifies that the Standard is for DRIs. In other instances, there are Minimum Performance Standards and Other Development Review Policies which are designed for projects that are not subject to Commission review as DRIs. In these instances, the Standards and Policies are intended for the towns to apply through their local regulations.

Flexibility

The Minimum Performance Standards are mandatory standards, hence, they use the word "shall". However, if it can be demonstrated by an applicant that the interests protected by a given Minimum Performance Standard can be better served by an alternate approach, the Commission or the Local Permitting Authority may modify the application of these standards. In approving such a modification, the Commission or the Local Permitting Agency must make a finding that the proposed use will not be more detrimental to the protected resource than would be allowable under the applicable Minimum Performance Standard. The burden of proof to demonstrate that such a modification is acceptable shall be on the applicant.

Private Property Rights

In some circumstances, property subject to regulation may be left with no remaining reasonable use due to the application of one or more of the Minimum Performance Standards of the Plan. In such cases, the Commission or the local permitting authority (e.g. the planning board, conservation commission, board of health, etc.) may modify the application of such standard(s) provided that the applicant demonstrates that he or she has complied to the

maximum extent feasible with the relevant Performance Standard(s). Local authorities should incorporate into their bylaws and regulations provisions for special permits or variances to deal with such situations. The intent of this section is to ensure that reasonable use may be made of such property; however, the extent of use shall be limited in so far as is necessary to protect the resource(s) of interest, and to ensure that there is no foreseeable danger to the public health or safety. The burden of proof shall be on the applicant to demonstrate maximum feasible compliance with the relevant Performance Standard(s).

Developments of Regional Impact Thresholds

The Regional Policy Plan does not alter any of the standards and criteria for Developments of Regional Impact set forth in Section 12(c) of the Cape Cod Commission Act. However, in accordance with Section 12(f) of the Act, the Commission may review those standards and criteria in light of its experience with the regulatory process, and make recommendations to the Assembly of Delegates as to necessary modifications in the future. The Commission may propose and the Assembly may adopt different standards and criteria for Developments of Regional Impact for different areas of Barnstable County.

Definitions

The definitions outlined below are designed specifically for their application in the Regional Policy Plan. They may not be identical to definitions used in the Cape Cod Commission Act or in other state and local programs. Except where specifically defined herein, all words in the Regional Policy Plan carry their customary meanings.

Affordable Housing - Dwelling units available at a cost of no more than 30% of gross household income to households at or below 80% of the county median income as reported by the U. S. Department of Housing and Urban Development (HUD), including units listed under MGL c.40B and the state's Local Initiative Program.

Archaeological Site - Any area where artifacts, remains or any other evidence of a historical or prehistorical nature of 100 years old or more are found below or on the surface of the earth. These artifacts must have archaeological significance as determined by the Massachusetts Historical Commission or other knowledgeable persons or agencies. Artifacts may include, but are not limited to: objects of antiquity, Native American, colonial or industrial relics, or fossils.

Cluster Development - A form of development that permits a reduction in lot area requirements, frontage and setbacks to allow development on the most appropriate portions of a parcel of land in return for provision of a compensatory amount of permanently protected open space within the property subject to a development application.

Coastal Bank - The seaward face or side of any elevated land form, other than a coastal dune, which lies at the landward edge of a coastal beach, floodplain, or other wetland. Any minor discontinuity of the slope notwithstanding, the top of the bank shall be the top of the face of the bank or break in slope above the relevant 100-year floodplain elevation.

Development - Any of the following undertaken by any person: any building, construction, mining, extraction, dredging, filling, excavation, or drilling activity or operation; the division of land into parcels; the clearing of land as an adjunct of construction; or the deposit of refuse, solid or liquid waste or fill on a parcel of land or in any water area.

Growth Centers - Existing and/or new areas designated by the Commission and the towns (see Joint Commission/Town Action A Section 2(b)(1), Land Use/Growth Management of the Regional Policy Plan) as suitable locations for new growth and development. There are three categories of growth centers:

Village Growth Centers - Small, pedestrian-oriented settlements which are suitable for a mix of residential and compatible small-scale commercial uses.

Regional Growth Centers - Developed areas providing a wide range of commercial goods and services for the immediately surrounding area as well as for a larger region.

Industrial Growth Centers - Special districts designed to accommodate manufacturing, warehousing, transportation terminals, wholesale business, and related uses.

Hazardous Material - Any hazardous chemical as defined under Title 29 of the Code of Federal Regulations, Section

1910.1200(c).

Hazardous Waste - Any waste material as defined in the Massachusetts Hazardous Waste Regulations, 310 CMR Section 30.010.

Historic Structure - Any building, structure or site which is now listed or is qualified to be listed on the National or State Registers of Historic Places as determined by the State Historic Preservation Officer in consultation with the applicable local historical commission. Qualifications for listing shall be those administered by the Mass.

Historical Commission, including but not limited to:

- a) association with events that are historically significant;
- b) association with person(s) significant in our past;
- c) embodiment of distinctive characteristics of a type, period, or method of construction; and
- d) likelihood of yielding information significant in history or pre-history.

Infill - The development of new housing, commercial or other buildings on scattered vacant or underutilized sites within existing substantially built-up areas.

Infrastructure - Facilities and services needed to sustain residential, commercial and industrial development including, but not limited to water supply and distribution facilities, sewage collection and treatment facilities, streets and roads, communications, energy, and public facilities such as schools and fire stations.

Level of Service (LOS) - A standardized, qualitative measure of vehicle operating conditions on a roadway based on criteria including speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience and operating costs. LOS shall be determined based on the most recent edition of the Transportation Research Board's Highway Capacity Manual.

Mitigation - Appropriate measures which, at a minimum, offset any adverse impacts of a proposed development.

Open Space - Land set aside and permanently restricted for conservation, agriculture or recreation purposes by a municipality, nonprofit conservation organization or land trust, homeowners association, or person. Open space may include woodlands, pasture, landscaped yards, gardens or play areas, golf courses, walking and riding trails, historic sites and similar areas as appropriate to the site, but shall not include structures such as tennis courts, buildings, or swimming pools. Open Space may be open for public use or access to such areas may be restricted.

Redevelopment- The reconstruction, reuse or change in use of any developed property including but not limited to the following: any increase in the intensity of use of already developed land, such as an increase in the number or dwelling units in a structure or change to a commercial or industrial use from a less intensive use; enlargement of a structure; additions to usable interior floor area within residential, commercial and industrial buildings; and the conversion of a seasonal use or dwelling to year-round use.

Regional Facilities - Publicly or privately owned facilities and services used by residents of more than one town including but not limited to streets, schools, parks, recreational facilities, water supplies, waste disposal facilities, social services, health care facilities, transportation facilities and emergency services.

Seasonal Use or Seasonal Dwelling - A residential, commercial or industrial structure or use that lacks one or more of the basic amenities or utilities required for year-round occupancy such as a permanent heating system, insulation, and/or year-round usable plumbing.

Strip Commercial Development - Continuous or intermittent linear roadside development located outside designated growth centers, generally one store deep, generally characterized by multiple roadway access points, highly visible off-street parking, an assortment of commercial uses with direct access to abutting roads.

Transfer of Development Rights (TDR)- A technique that allows owners of land to transfer all or some of the rights to develop that land to another designated area.

Water-Dependent Use- Any use that requires direct access to or location in fresh and marine waters and therefore cannot be located away from said waters including but not limited to those uses identified by Chapter 91 regulations. Examples include: commercial or recreational boating and fishing facilities, water based transportation and

recreational facilities, pedestrian facilities that promote public use and enjoyment of the shoreline, facilities that are related to marine research and education, aquaculture facilities and cranberry bogs, beach nourishment, dredging, shoreline protection structures, water level control facilities, and any other uses or facilities that cannot be reasonably located away from the shoreline.

Wetland - An inland area of 500 square feet or greater or a coastal area including wet meadows, marshes, swamps, bogs, and areas of flowing or standing water, such as rivers, streams and ponds. Wetlands are characterized by the presence of wetland vegetation and hydrology as generally described in the Wetlands Protection Act and these areas shall be delineated in accordance with the Act and regulations in 310 CMR 10.00.

Vernal Pool - A vernal pool is a seasonal fresh water body contained in an isolated depression that holds water for at least two consecutive months in most years, is free of adult fish populations and provides breeding habitat for amphibians and invertebrates. Vernal pools must be mapped and certified by the Massachusetts Natural Heritage and Endangered Species Program or identified in the field as eligible for certification by a professional wildlife biologist.

Abbreviations

ACEC	Area of Critical Environmental Concern
CCAMP	Cape Cod Aquifer Management Project
CCC	Cape Cod Commission
CCPEDC	Cape Cod Planning and Economic Development Commission
CMR	Code of Massachusetts Regulations
DCPC	District of Critical Planning Concern
DEM	Massachusetts Department of Environmental Management
DEP	Massachusetts Department of Environmental Protection
DPW	Massachusetts Department of Public Works
DRI	Development of Regional Impact
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
gpd	gallons per day
LHA	Local Housing Authority
LOS	Level of Service
MCZM	Massachusetts Coastal Zone Management
MEPA	Massachusetts Environmental Policy Act
MGL	Massachusetts General Laws
ppm	parts per million
PSTF	Private Sewage Treatment Facility
SCS	Soil Conservation Service
SEMASS	Southeastern Massachusetts Resource Recovery Facility
TDR	Transfer of Development Rights
USGS	United States Geological Survey
ZOC	Zone of Contribution

(b) Issues, Goals and Policies, Implementation

A Growth Policy for Cape Cod

Concern about the rate of population growth and land use change on Cape Cod was one of the major factors leading to the passage of the Cape Cod Commission Act. From 1980 to 1990 the population of Barnstable County grew by 38,680 persons, a growth rate of 26.15%. The population of Massachusetts as a whole grew only 4.9% during the same period. The number of housing units on the Cape doubled between 1970 and 1989 (from 65,676 to 131,660).

With the increase in population have come other changes. Portions of Cape Cod's sole source aquifer have been contaminated by incompatible uses, discharges of hazardous materials and excessive densities; traffic congestion has worsened steadily, approaching gridlock conditions in some locations during the summer months; over 6500 acres have been closed to shellfishing due to pollution; open space and scenic vistas have been lost to residential subdivisions, and the architectural quality and economic viability of the Cape's historic villages have been undermined by commercial sprawl.

In the Cape Cod Residents' Survey, respondents indicated that the following factors were important in their decision to live on Cape Cod: 77% cited the air and water quality, 74% cited the rural character of the Cape, 73% cited proximity to the coast, and 71% cited the small town life style. Respondents ranked ground water pollution, population growth, traffic congestion, pollution of coastal waters, and loss of open space as the most serious problems facing the Cape in the next five years. Fifty-seven percent (57%) of the respondents indicated that over the past 20 years population growth in their town has worsened the quality of life.

There have been many attempts to project future year-round and seasonal population growth on the Cape. While changing economic conditions make any accurate estimates difficult, past trends give cause for concern. There are currently more than 20,000 vacant subdivision lots on Cape Cod; more than 7000 houses are listed for sale; there is an untold amount of commercial space which has been constructed and lies unoccupied. An estimated 63,900 acres of land remains available for new development. Under existing regulations, the build-out potential of the Cape is substantial. Even with the recent economic downturn, population growth on the Cape is expected to continue. If not properly managed, such growth could result in additional environmental degradation and a diminished quality of life, which in turn could undermine the economic health of the region.

It is not the intention of the Regional Policy Plan to set a maximum desirable population level for the Cape. The amount of growth which can be accommodated on Cape Cod will depend in large part on natural resource constraints and public investment decisions made by the towns and the county over the coming years. Levels of growth may vary considerably from one part of the Cape to another, depending upon the characteristics and needs of the individual communities. The 1990 Census indicated substantially lower growth rates in year-round population for the outer Cape towns than for the mid- and upper Cape. Due to the relative physical isolation of these towns and the presence of the National Seashore, this is a trend which is likely to continue in the future. However, the dramatic seasonal fluctuations in population on the outer Cape create a different but equally serious set of problems for these towns. Regional differences of this kind must be recognized in planning for Cape Cod as a whole.

It is the purpose of the Regional Policy Plan to protect the resources and interests identified in the Cape Cod Commission Act and to ensure that land use planning and management on the Cape are coordinated, especially along municipal boundaries. To that end, the following broad principles will apply:

GROWTH RATE: The rate of growth for any town should not exceed the ability of that town to provide the services necessary to support that growth. New development should be required to pay its own way- i.e. to either provide or contribute to the provision of the necessary facilities and services to manage the demands created by that development. The provision of those services should be timed to meet the demand created by new development. Public and private investments should be coordinated to both control the rate of growth and direct new development into appropriate locations.

NATURE OF GROWTH: Population growth and economic development should not damage the natural environment or the character of the Cape's communities. Sensitive resources such as high quality ground water and surface water, wetlands, plant and wildlife habitat should be identified and protected. New development should respect the integrity of the Cape's scenic, historic and architectural character. Economic development efforts should enhance the Cape's environmental and cultural strengths and provide a diversity of employment opportunities for Cape residents. Ultimate build-out levels for each town should be based not only on the carrying capacity of the natural environment to sustain the impacts of development, but on the vision of the residents of each community concerning what kind of place they want their community to be.

The goals and policies of the Regional Policy Plan are designed to provide both guidelines for evaluating Developments of Regional Impact and a framework for the development of Local Comprehensive Plans. The Minimum Performance Standards and Other Development Review Policies are designed to ensure that new growth complies with the broad principles outlined herein. The Implementation Actions articulate what research and actions are needed to achieve an effective growth policy for the Cape. The County is committed to carrying out this program.

1. Issue Area: Land Use/Growth Management

The issues of land use and growth management are inseparable from many of the other issues addressed in the Regional Policy Plan including transportation, economic development, capital facilities, affordable housing, open

space and others. It is important that all of these issues be carefully balanced with priority given to maintaining the character of communities on the Cape, the high quality of the Cape's drinking water, and the overall quality of life that both residents and visitors enjoy. In the past there has been no regional mechanism for regulating development on Cape Cod. With the adoption of the Cape Cod Commission Act there now exists a process for protecting resources of greater than local significance and mitigating adverse development impacts.

Concern about the rate of development on Cape Cod was one of the major factors leading to passage of the Cape Cod Commission Act. MacConnell land use data from the University of Massachusetts indicate that over 35,500 acres of forest and agricultural land was lost to development between 1971 and 1990. The majority of this land (29,212 acres) has been developed for residential purposes. The remainder has been used for recreational development (1723 acres), commercial growth (1612 acres), industrial growth (1116 acres), public land/urban open space (1110 acres) waste disposal (536 acres), and transportation (311 acres). Development currently covers more than 33% of the Cape's land area.

In the Cape Cod Residents' Survey 61% of the respondents indicated that they felt their town government was doing only a fair or poor job of regulating land use. Though more than half the respondents thought that current town taxes and assessments were too high, 84% indicated that they would favor maintaining or increasing the amount of tax money spent on planning and conservation.

A significant problem on Cape Cod has been the land consumptive pattern of development. Residents and visitors alike have expressed concern about the loss of community character on the Cape. Sprawling subdivisions and strip development along major roads have blurred the boundaries between village centers and rural areas. In some cases, existing zoning and subdivision regulations have contributed to the problem. Such regulations often require large lot sizes and setbacks, excessively wide roadways and large amounts of off-street parking, and prohibit mixed-use developments that integrate residential and commercial development. Because of concerns about degradation of water quality and loss of rural character, most towns have increased their minimum lot sizes in recent years. The result is that on average, land consumption per dwelling unit has been increasing in recent years. At the same time, commercial development is spreading outward from historic village centers and vacant commercial establishments in downtown areas are left in need of redevelopment.

While such land use patterns can adversely affect the appearance of the Cape's communities, their other effects are even more far-reaching. Traffic congestion is worsened by numerous curb cuts and many short trips between destinations. Pedestrians lose the ability to walk to and around downtowns and village centers. Open space is lost and wildlife habitat fragmented. In many cases, downtown businesses experience adverse impacts from commercial development outside village centers. While some have advocated cluster and mixed use development as an alternative to sprawl, many local bylaws either prohibit such development, limit it to large parcels of land, or discourage its use by making it more difficult and time-consuming for the developer than conventional development.

Early zoning regulations on the Cape set a "blueprint" for development that often did not sufficiently recognize environmental constraints. In some areas, the density of development is too high to be adequately served by conventional septic systems and water quality and public health problems have resulted. In others, zoning has permitted commercial and industrial development over sensitive aquifer areas. In many locations, a "wall" of development along shorelines has blocked public access to waterfront areas and resulted in eutrophication of surface waters. Similar adverse effects have occurred where a large number of seasonal cottages have been converted to year-round use without adequate upgrading of septic systems.

Respondents to the Cape Cod Residents' Survey indicated the following factors were most important in their choosing to live on Cape Cod: air and water quality (77%), rural character of the Cape (74%), proximity to the coast (73%), and small town life style (71%). Respondents identified ground water pollution, population growth, traffic congestion, pollution of coastal water and loss of open space as the five most serious problems facing the Cape. In identifying priorities for the Cape Cod Commission's work, 90% supported protection of the Cape's water supply, 71% supported protecting open space and scenic resources, 67% supported enforcement of existing environmental regulations, 66% supported preservation of historic areas, and 61% supported the establishment of new, tougher regulations for protecting the environment. The achievement of such objectives will depend in large measure on sound land use and growth management policies.

Goals and Policies

1. Land Use/Growth Management

1.1 Goal: To encourage sustainable growth and development consistent with the carrying capacity of Cape Cod's natural environment in order to maintain the Cape's economic health and quality of life, and to encourage the preservation and creation of village centers and downtown areas that provide a pleasant environment for living, working and shopping for residents and visitors.

Minimum Performance Standards:

1.1.1 Compact forms of development such as cluster development, redevelopment within designated growth centers, and, where appropriate, mixed-use residential/commercial development, shall be given preference in order to minimize further land consumption and protect open space.

1.1.2 All residential subdivisions of five or more lots shall submit a cluster development preliminary plan for consideration by towns or the Commission as appropriate during the development review process.

1.1.3 Extension or creation of new roadside "strip" commercial development outside of designated growth centers shall be prohibited.

Other Development Review Policies:

1.1.4 Development and redevelopment should be directed to village, regional and industrial growth centers that have sufficient carrying capacity to sustain the impacts of growth and development as designated in Land Use Joint Commission/Town Action A (see p. 11).

1.1.5 Development and redevelopment should be directed away from the Capewide open space/greenbelt network as designated in Open Space Joint Commission/Town Action A (see p. 53).

1.1.6 Adequate infrastructure, including water and sewer, should be provided by public and private means in designated growth centers to support appropriate levels of density as determined by towns in their local comprehensive plans.

1.1.7 Where strip commercial developments exist, efforts should be made to improve their appearance through sign control, infill, landscaping, design review and redevelopment.

1.1.8 Appropriate redevelopment of existing residential and commercial areas and construction within existing subdivisions should be encouraged in areas that have the capacity to sustain the impacts of this additional development in order to accommodate growth while minimizing additional subdivision and development of land.

1.1.9 Commercial and industrial subdivisions are encouraged to consider the use of cluster development wherever appropriate.

1.1.10 Use of transfer of development rights should be encouraged in order to concentrate development in growth centers with adequate infrastructure and preserve open space in outlying areas, and in order to provide an economic alternative to landowners where stringent application of a minimum performance standard could constitute a taking.

1.2 Goal: To preserve and enhance agricultural uses that are environmentally compatible with the Cape's natural resources in order to maintain opportunities to enjoy the traditional occupations, economic diversity, and scenic resources associated with agricultural lands.

Minimum Performance Standards:

1.2.1 New development adjacent to lands in active agricultural production shall maintain or provide a thickly vegetated buffer of sufficient width to prevent conflicts between the development and existing agricultural uses. New agricultural operations in developed residential areas shall also provide a buffer to

minimize impacts on these adjoining areas.

Other Development Review Policies:

1.2.2 Management practices such as those developed by Cooperative Extension and Soil Conservation Service should be encouraged to maintain the productivity of agricultural lands and minimize use of chemical fertilizers and pesticides that could adversely impact the environment.

1.2.3 Development unrelated to agricultural operations should be designed so as to avoid or minimize development on lands capable of sustained agricultural production as evidenced by soils, recent agricultural use, and/or surrounding agricultural use.

Implementation

Joint Commission/Town Action:

A. The Commission will use its Geographic Information System (GIS) to map natural and cultural (e.g. archaeological sites) resource constraints, existing development and infrastructure, and undeveloped land and shall recommend appropriate areas for designation as village, regional and industrial growth centers. Towns should review and modify these recommendations and establish their boundaries through local comprehensive plans or designation of Districts of Critical Planning Concern. The Commission will develop recommended performance standards for towns on the type and scale of development that should be encouraged in village, regional and industrial growth centers as well as appropriate incentives for development in those growth centers. These standards will include but not be limited to open space, traffic and architectural standards.

Commission Actions:

A. The Commission will develop model cluster and mixed use bylaws that require submission of a compact development preliminary plan to towns for consideration during the development review process and set minimum standards for design of such plans.

B. The Commission will seek amendment of state zoning and subdivision statutes to allow cluster development to occur without a special permit at the option of the municipality and to modify current provisions that encourage "approval not required" subdivisions.

C. The Commission will develop a model transfer of development rights program that can be adopted by Cape Cod communities.

D. The Commission will provide technical assistance in identifying appropriate revisions to zoning bylaws and ordinances that promote village style development and maintain public safety.

E. The Commission will aid communities with development of build-out maps and calculations to be included in local comprehensive plans.

F. County Cooperative Extension will work with the Cranberry Growers Association, Cape Cod Conservation District, the Commission and other organizations to encourage continued and expanded agricultural use of land on Cape Cod.

G. The Commission will work with the Soil Conservation Service to develop a methodology to evaluate and set priorities for farmland on Cape Cod and to establish policies that integrate this information into land use decisions.

H. County Cooperative Extension and the Commission will encourage the use of preferential tax treatment for farms, forest land and open space through the use of existing preferential tax provisions.

I. The Commission will encourage inter-town management of resources of regional significance that cross town boundaries.

J. The Commission will encourage adoption and implementation of noncriminal disposition bylaws that allow enforcement of local bylaws through a ticketing procedure.

Recommended Town Actions

A. Towns should develop cluster bylaws or ordinances consistent with the Commission's model bylaw/ordinance that require the submission of preliminary cluster plans to towns for new residential subdivisions. Such bylaws may encourage or require cluster development at the town's option. Towns should also consider adopting cluster provisions for commercial and industrial subdivisions.

B. Local zoning and regulations, including but not limited to lot sizes, parking requirements, setbacks, and road widths, should be revised to permit village style development to occur in appropriate locations.

C. Local bylaws and regulations, including mandatory cluster, increased lot sizes, overlay districts and other techniques are encouraged to foster preservation of the areas located in the Capewide Open Space/Greenbelt network.

D. Towns should consider making appropriate town-owned land available for agricultural use.

E. Towns should revise their zoning bylaws/ordinances to encourage mixed residential/commercial development in appropriate areas.

F. Towns should identify and designate areas where density bonuses may be appropriate and/or identify possible sending and receiving zones for a community transfer of development rights program.

G. Where building permit approvals indicate high levels of fluctuation in rate of development, towns should consider developing a phased growth bylaw/ordinance to stabilize growth rates consistent with the community's ability to provide infrastructure.

2. Natural Resources

2.1 Issue Area: Water Resources

Protection of natural resources on Cape Cod is one of the primary purposes of the Cape Cod Commission Act. No subject arouses more concern in this regard than water resources. The quality and quantity of the Cape's ground water is of critical importance as it is the only source of drinking water for most of Cape Cod. Of equal concern is the health and productivity of both marine and freshwater bodies on the Cape. These resource areas provide a wealth of economic and recreational opportunities, in addition to their aesthetic appeal.

The excellent quality of the drinking water on Cape Cod has been recognized for several centuries. It is still generally of excellent quality and in abundant supply but incidents of contamination of both public and private supply wells have increased in recent years. For example, past waste disposal and fuel handling practices at the Massachusetts Military Reservation and numerous gasoline service stations have resulted in significant contamination of portions of the Cape's ground water. Remediation efforts are underway to reduce the impacts of such contamination. Population growth and commercial and industrial development also have created demand for more water while increasing waste disposal problems.

The Cape Cod Residents' Survey identified pollution of ground water supply as the most serious problem facing Cape Cod. Pollution of coastal waters was also cited as a major concern. Ninety percent (90%) of the respondents indicated that the Commission should work to protect the Cape's water supply and 86% indicated that they would support spending town tax money to purchase open space for water supply protection. In addition, 86% supported both limiting pesticide and fertilizer use to protect ground water quality and restricting new housing development in zones of contribution, wetlands, floodplains and similar areas.

Total reported 1987 water withdrawals on Cape Cod for public water supply exceed an average of 25 million gallons per day. (CCC Water Resources Office files). By the year 2000, estimated public water supply withdrawals from the Cape Cod Aquifer will exceed 30 million gallons per day. The Cape's sandy, permeable soils and generally shallow depth to the water table make its ground water particularly vulnerable to contamination. Specific sources that currently threaten the water quality include sanitary landfills, septage lagoons, hazardous waste spills, on-site septic systems, wastewater treatment plants and underground storage tanks.

The health of fresh and marine water bodies is closely related to the quality of the Cape's ground water. The Cape Cod Aquifer not only is the sole source of drinking water, but it feeds freshwater ponds and wetlands and discharges to the surrounding marine waters. Excessive loading of phosphorus and nitrogen can travel through groundwater and cause eutrophication in fresh and marine waters. Other sources of pollution include stormwater and boat wastes.

A number of ground water protection strategies have been implemented on Cape Cod over the past two decades. The former Cape Cod Planning and Economic Development Commission (CCPEDC) delineated the zones of contribution for all the public water supply wells on Cape Cod and developed model bylaws for regulating land uses within water resource protection districts. As part of the 208 Water Quality Management Plan for Cape Cod, CCPEDC adopted a 5 ppm nitrate-nitrogen (NO₃-N) planning guideline. Since the U.S. Environmental Protection Agency (EPA) set the federal drinking water standard at 10 ppm NO₃-N, the 5 ppm NO₃-N guideline was adopted to ensure that NO₃-N concentrations in drinking water wells on Cape Cod would rarely exceed the 10 ppm standard. This guideline was based on an empirical study conducted by K.S. Porter as part of the Long Island Comprehensive Waste Treatment Management Plan, which found that a well with a mean concentration of 6.0 ppm NO₃-N will violate the 10 ppm standard 10% of the time (Nassau-Suffolk Regional Planning Board, 1978).

The Cape Cod Commission Water Resources Office staff has developed a draft Technical Bulletin (91-001) which documents the research that has been conducted to date on nitrogen loading and explains the methodologies available for calculating nitrogen loading. This Bulletin attempts to formulate a consistent nitrogen loading methodology for Cape Cod that recognizes the variable sensitivity of resources, including zones of contribution and marine recharge areas. Included in this document are methodologies for both site-by-site analysis and cumulative loading for an entire watershed area.

In 1982, the EPA officially designated Cape Cod as a Sole Source Aquifer. The EPA and the Massachusetts Department of Environmental Quality Engineering, in cooperation with the U.S. Geological Survey, also initiated the Cape Cod Aquifer Management Project to improve the coordination of ground water management at the federal, state, regional and local level.

Massachusetts is one of several states that has developed an aggressive approach to ground water protection. Protective strategies are implemented under various programs such as the Department of Environmental Protection's (DEP) Groundwater Discharge Permit Program, the Wellhead Protection Program, the Aquifer Lands Acquisition Program, and the Massachusetts Environmental Protection Act. Under the State Water Management Act, a detailed study is being conducted about the safe yield of the Cape Cod Aquifer. Once it is completed, DEP will regulate ground water withdrawals to ensure a safe yield. This program also takes into account impacts of water withdrawal on local surface water bodies and wetlands and the benefits of water conservation.

The Commission has heard concern across the Cape about the development of private sewage treatment facilities (so called "package treatment plants"). If use of this technology becomes more widespread, areas that have been considered undevelopable in the past due to environmental constraints such as poor soils and high water table, may now be developable. In addition, towns would be faced with overseeing the long-term management of these facilities. At the same time, such facilities present an opportunity for more effective treatment of sewage both for new development and for retrofitting existing developed areas where failing septic systems or high densities have led to adverse water quality impacts.

Water resource management efforts on Cape Cod have focused primarily on maintaining high quality drinking water within Wellhead Protection Areas. These efforts have had some indirect beneficial effects on the condition of ponds, lakes, rivers, bays and harbors around Cape Cod. However, the recharge areas to these surface water bodies and for areas relying on private wells have not been adequately delineated or protected. Since nitrogen is usually the limiting nutrient for not only water supply wells but also marine ecosystems, regulating NO₃-N is critical. Because development pressures continue to encroach upon all of these areas, and because ground water flows across local

boundaries, it is important to develop a regional management plan to guide growth. The critical issues to be addressed are management of drinking water, wastewater and stormwater; the protection of marine and fresh water quality; and the recognition of the unique characteristics of Cape Cod's hydrogeology.

Goals and Policies

2. Natural Resources

2.1 Water Resources

2.1.1 Goal : To maintain the overall quality and quantity of Cape Cod's ground water to ensure a sustainable supply of high quality untreated drinking water and to preserve and improve the ecological integrity of marine and fresh surface waters.

Classification System and Minimum Performance Standards:

2.1.1.1 Except as otherwise specified in the classification system below, all development and redevelopment shall not exceed a 5 ppm nitrate-nitrogen loading standard for impact on ground water based on a methodology published by Frimpter et. al. 1988 and Cape Cod Commission - Water Resources Office Technical Bulletin #91-001.

2.1.1.2 All development and redevelopment shall comply with the minimum performance standards 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 the map "Regional Policy Plan-Cape Cod Water Resources Classification Map" approved June 20, 1991 as amended, and described below:

A. Wellhead Protection Areas: Consist of zones of contribution to existing public and community water supply wells. These areas shall be delineated by a consistent method and approved by the Commission in conjunction with state standards for Zone IIs (as defined in 310 CMR 22.02).

A.1: The maximum loading standard for nitrate-nitrogen impact on ground water shall be 5 ppm for development and redevelopment unless a cumulative impact analysis indicates a more stringent loading standard is necessary. Developments of Regional Impact that generate more than 2000 gpd of sewage effluent may be required to prepare a cumulative impact analysis using the methodology presented in CCC Water Resources Technical Bulletin #91-001.

A.2: Commercial and industrial development and redevelopment that involves the use, treatment, generation, storage or disposal of hazardous wastes or hazardous materials, with the exception of retail sales and household quantities, shall not be permitted.

A.3: Public and private sewage or septage treatment facilities shall not be permitted in these areas, except as provided in subsection E.2 below and subject to §§2.1.2.1 through 2.1.2.7.

A.4: Uses prohibited in Zone II by state regulations shall not be permitted in these areas.

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

B.1: In order to limit phosphorus inputs, no subsurface disposal systems shall be permitted within 300 feet 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.

B.2: Developments of Regional Impact that generate over 2000 gpd of sewage effluent may be required to delineate the ground water recharge areas to potentially affected fresh water ponds in order to identify and mitigate adverse impacts.

B.3: Public and private sewage treatment facilities may be used within Fresh Water Recharge Areas subject to subsection E.2 and §§2.1.2.1 through 2.1.2.7 below.

C. Marine Water Recharge Areas: Consist of recharge areas to nitrogen-sensitive embayments as mapped by a method acceptable to the Commission.

C.1: Development and redevelopment may be required to delineate the ground water recharge areas to downgradient embayments and other marine waters that may be nitrogen sensitive in order to identify and mitigate potential adverse impacts.

C.2: Except as specified in subsection C.3 below, development and redevelopment shall not exceed identified critical nitrate-nitrogen loading standards for nitrogen impact on marine ecosystems. Developments of Regional Impact that generate more than 2000 gpd of sewage effluent may be required to prepare a cumulative impact analysis, including flushing rate determination, using the methodology and procedures presented in the Buzzards Bay Management Plan, Frimpter et. al. 1988 and CCC Water Resources Office Technical Bulletin #91-001.

C.3: Where existing development exceeds identified critical loading standards for a marine recharge area, redevelopment shall maintain or improve existing levels of nitrogen loading.

C.4: Public and private sewage treatment facilities may be used within Marine Water Recharge Areas subject to Subsection E.2 and sections 2.1.2.1 through 2.1.2.7 below.

D. Impaired Areas: Consists of areas where ground water may have been degraded by point and nonpoint 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 the purpose of these standards, all identified growth centers shall be classified as Impaired Areas.

D.1: Development shall generally meet a 5 ppm nitrate-nitrogen loading standard for impact on ground water, but may increase to 10 ppm nitrate-nitrogen where it can be demonstrated to the permitting authority that such increase will cause no significant adverse impact on wetlands, water bodies, public or private drinking water supply wells and potential water supply wells as identified in Section F below.

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

D.3: Public and private sewage treatment facilities, as well as other remediation measures such as community septic systems shall be encouraged in Impaired Areas. Public and private sewage treatment facilities shall be subject to sections 2.1.2.1 through 2.1.2.7 below.

D.4: The development of public or community water supply systems shall be encouraged for areas serviced by private wells in Impaired Areas.

E. Water Quality Improvement Areas: Consist of Impaired Areas that are located within Wellhead Protection Areas, Freshwater and Marine Water Recharge Areas. In such areas improvement of water quality is a major goal.

E.1: Development shall not exceed a 5 ppm nitrate-nitrogen loading standard or an identified marine water standard as applicable. Where existing development exceeds that identified loading standard, redevelopment shall improve existing levels of nitrate-nitrogen loading.

E.2: Use of public and private sewage treatment facilities shall be as follows: within Water Quality Improvement Areas that are in Wellhead Protection Areas public and private sewage treatment facilities may be used only to remediate existing problems; 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 2.1.2.1 through 2.1.2.7 below.

F. Potential Public Water Supply Areas: Consists of potential public water supply areas that have been identified by the Commission and/or towns or water districts as future well sites and their associated recharge areas.

F.1: No development shall be permitted in the well site area and in the area within 400 feet of the potential well site. Within the recharge areas, the same standards apply as in Wellhead Protection Areas above.

2.1.1.3 Development and redevelopment shall identify their proposed wells and existing private wells on abutting properties within 400 feet and assess the impact of the development on the water quality of these wells. Septic systems shall be sited so as to avoid contamination of existing or proposed wells.

2.1.1.4 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 demonstrates that the proposed alterations will protect ground water quality by maintaining nitrate-nitrogen loading at no greater than 5 ppm or improving nitrate-nitrogen loading levels where existing levels are greater than 5 ppm. The proponent must also demonstrate that the project will not have other adverse impacts on ground water or adjacent surface water areas and wetlands.

2.1.1.5 New direct discharge of untreated stormwater and waste water into marine and fresh surface waters shall not be permitted.

Other Development Review Policies:

2.1.1.6 Water withdrawals should be managed so that they do not adversely affect surface water resources, wetlands, private wells or the safe yield of the aquifer.

2.1.1.7 The development, use and permitting of appropriate new innovative technologies designed to improve wastewater treatment by reducing nutrient loading is encouraged.

2.1.1.8 In general, stormwater should be disposed of on site. Where existing untreated stormwater discharges exist, mitigation is encouraged through the use of vegetated swales and other best management practices. Stormwater drainage calculations should be based on the projected 25-year 24-hour storm, using SCS TR-55 calculations or an other method acceptable to the Commission.

2.1.1.9 Development and redevelopment should make use of water conservation technologies.

2.1.1.10 Development and redevelopment should minimize the use of chemical fertilizers and pesticides.

2.1.1.11 Cleanup of chemical spill and contamination sites should be expedited.

2.1.2 Goal: To encourage the use of public and private sewage treatment facilities in appropriate areas where they will provide environmental or other public benefits and where they can be adequately managed and maintained.

Minimum Performance Standards:

2.1.2.1 Private treatment facilities may be constructed only if there are no feasible public treatment facility options available or planned.

2.1.2.2 All public and private sewage treatment facilities shall be designed to achieve tertiary treatment with denitrification that meets a maximum 5 ppm nitrate-nitrogen discharge standard in the groundwater at the downgradient property line.

2.1.2.3 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.

2.1.2.4 The construction of PSTFs shall be consistent with municipal capital facilities plans where they exist. Municipalities shall have the opportunity to assume ownership and maintenance responsibilities for such facilities where desired by the municipality.

2.1.2.5 PSTFs shall not be constructed in FEMA V zones and floodways, Areas of Critical Environmental Concern (ACEC's), wetlands and buffer areas, barrier beaches, coastal dunes or critical wildlife habitat. PSTFs may be constructed in FEMA A zones only to remediate water quality problems from existing development within such A zones and consistent with §2.2.2.2 and §2.2.2.6.

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

2.1.2.7 Applications for approval of public and private sewage treatment facilities shall include a plan for sludge disposal.

Other Development Review Policies

2.1.2.8: Towns may provide bonus provisions to allow increased development density through their local bylaws/ordinances provided that the development provides a substantial public benefit such as the provision of affordable housing substantially above the required 10% level, or treatment of substantial amounts of sewage from existing non-sewered development.

2.1.2.9 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 towns may require PSTFs to be installed as a remedial measure.

Implementation

Commission Actions:

A. The Commission will continue to review literature on evaluating the impact of development on surface and ground water quality and develop updated standards as needed.

B. The Commission will provide ongoing technical assistance to communities on designation of Zone IIs to public water supply wells and develop requirements for the delineation and protection of groundwater time of travel zones around public water supplies.

C. The Commission will classify the region's marine surface waters, delineate recharge areas, determine flushing rates for marine embayments, and evaluate land use to provide suggested management solutions.

D. The Commission will continue to maintain the regional network of ground water observation wells from which estimates of ground water levels are derived.

E. The Commission will investigate the feasibility of adopting a ground water discharge threshold of 2000 gpd for triggering Development of Regional Impact review.

F. The Commission will establish guidelines and recommend best management standards for the treatment of stormwater run-off and encourage the use of innovative techniques for stormwater management and remediation.

G. The Commission will provide comments and technical assistance to towns conducting wastewater and septage facilities plans.

H. The Commission will aid communities with development of shared water supplies where appropriate.

I. The Commission will encourage legislative changes necessary to permit guaranteed long-term ownership and maintenance of PSTFs by multiple homeowners in a residential subdivision.

J. The Commission will develop a Technical Bulletin on ownership and maintenance of PSTFs.

K. The Commission will continue to coordinate water resource protection strategies with federal, state, county and local programs and officials including but not limited to the following projects:

1) The Commission will coordinate with the Department of Environmental Management and Department of Environmental Protection to develop criteria for permissible levels of maximum water withdrawal in groundwater lenses based on projections of water table range and groundwater quality and quantity in public supply wells and other large wells.

2) The Commission will undertake a regional study in cooperation with the U.S. Geological Survey to evaluate Potential Public Water Supplies and delineate their recharge areas.

3) The Commission, will cooperate with the County Health and Environmental Department to prioritize the region's fresh water ponds and delineate their recharge areas, to identify land uses that could discharge hazardous materials in order to assist with review of projects in Wellhead Protection Areas, and maintain and publish an updated database of the region's public water quality and quantity of water pumped.

4) County Cooperative Extension will provide educational programs about the need for periodic inspection and maintenance of septic systems and the hazards of commercial septic cleaning products.

5) The Commission in cooperation with the Department of Environmental Protection and the County Health and Environmental Department will develop an updated catalog and map of identified hazardous waste sites.

6) The Commission will work with the County Health and Environmental Department to identify unregistered underground storage tanks and support the County's tracking program for monitoring underground storage tanks.

7) The Commission will continue to provide input to the state's Title 5 working group about the unique hydrogeologic conditions on Cape Cod and shall encourage the establishment of regionally appropriate standards for the design and installation of septic systems. The Commission will also encourage permitting of denitrifying on-site systems.

8) The Commission will cooperate with Soil Conservation Service, Department of Public Works, County Cooperative Extension and other appropriate agencies to encourage the use of alternatives to fertilizers, herbicides, pesticides, road salt and other materials that could adversely impact surface and groundwater quality.

9) The Commission will work with the County Health and Environmental Department and the U.S. Geological Survey to develop standards to protect against bacterial and viral contamination of ground and surface waters.

Recommended Town Actions:

A. Towns should develop water conservation plans that encourage the installation and use of water saving devices.

B. Towns should identify locations of private wells and septic systems especially in densely developed areas and undertake inspection and improvement programs for upgrading pre-Title 5 and failing septic systems.

C. Towns should map and protect needed future water supply areas.

D. Towns should develop local bylaws or regulations to provide for regular maintenance and pump-out of individual septic systems.

E. Towns should establish local bylaws or regulations limiting nitrate loading to protect ground and surface water quality.

F. Towns should acquire and protect areas designated as future well sites.

G. Towns should establish or modify local water supply protection bylaws to prohibit hazardous land uses in Wellhead Protection Areas.

H. Towns should develop snow removal management strategies for roadways that minimize the total application of salt and other harmful deicing chemicals.

2.2 Issue Area: Coastal Resources

Cape Cod's coastal resources are vast and extend far beyond its 586 miles of tidal shoreline. Fishermen harvest a variety of fish and shellfish and use the Cape's natural harbors as a base of operations for fishing in the nearshore waters, and as far offshore as Georges Bank. With the Cape Cod National Seashore and an abundance of public beaches, visitors and residents enjoy the Cape's clean, sandy shores and clear water for recreation.

With the increased coastal development over the last several decades, it is now clear that the coast and its valuable resources are not immune to damage from poor land use practices. Planning efforts have generally separated land based activities from coastal, waterside activities. Experience has shown that an integration of these components is necessary to ensure protection and balanced use of both land and water resources.

The most economically valuable real estate on Cape Cod is its waterfront. Economic pressures have brought dramatic changes in the use of the shoreline. Intensive residential development has limited access to beaches and shellfishing areas. Water-dependent uses such as boatyards and marinas which generally provide facilities for the fishing industry are being displaced by non-water-dependent uses such as restaurants, condominiums, and offices. As the traditional working waterfronts are replaced by such uses, the historic maritime character of these areas is lost, along with important economic opportunities.

The fishing industry is a significant part of the Cape's economy. While landings are less today than they were 10 years ago, National Marine Fisheries data indicates that the value of the reported catch is \$1-2 million per month. Since much of the catch taken by Cape Cod boats goes unreported in the landing statistics, the full contribution of the fishing industry to the region's economy is estimated to be as much as \$3-6 million monthly. Shellfishing is also an important aspect of the Cape's economy. In 1987, the Massachusetts Division of Marine Fisheries reported annual commercial landings of quahogs worth \$1.3 million, soft shell clams, \$1.46 million and mussels \$884,000. The value of recreational catches and shellfish aquaculture is also substantial. In the Cape Cod Residents' Survey, 62% of the respondents indicated that the Cape Cod Commission should work to preserve and enhance the fishing and shellfishing industries on Cape Cod.

Both natural and aquaculture shellfisheries face pressures from increased shoreline development and recreation activity. The proliferation of private docks and piers has encroached on the fishermen's access along the shoreline, and in some instances dredging activity has destroyed shellfish habitat. Degraded water quality has prohibited harvesting, and increased boating activity has destroyed habitat and resulted in use conflicts. Although the public trust doctrine ensures the public's rights to fish, fowl, and navigate in the tidelands of the Commonwealth, access to these tidelands and waters for these purposes is being lost as a result of private development of the shoreline.

Recent studies of Waquoit Bay, Wellfleet Harbor and Nauset Marsh document the importance of these estuaries and embayments as nursery habitat for many fish species. In order to continue the viability of such habitat areas, sound resource management is needed and coastal water quality must be protected. Unfortunately, there are growing signs that the quality of the Cape's coastal waters is deteriorating. There has been a dramatic increase in the amount of shellfish acreage closed to harvest as a result of high coliform bacteria counts. As a result of worsening water quality and more extensive testing, closures have risen from less than 1000 acres in 1982 to over 6500 acres in 1990.

There are many sources of marine water quality contamination. Research conducted under the Buzzard's Bay Project found that the primary sources of contamination in Buttermilk Bay are individual septic systems, stormwater run-off and boat wastes. While sources vary from one area to another, other locally important sources include acid rain and waterfowl. Stormwater is generated from rainwater which collects contaminants from streets, parking lots, roofs, lawns, golf courses, agricultural lands and similar areas. Stormwater runoff is channeled into coastal waters through drainage systems, but it can also enter as sheetflow run-off from adjacent areas. Septic systems leach contaminants into the ground water which then flow into down-gradient coastal waters, causing nutrient enrichment which is harmful to fish and shellfish habitat.

The development of shoreline land is not only an environmental threat, but in some areas, it has become a threat to public safety as well. The demand for waterfront property has resulted in development in high hazard areas, for example, on the top of eroding coastal banks, adjacent to wetlands, on barrier beaches and within the floodplain. Building in such sensitive areas can destabilize banks and dunes, accelerating problems with erosion and sedimentation. Moreover, these areas are very susceptible to damage from storms and hurricanes. The Cape has not been severely hit by a major hurricane since 1954, when Hurricane Carol and Edna combined their forces in two weeks to cause millions of dollars in damage to the south shore of Cape Cod. Severe coastal erosion of beaches, dunes and bluffs occurred. Boats were pulled from their moorings and slips, homes were destroyed and roads were flooded. Although each town has an evacuation plan, and local and state regulations limit some development in hazard areas, towns have not adopted formal reconstruction policies to prevent the same type of destruction from occurring in the future.

In addition to damage caused by storms and hurricanes, the coastline is also vulnerable to relative sea level rise, possibly accelerating due to global climate change. The potential impacts include increased erosion and flooding of low-lying areas due to shoreline retreat. At the present rate of rise (.01 ft/year or 0.45 feet by 2025) the Cape loses approximately 24 acres of upland per year or 1080 acres by 2025. The total acreage lost by the year 2025 would increase to 3900 acres when projecting the EPA mid-range scenario of 1.57 feet relative rise (Giese et al, 1988). Moreover, there is increasing evidence that climate change could result in marine water temperature changes which may have even more dramatic effects, increasing the frequency and intensity of storms in coastal areas. Existing land use and building regulations do not consider the impact of these changing conditions.

Because of the wide range of resources and activities within the coastal zone, there are several overlapping regulatory jurisdictions for various types of projects. Local conservation commissions administer the Massachusetts Wetlands Protection Act, whose interests include protection of ground water, shellfish areas and wildlife habitat, and prevention of storm damage and pollution. State agencies that have jurisdiction include the Department of Environmental Protection (DEP), the Massachusetts Coastal Zone Management Office (MCZM), the Department of Fisheries, Wildlife and Environmental Law Enforcement and the Massachusetts Environmental Policy Act Unit (MEPA). Particularly important are the Chapter 91 Regulations which govern activities within the intertidal zone. On the federal level, the Army Corps of Engineers, the Environmental Protection Agency and the Coast Guard have jurisdiction over various activities both on the land and within the waters of the Commonwealth. Coordination among these regulatory authorities is essential to ensure consistency and improve the efficacy of these programs.

While public access to and use of coastal areas is an essential part of Cape Cod's character, human use must be balanced with protection of sensitive resources. Certain critical habitat areas may be too fragile to sustain human encroachment without damage. These areas need to be identified and protected so as to ensure the overall health of the coastal ecosystem.

2.2 Coastal Resources

2.2.1 Goal: To protect the 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 and aesthetic values, and to preserve and where appropriate expand public access to the shoreline.

Minimum Performance Standards:

2.2.1.1 Development and redevelopment along the coastline shall not interfere with existing public access and traditional public rights of way to and environmentally appropriate use of the shoreline.

Other Development Review Policies:

2.2.1.2 Development and redevelopment should reflect the traditional maritime character and/or 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.

2.2.1.3 The construction of walkways, where environmentally acceptable, should be encouraged to enhance shoreline access for the public, including disabled individuals.

2.2.1.4 Public access should be provided at publicly-funded beach nourishment sites where such access will not impair natural resources.

2.2.1.5 If an existing water dependent facility is within 250 feet of the mean high water line or shoreward of the first public way, whichever is less, there should be no change to a non-water dependent facility unless a public benefit is provided to accommodate for the loss of the water dependent use.

2.2.1.6 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.

2.2.2 Goal: To limit development in high hazard areas in order to minimize the loss of life and structures and the environmental damage resulting from storms, natural disasters and sea level rise.

Minimum Performance Standards:

2.2.2.1 Except as specified in 2.2.2.5, 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.

2.2.2.2 In order to accommodate possible sea level rise and increased storm intensity, ensure human health and safety, and protect the integrity of coastal landforms and natural resources, all new buildings, including replacements, within FEMA A and V flood zones shall be designed one vertical foot above existing FEMA base flood elevation and state building code construction standards.

2.2.2.3 Except as specified in 2.2.2.5, no 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. 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.

2.2.2.4 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.

2.2.2.5 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 tax assessment valuation, all reconstruction shall be in compliance with current applicable regulations and shall be designed in accordance with sections 2.1.1.4, 2.2.2.2, 2.2.2.4, 2.2.3.1 and 2.2.3.2. Any reconstruction shall not enlarge or expand the use of an existing structure.

2.2.2.6 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.

Other Development Review Policies:

2.2.2.7 Vehicle, boat, and pedestrian traffic in critical wildlife and plant habitat areas as identified in 2.4.1.1(A), wetlands, dunes, shallow estuarine areas, and shorebird breeding habitat areas should be minimized.

2.2.2.8 Wherever feasible dredge material should be used for beach nourishment in areas subject to erosion. Such material should be clean and compatible with existing strata.

2.2.3 Goal: To maintain and improve coastal water quality to allow shellfishing and/or swimming in all coastal waters as appropriate, and to protect coastal ecosystems which support shellfish and finfish habitat.

Minimum Performance Standards:

2.2.3.1 Within flood hazard zones (FEMA A and 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.

2.2.3.2 In order to accommodate a one foot rise in relative sea level, all new and replacement septic systems within FEMA A and V zones shall be designed with a minimum five foot separation to ground water.

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

2.2.3.4 Stormwater management systems shall be designed to accommodate a one foot rise in relative sea level.

2.2.3.5 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. In significant shellfish habitat areas as identified by the Division of Marine Fisheries and/or local shellfish officials, the construction or expansion of docks and piers shall not be permitted. Docks and piers damaged or destroyed by storms may be replaced in accordance with state and local regulations.

2.2.3.6 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 each harbor and shall provide restrooms for their patrons. Such marinas shall also provide or contribute to provision of adequate collection facilities for solid waste and waste oil for their patrons.

2.2.3.7 New dredging projects or expansion of existing dredging projects shall not occur unless a substantial benefit can be demonstrated including but not limited to enhancement of fish or shellfish habitat or necessary improvements to navigational safety.

2.2.3.8 Undisturbed buffer areas of 100' width surrounding coastal wetlands and/or landward of the mean high water mark of coastal waterbodies shall be protected as specified in section 2.3.1.2.

Other Development Review Policies:

2.2.3.9 Where appropriate, waterfront fueling facilities should be upgraded to ensure that best management practices are used to avoid adverse impacts to water quality.

Implementation

Commission Actions:

- A. The Commission will assist in a study to determine the needs for dredging and beach nourishment within the county and investigate the means to best satisfy such needs.
- B. In order to ensure that adequate controls are in place for future disasters, the Commission will establish guidelines for pre-storm mitigation and post-storm construction activities.
- C. The Commission will work with Waquoit Bay National Estuarine Research Reserve and other organizations such as Woods Hole Oceanographic Institution to encourage cooperative research efforts on the impacts of recreational boating on coastal ponds and bays and shellfish habitat.
- D. The Commission will work with Massachusetts Coastal Zone Management (MCZM) to develop aggressive education campaigns concerning coastal hazards, sea level rise and construction practices.
- E. The Commission, in cooperation with the County Extension Service and the Health and Environment Department, will provide technical assistance to towns on alternate methods of stormwater management. The Commission will work with the Massachusetts Department of Public Works and the town highway departments to ensure that stormwater is no longer diverted directly into a resource area or coastal waters when existing roads are re-paved and/or upgraded.
- F. The Commission will develop criteria to provide Conservation Commissions and Shellfish Officers with guidance on reviewing pier and dock construction for direct and indirect impacts on shellfish habitat and other resource values.
- G. Coastal habitats, including fish runs, fish spawning and nursery areas, submerged aquatic vegetation and shellfish habitat will be mapped and included in the Commission's Geographic Information System (GIS). The Commission will work with the Division of Marine Fisheries and local agencies to develop this information for Cape Cod waters.
- H. The Commission will work with the County Commissioners to establish a county-wide cooperative for the purchase of oil spill containment and cleanup equipment.
- I. In order to protect the Cape's coastline and its resources from damage from spills of oil and other hazardous materials, the Commission shall update the Barnstable County Oil Spill Contingency Plan with assistance from all of the towns. At a minimum, the contingency plan will:
- include a regional, as well as a town-by-town, priority ranking of resource areas targeted for protection in the event of a spill. These resource areas shall be mapped on the Commission's GIS;
 - ensure adequate coordination of response activities among all local, state, and federal agencies;
 - provide for periodic training and drills;
 - include an inventory of existing equipment and supplies specifying location, method of storage, and transportability;
 - specify emergency contacts.
- J. The Commission will actively participate in the Massachusetts Bays, Buzzards Bay, Waquoit Bay Reserve and other regional coastal research programs, to ensure that technical and scientific issues of importance to Cape Cod are addressed, and will coordinate with the various agencies with jurisdiction in the coastal zone on matters related to these projects.
- K. The Commission will identify coastal areas where coastal erosion and shoreline retreat is projected to severely impact development and develop regulations to restrict new development in those areas. The width and location of these areas shall be determined by a number of factors including: shoreline retreat, possible sea level rise, soil type, topography, vegetation, flood hazard areas and existing uses.
- L. The Commission will work with federal, state and other authorities to ensure the protection of offshore

fishing grounds from adverse impacts from oil drilling and spillage; mining; septage, sewage and hazardous waste; dumping; and other offshore development.

Recommended Town Actions

A. Towns should designate "working waterfront" overlay zones along their shoreline to ensure the preservation and expansion of traditional maritime uses. Within these zones, boatyard preservation programs should be implemented. All new buildings or accessory uses constructed within this zone should directly benefit maritime-related uses.

B. Towns should re-establish and/or designate traditional rights-of-way to the shore through appropriate legal means.

C. Towns should identify sensitive coastal areas where public access and development should be restricted in order to maintain the integrity of coastal features, and should take measures to protect these areas.

D. Towns should develop harbor management plans in accordance with state guidelines and implement watershed zoning to protect coastal resources and prevent use conflicts on the water.

E. Towns should identify and designate areas as federal No Discharge zones for boats in conjunction with state and federal guidelines.

F. The Commission will coordinate with towns to provide disposal options for marine head waste.

G. Towns should strengthen local building codes beyond minimum state and federal standards to reduce the potential impacts to health and safety and the economy resulting from coastal storms.

H. Towns should develop a list of projects that provide or enhance coastal access and use of their shoreline to be used in conditioning local Chapter 91 licenses.

2.3 Issue Area: Wetlands

Barnstable County contains extensive areas of both fresh water and coastal wetlands. These wetland resources are important to the environment and economy of Cape Cod. They provide important natural functions including ground water recharge, reduction of pollutants, and wildlife and fisheries habitat, and they are a significant destination for residents and visitors seeking outdoor recreation opportunities including beaches, birdwatching opportunities, fishing and other water sports. Wetland areas are also important for shellfishing, cranberry production and other resource-related industries on Cape Cod.

The Massachusetts Wetlands Protection Act regulates any work within a coastal or inland wetland resource area and any work within a 100' buffer zone that is likely to affect a wetland. The Act is administered by local Conservation Commissions through a permit process. In addition, most Cape communities have passed local wetlands bylaws that regulate activities within wetlands and/or zoning bylaws that establish construction setbacks to wetlands. These bylaws are generally more strict than the state Act.

Estimates of historic wetland acreage and loss on the Cape vary, with no consistent comparative studies. While it is unlikely that large-scale wetland alterations will occur in the future, the cumulative effects of hundreds of small projects individually deemed permissible have never been addressed. As pressure grows to develop increasingly marginal land, adverse effects on wetlands and wildlife habitat are likely to increase.

The Wetlands Protection Act standards were developed for the state as a whole and have a number of limitations that leave the Cape vulnerable to loss of important wetland resources. These include:

- The state currently bans filling and alteration of salt marshes, but no similar protection is provided for inland wetlands. An unlimited amount of wetland may be filled to provide access to upland portions of a site. In addition,

the Act permits alteration of up to 5000 square feet of wetlands if the wetlands are "replicated" elsewhere on the site. However numerous studies have suggested that wetland replication (conversion of upland to manmade wetland) does not adequately replace the complex natural functions and productivity provided by the altered natural wetlands. A 1989 study by the Army Corps of Engineers of six replication projects on Cape Cod, found that only two were successful (based only on simple measures such as size and the presence of wetland vegetation, rather than more complex functional criteria). The preface to the Wetlands Protection Act Regulations also recognizes that the functions served by bordering vegetated wetlands cannot be replicated in their totality by engineering means.

- The Wetlands Protection Act does not provide any protection for buffer areas surrounding wetlands that provide important functions, including mitigating stormwater impacts, removing nutrients, and recharging ground water. Research has documented the increase in nitrogen and phosphorus loading to wetlands as adjacent watershed areas are cleared of vegetation. Buffer areas are also often exceptionally valuable wildlife habitat. Many bird species such as herons nest in upland trees adjacent to wetlands, but feed in the wetlands. Without buffer area protection, these nesting areas could be destroyed. Recent studies suggest that buffers 100 to 300 feet wide are needed to protect surface water bodies from sedimentation and maintain wildlife habitat, and 300 to 1000-foot buffers are needed for 50 to 90 percent nutrient removal. A 200-foot buffer is recommended to protect the scenic value of a natural area.

- Many of the Cape's wetlands occur as isolated kettle holes that do not meet the size thresholds for protection in the state Act.

- Many developments have been designed to discharge stormwater directly to waterbodies or to use wetlands for stormwater management and attenuation of pollutants, a practice that may result in degradation of the wetland and could adversely affect downstream waters. Existing stormwater discharges are difficult and expensive to remediate.

In some cases, town wetlands bylaws have partially compensated for these deficiencies by expanding the definition of wetland resources, requiring building and septic setbacks to protect buffer zones, and prohibiting or limiting wetland replication. However, there is no regional consistency within these bylaws and variances are often granted. In addition, Conservation Commissions have expressed concern about the need for greater coordination among local boards, particularly with Boards of Health, on issues including the siting of wastewater disposal systems and redevelopment of areas with existing failing systems.

All of the towns on the Cape have had their coastal wetlands, and a few have had inland wetlands protected by the Inland and/or Coastal Wetlands Restriction Acts that map important wetlands and restrict them by placing a permanent Order of Restriction on individual landowner deeds. Alteration of these wetlands, with several noteworthy exceptions, is prohibited. However, many of these maps need to be updated and a great deal of inland restriction work remains to be done in many towns.

Goals and Policies

2.3 Wetlands

2.3.1 Goal: To preserve and restore the quality and quantity of inland and coastal wetlands on Cape Cod.

Minimum Performance Standards:

2.3.1.1 Wetland alteration shall not be permitted except as provided herein and in Section 2.3.1.3. 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.

2.3.1.2 Natural, undisturbed buffer areas of at least 100' width shall be maintained from the edge of coastal and inland wetlands including isolated wetlands, to protect their natural functions including but not limited to mitigation of stormwater impacts and their wildlife habitat value. This policy shall not be construed to preclude pedestrian access paths, vista pruning, or construction and maintenance of water-dependent structures within the buffer area, any of which may be permitted at the discretion of permitting authorities where there is no feasible alternative to their location. The Commission and local Conservation Commissions 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. Where a buffer area is already developed, this requirement may be

modified by the permitting authority, provided it makes a finding that the proposed alteration will not increase adverse impacts on that specific portion of the buffer area or associated wetland.

2.3.1.3 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.

2.3.1.4 Stormwater management plans for new development shall preclude direct discharge of untreated stormwater into natural wetlands and waterbodies.

Other Development Review Policies:

2.3.1.5 Measures to restore altered or degraded inland and coastal wetlands, including nonstructural bank stabilization, revegetation, and pond restoration, should be encouraged.

2.3.1.6 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 ground water.

2.3.1.7 For agricultural areas in wetlands and buffer areas, management practices that would improve water quality and conserve water as recommended by the Soil Conservation Service should be encouraged.

Implementation

Commission Actions:

A. The Commission will develop a model wetlands bylaw/ordinance for communities on Cape Cod and will provide technical assistance to Conservation Commissions, Boards of Health and Planning Boards in developing and modifying their local bylaws and ordinances to protect the Cape's unique resources.

B. The Commission will develop a site-specific buffer area methodology to assess additional buffer areas requirements for sensitive wetlands and water bodies.

C. The Commission will develop a network of scientists and other technical advisors to provide assistance to the Commission and towns on wetland and wildlife resource issues.

D. The Commission will support passage of state legislation to allow local conservation commissions to use revolving funds to pay consultants engaged in project review.

E. The Commission will help communities to identify coastal and inland wetlands and associated upland areas that are likely to be affected by projected sea level rise.

Recommended Town Actions:

A. Wetlands should be mapped by communities at a scale appropriate to local regulatory programs and should be identified and protected so as to maintain their ability to provide natural functions.

B. Towns should adopt local wetlands bylaws or ordinances that provide for the following: protection of vernal pools and isolated wetlands, a policy of no alteration/replication of wetlands for both public and private applicants, expansion of jurisdiction beyond 100 feet where appropriate, improved enforcement authority, and the ability to hire consultants to review applications at the applicant's expense.

C. Conservation Commissions should work closely with Boards of Health and other relevant town boards to develop a mutually acceptable definition of the boundaries of wetlands and a consistent standard for siting new subsurface disposal systems in relation to these areas as well as improving and retrofitting areas with

failing systems.

D. Towns should develop mitigation plans to address existing stormwater management problems where runoff and drainage systems are adversely affecting water quality in wetlands and water bodies.

2.4 Issue Area: Wildlife and Plant Habitat

Cape Cod contains an unusually diverse mix of wildlife and plant communities, including many species that are rare or declining in number. Sixty-two species of plants and wildlife on Cape Cod are listed by the State Natural Heritage and Endangered Species Program as endangered or threatened, and another 49 species are on a watch list of species that are declining or could easily become threatened. Threatened and Endangered Species that are also on the U.S. Fish and Wildlife Service list of federal Threatened and Endangered Species include the sandplain gerardia, piping plover and roseate tern.

In 1990 the Association for the Preservation of Cape Cod published a Critical Habitats Atlas that identifies important habitat areas on Cape Cod, including state listed rare species, Areas of Critical Environmental Concern, and other unusual habitats such as sandplain grasslands and quaking bogs. This Atlas highlights the many critical resource areas on Cape Cod.

Also in 1990, the Massachusetts Endangered Species Act was passed. The Act protects designated significant habitat areas for endangered and threatened species -- both plant and animal. Once areas are designated, any alteration of significant habitat would require a permit from the Division of Fisheries and Wildlife based on a finding that the proposed alteration will not reduce the viability of the significant habitat to support the species for which the area was designated. Although this Act is a significant step forward for protection of endangered and threatened species on Cape Cod, development of implementing regulations and habitat designation will be a time-consuming process that will take many years.

The Wetlands Protection Act currently provides protection for rare, state-listed wetland wildlife species whose habitat has been identified and mapped by the Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program. In these areas no short or long term adverse impact from new development on the wetland habitat of the rare species population is permitted, nor is replication of habitat permitted. There are a number of such areas mapped on Cape Cod.

Some wetland wildlife habitat protection is also provided through other provisions of the Wetlands Protection Act. The Act sets performance standards for important wildlife habitat for banks, lands under water, and some floodplain areas, and identifies wildlife habitat as an interest to be protected by the Act. However, the wildlife habitat value of the 100' buffer area around wetlands is not recognized by the Wetlands Protection Act, although many wildlife species require a combination of wetland and adjacent upland habitat for foraging, breeding and nesting. For example, the shores of coastal plain ponds are particularly important plant and animal habitat and receive no direct protection. Maintaining a natural vegetated buffer in these areas is essential to providing habitat for these species.

The Wetlands Protection Act also does not provide adequate protection for vernal pools which may serve important natural functions, particularly as wildlife habitat. There is virtually no protection for the vast numbers of vernal pools located outside the boundaries of wetland resource areas.

In addition to protecting the habitat of critical species and wetlands wildlife, it is important to provide a certain degree of general wildlife habitat protection so that additional species do not become threatened due to loss of habitat. For example, the Cape's woodlands, comprised primarily of a pitch pine/oak community, provide important upland wildlife and plant habitat. Careful management of these forests can increase wildlife and plant diversity. It is important to maintain unfragmented tracts of forest of sufficient size to support the Cape's important wildlife species. Too often development projects contain inadequate wildlife corridors that provide little functional wildlife habitat, or contain isolated fragments of "open space" of little benefit to wildlife.

The Cape's lakes and ponds provide habitat for fish, freshwater shellfish, invertebrates and plants. The many coastal plain ponds on Cape Cod provide habitat for a wide variety of rare plants and are particularly sensitive to changes in water levels, nutrients and human use. Activities in woodland areas can adversely impact habitat for freshwater fish, including changes in water temperature due to clearing and decreased water quality from runoff and sedimentation.

With careful site design, the most critical portions of a habitat area can be protected. The Cape Cod Commission has developed a Capewide open space/greenbelt network map based on natural resources and existing protected open space that provides a continuous open space corridor across the Cape. This corridor is a first step toward providing protection for large unfragmented areas of wildlife habitat.

Goals and Policies

2.4 Wildlife and Plant Habitat

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

Classification System and Minimum Performance Standards:

2.4.1.1 The following classification system and minimum performance standards shall guide development decisions by the Commission and local boards:

A. Critical Wildlife and Plant Habitat: Consists of habitat areas of rare (threatened or endangered) plant and wildlife species and species of special concern as generally identified and mapped by the Natural Heritage and Endangered Species Program and other critical habitat areas as identified and mapped by the Association for the Preservation of Cape Cod's "Cape Cod Critical Habitats Atlas," or local authorities.

A.1: The Natural Heritage program has agreed to review Developments of Regional Impact proposed within these areas. Developments of Regional Impact that would adversely affect habitat of local populations of rare wildlife and plants shall not be permitted. Development may be permitted where the proponent can demonstrate that such development will not adversely affect such habitat.

A.2: A wildlife and plant habitat management plan may be required as a condition of approval when development or redevelopment is permitted in critical wildlife and plant habitat areas.

A.3: Clearing of vegetation shall be limited to the minimum area needed for building construction, roads, driveways and accessory structures and as needed for safe sight distances.

B. General Wildlife and Plant Habitat: Consists of all other undeveloped areas.

B.1: Applications for Developments of Regional Impact that propose to alter such areas shall contain a wildlife and plant habitat assessment. Such assessments shall identify the presence and location of wildlife and plant habitat, including vernal pools, and be a guide for the layout of the development. Developments shall be planned to minimize impacts to wildlife and plant habitat.

B.2: Clearing of vegetation and alteration of natural topography shall be minimized, with appropriate vegetation planted as needed to enhance or restore wildlife habitat.

2.4.1.2 Development shall be prohibited in vernal pools and within a minimum 100' buffer around these areas. These areas shall not be used for stormwater management.

Other Development Review Policies:

2.4.1.3 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.

Implementation

Commission Actions:

- A. The Commission will help communities identify a continuous Cape-wide network of wildlife habitat areas and corridors of sufficient width and dimensions to be of value as wildlife habitat and define a plan for establishing them.
- B. The Commission will develop guidelines and standards for wildlife habitat evaluation for Developments of Regional Impact.
- C. The Commission will develop a model wildlife habitat protection bylaw/ordinance for use by towns on Cape Cod.
- D. The Commission will encourage the Division of Fisheries and Wildlife to expedite identification and designation of significant habitat areas on Cape Cod for protection as defined by the Massachusetts Endangered Species Act.
- E. County Cooperative Extension will encourage the development of educational programs on the existence and importance of plant and animal habitats on Cape Cod.
- F. County Cooperative Extension will develop a guide for using native vegetation in landscaping to enhance wildlife habitat and prevent erosion.
- G. The Commission will coordinate with the Massachusetts Natural Heritage and Endangered Species Program on review of projects affecting critical habitat areas.

Recommended Town Actions:

- A. Vernal pools should be identified by local communities for certification by the state Natural Heritage and Endangered Species Program.
- B. Critical plant and wildlife habitat areas should be identified in Local Comprehensive Plans, and towns should develop a review and regulatory process for activities that could adversely impact such habitat and/or seek their designation as significant habitat areas under the Massachusetts Endangered Species Act.
- C. Towns should adopt bylaws/ordinances limiting land clearing and alteration of natural topography prior to development review.

3. Issue Area: Economic Development

The Cape Cod Economy

In the past twenty years, Cape Cod has been one of the fastest growing regions in New England. The Cape's population doubled from 96,656 to 186,605. The number of jobs grew from 32,681 in 1975 to 73,466 in 1989. The economy has been shifting from a seasonal tourist-fishing-agriculture base to a more diversified year-round base with significant business services, manufacturing, research, medicine, human services and education. Since 1980, year-round jobs have increased from 66% to 75% of total jobs.

The economic base of any region is made up of those industries that sell their goods and services to buyers outside the region or, in the case of tourists or retirees, buyers who earn or earned their income outside the region. In the long run, a region cannot grow unless it is able to increase what it sells to outside markets; hence, the importance of the economic base. Figures developed by Charles River Associates in 1987 for the Prospect Cape Cod Study indicate that the Cape Cod economic base amounts to \$2 billion and is comprised of retirees (26.6%), tourism (26.4%), seasonal residents (21.8%), manufacturing (9.7%), and business services, fishing, agriculture, and other sectors (15.5%). An additional \$1 billion is spent within the Cape Cod economy on consumption by Cape Cod residents.

Data from the Massachusetts Department of Employment and Training indicate that 1989 employment on Cape Cod

was comprised of the following sectors:

Retail Trade:	33.57%	Finance/Insurance/Real Estate	5.22%
Services:	27.73%	Transportation/Public Utilities	4.59%
Government:	13.63%	Wholesale Trade:	2.28%
Manufacturing:	5.82%	Agriculture/Forestry/Fishing:	1.65%
Construction:	5.46%	Mining:	.04%

Despite the transition to more of a year-round economy, there remain seasonal fluctuations in unemployment rates. For instance, the summertime unemployment rate for 1990 was 5.6%, while the winter rate was 10%. The January 1991 rate for the labor market area was 15.1%. In reaction to the recession of the early 1990s, Cape Codders are particularly concerned about the vulnerability of an economy with seasonal fluctuations still heavily weighted to the vacation and retirement industries.

The Cape Cod Commission has been charged with implementing a "balanced and sustainable economic development strategy capable of absorbing the effects of seasonal fluctuations in economic activity." The key words here are "balanced"-i.e. diversifying business activities and creating more year-round job opportunities, and "sustainable"- i.e. requiring that new development not damage environmental resources. Economic development must be reconciled with the protection of the Cape's fragile environment, which is a fundamental objective of the Cape Cod Commission Act. Cape Codders supported this idea in the 1990 Residents' Survey in which 73% surveyed agreed with the statement: "The natural environment should be the most important consideration when planning economic development on Cape Cod."

Strategy for Economic Development

Environmental constraints and economic needs point to new development directions for Cape Cod. The Residents' Survey found that 78% would support "clean light industry" and 70% would support a facility offering year-round cultural activities. At the same time, 86% of the respondents would oppose a new 50-room motel, 83% would oppose a large shopping mall and 70% would oppose a miniature golf course or water slide. Forty-six percent (46%) of the survey respondents thought that the Cape Cod Commission should work to expand the Cape's non-tourist economic base. There are several areas of potential economic growth for the Cape which are compatible with the preferences of Cape Codders.

Cape Cod has a strong marine science sector centered in Woods Hole, where almost 1500 people work at scientific institutions and 23 private "spin-off" businesses have been created. This world-renowned research and development center has considerable potential for growth in marine electronic instrumentation and biotechnology.

Environmental business, with 30,000 workers and \$3 billion in sales, is one of the fastest growing industries in Massachusetts. Products and services include consulting, research and development, instrumentation to measure air and water quality, waste management and new sustainable technologies. With extensive environmental activity already underway and no other region having seized leadership, this plan proposes that the Cape establish itself as a center for environmental business. This goal would fit with Cape Cod's need to encourage environmentally-sustainable development.

With companies like Fibronics, Software 2000, and Cape Cod Potato Chips, Cape Cod also has a growing manufacturing and business sector, which has growth potential. The keys to attracting similar businesses are maintaining the attractiveness and livability of Cape Cod and generating a positive business climate. To achieve these goals, the Cape Cod Commission is working with local business groups on a marketing campaign to attract appropriate businesses to the Cape. The Commission also is exploring creation of an environmental business "incubator." An incubator is a center for nurturing start-up businesses, which has proven successful elsewhere.

Tourism and retirement continue to be Cape Cod's leading economic sectors. Economic development efforts need to remain focused on marketing in these areas. The region's greatest asset is its natural and historical environment, and a great concern of visitors is that the Cape is losing its environmental integrity and historical charm. Thus, "green tourism," coupled with a focus on historical and cultural attractions, is a natural venue. Innovative marketing, expanded coordination between nature sanctuaries, museums, and cultural organizations, and encouragement of new attractions like the Hyannis Kennedy Museum will be important. Other opportunities for expanding the tourist market include more off-season events, international tourism, and upgraded conference facilities.

Fishing, shellfishing, and agriculture are other economic sectors which have played a long and important role in the Cape Cod economy. The economic value of fishing and shellfishing industries is estimated to be as much as \$3 to \$6 million monthly. Agriculture, led primarily by cranberry growing, is also an active sector. Besides their economic impact, these traditional activities contribute to the Cape's character and must be maintained in any balanced economic scenario.

In order for this economic development program to be effective, appropriate land must be available for development. The Regional Policy Plan has outlined a policy of encouraging more concentrated development in targeted growth centers: village centers, regional commercial centers, industrial parks, and infill of existing commercial strips. This pattern of development would preserve open space, avoid blight, and allow for appropriate development.

The Cape Cod Commission economic development strategy includes: working in partnership with local government and business groups; developing programs to encourage the growth of particular sectors; creating a business marketing program; identifying appropriate land for development; identifying financing options; providing technical assistance for dealing with state and federal programs; and offering small business assistance through the Massachusetts Small Business Development Center and the Service Corps of Retired Executives (SCORE).

Goals and Policies

3. Economic Development

3.1 Goal: To promote businesses that are compatible with Cape Cod's environmental, cultural, and economic strengths in order to ensure balanced economic development.

Development Review Policies:

3.1.1 The Commission recognizes the important role of private enterprise in maintaining and enhancing sound local and regional economies, and in providing needed services to the Cape's population. Market forces should determine the nature of new businesses or business expansion on Cape Cod, provided that the environmental and planning standards of the Regional Policy Plan are adequately addressed.

3.1.2 The Commission should evaluate the economic impacts of proposed developments, taking into account job creation and services and/or products provided.

3.1.3 The Commission should identify and encourage enterprises with the greatest economic potential for Cape Cod and work with various organizations to promote those activities. Potential opportunities include but are not limited to tourism, marine science, "clean" manufacturing, business services, environmentally-oriented business, computer software, shellfishing, aquaculture, fin-fishing, agriculture, health and elder care, cultural activities and education.

3.1.4 The Commission should encourage tourist activities that enhance the natural and cultural qualities of Cape Cod and that promote year-round activity. Such activities include but are not limited to museums, art, theater, music, and natural recreation areas.

3.1.5 The Commission should encourage the development of local businesses which can be integrated into the community without adverse impacts on Cape Cod resources. Such activities include but are not limited to consulting, direct-mail business, home-based business, arts and crafts.

3.1.6 The Commission should encourage the reuse and rehabilitation of existing buildings for residential and commercial growth.

3.1.7 The Commission should encourage development that will enhance the availability and quality of health and human services in Barnstable County.

3.2 Goal: To locate development so as to preserve the Cape's environment and cultural heritage, minimize adverse impacts, and enhance the quality of life.

Minimum Performance Standards:

3.2.1 As specified in other sections of the Regional Policy Plan, the following incentives shall be provided to encourage development and redevelopment to locate in designated growth centers:

- The nitrate-nitrogen standard for ground water may be increased to 10 ppm where such increase will cause no significant adverse impact on specific identified resources.
- Traffic conditions may be reduced to Level of Service E if there is a provision for safe pedestrian traffic.
- Public and private sewage treatment facilities may be used.
- Commercial redevelopment in growth centers is exempt from providing 40% open space on or off site. Residential redevelopment in growth centers need only maintain the existing amount of open space.

Development Review Policies:

3.2.2 Development and redevelopment should be concentrated in designated growth centers in order to use land more efficiently, create places more oriented to pedestrians, bicyclists and public transit, to preserve open space and maintain the Cape's attractiveness.

3.2.2.1 Village growth centers should be maintained and restored by concentrating small scale retail, office, home-based industry and community activities in these areas.

3.2.2.2 Large-scale commercial activities should be concentrated in regional growth centers where adequate infrastructure is available.

3.2.2.3 Manufacturing and warehousing business activities should be concentrated in industrial growth centers.

3.2.2.3.1 The Commission will work with towns and local industrial park authorities to resolve environmental and planning issues in order to expedite the development and marketing of these parks. This could include development agreements or District of Critical Planning Concern designations to streamline the development review process.

3.2.2.4. Redesign, revitalization, and infill of existing strip commercial developments should be encouraged, where adequate infrastructure is available.

3.2.3 Resource-based economically productive areas including agricultural land, harbors, fishing grounds, and recreational areas should be maintained specifically for those uses.

3.3 Goal: To encourage the creation and diversification of year-round employment opportunities.

Development Review Policies:

3.3.1 Developments of Regional Impact should be evaluated for job creation, occupational and salary opportunities for local workers, and for their impact on decent affordable housing for employees.

3.3.2 The Commission should encourage projects which provide permanent, year-round jobs and employment training opportunities for Cape Cod residents.

3.3.3 The Commission should encourage projects reviewed as Developments of Regional Impact to employ Cape Cod contractors and use local suppliers and workers.

3.3.4 The Commission 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.

Implementation

Commission Actions:

Coordination:

A. The Commission will work with its Economic Advisory Committee, the Cape Cod Economic Roundtable, town governments, chambers of commerce, health and human service organizations and other business and civic groups to identify and implement programs to improve the Cape Cod economy. This process should identify solutions to the economic needs of the different areas of Cape Cod.

B. The Commission will work with local permitting agencies to coordinate and streamline the development review process to minimize delays.

Targeted Industries:

C. The Commission will work with local governments and business organizations to create strategies for developing the following economic sectors which have export potential to expand Cape markets and create more year-round jobs: marine science, environmental research and technology, biotechnology, computer technology, "clean" manufacturing, financial services, tourism, retirement and health care and elder services. Potential development strategies may include the creation of industry "incubators" and research parks for start-up businesses.

Fiscal Analysis:

D. The Commission will develop a methodology for analyzing the fiscal impacts of proposed development and redevelopment for use in Development of Regional Impact review.

Marketing Strategy and Public Information:

E. In conjunction with local governments and business groups, the Commission will develop a program to encourage job creation by attracting new businesses and assisting existing businesses to grow in all regions of the Cape. This initiative will include marketing available business property and providing outreach to businesses interested in locating on Cape Cod.

F. The Commission will work with local chambers of commerce, tourist attractions, historians, environmentalists, public relations experts, and other knowledgeable individuals to develop a program for marketing the environmental, historical, and cultural attractions of Cape Cod. The Commission will also work with appropriate public and private agencies to identify funding sources for tourism marketing.

G. The Commission will collect information concerning available developable property in industrial parks and other industrially-zoned areas and vacancies in commercial real estate. This information will serve as the basis for a Cape Cod business marketing program.

H. The Commission will research and disseminate information concerning the economy and demographics of Cape Cod. These research activities will include interpreting data from the U.S. Census, state and local agencies, private organizations and businesses. Data relating to Barnstable County and its 15 towns include:

-Population trends	-Construction
-Housing	-Home sales
-Income	-Labor force
-Employment	-Unemployment
-Retail sales	-Tourist visitation
-Hotel/motel tax revenues	-Municipal property valuation
-Tax levies	-Tax rates
-Major employers & unions	- Commercial fishing, shellfishing and recreational fisheries

Such materials will be made available to towns, businesspersons, the media and interested individuals through periodic publications and responses to individual requests.

I. The Commission will work with local businesses and business organizations to identify markets and organize marketing consortiums.

Financing:

J. The Commission will work with financial institutions and town governments to develop innovative financing

programs for small business, and shall encourage reinvestment in the Cape Cod economy by local institutions. This effort will include identifying public and private financing resources and other incentives, including tax incentives, tax increment financing and special assessment districts.

K. In conjunction with local governments and business groups, the Commission will investigate forming regional and/or town private nonprofit entities, such as an Economic Development Corporation or a Community Development Corporation, to promote business development on Cape Cod. Such an entity could provide financing and technical assistance to existing and new businesses, acquire and manage property, and undertake development projects.

Education and Technical Assistance:

L. The Commission will work with towns, county government, businesses, and nonprofit organizations as a technical resource for economic development and as a liaison with state and federal agencies to obtain funding and services for economic development projects.

M. The Commission will sponsor conferences and workshops on the Cape Cod economy and strategies for improving it.

N. In order to support existing small businesses and encourage the establishment of new ones, the Commission will promote the management consulting services of the Massachusetts Small Business Development Center and the Service Corps of Retired Executives (SCORE).

O. The Commission will support the efforts of the business sector and educational and training institutions to prepare local workers for and refer them to new job opportunities with special attention to disabled, elderly, minorities, and unemployed and underemployed persons.

P. The Commission will support the development of expanded higher educational and vocational programs on Cape Cod in order to enhance opportunities and upgrade job skills.

Q. The Commission will develop a model bylaw to provide predictable rules for the development of biotechnology research.

Recommended Town Actions:

A. Town governments, in preparing comprehensive plans, should meet with businesses and business organizations, to ascertain economic development needs in the community.

B. Local comprehensive plans should identify areas for economic growth in town, as well as appropriate infrastructure needs. Towns should review and/or modify zoning and permitting processes to encourage diverse and desirable economic development.

C. Town governments should work with the private sector on initiatives to market the town for business and tourist development. This could include town financial support for marketing.

D. Town governments should consider offering incentives to promote desired economic development in their communities, including enterprise zones and similar strategies.

4. Community Facilities and Services

4.1 Issue Area: Transportation

Transportation is one of the most difficult issues facing Cape Cod. Because of a lack of public transportation options, residents and visitors are heavily dependent on private automobiles as the only reliable means of mobility. Traffic congestion is an increasing problem: the road system which is generally adequate to serve the Cape's year-round population becomes seriously overloaded with the influx of summer residents and visitors. Traffic congestion causes driver frustration, air pollution, increases accidents and wastes valuable time and fuel. It is probably the most visible negative consequence of overdevelopment and lack of supporting infrastructure.

Traffic count data on the Sagamore and Bourne Bridges indicate that in 1989, daily bridge counts on a year-round basis had reached 1983 peak summer levels. Route 6 traffic at the Sagamore Bridge increased 63% between 1975 and 1989; traffic in the mid-Cape area of Dennis increased by 129%; in Provincetown along Route 6, the traffic increased 200% during the same time period. In the Cape Cod Residents' Survey, 80% of the respondents listed traffic congestion as one of the most serious problems facing the Cape in the next five years. Eighty-six percent (86%) favored limiting the size of development projects to prevent significant impacts on traffic congestion or safety and another 78% supported assessing special fees on all new large developments for improving roads.

The Cape Cod Regional Transit Authority is responsible for developing, financing, and contracting with private companies to meet mass transportation needs throughout Barnstable County. The Authority contracts with operators to provide B-bus (door-to door by appointment) service and funds a fixed route service from Hyannis to Woods Hole. It also subsidizes fixed route bus service to the Lower Cape. However, frequency of service is limited and funding cutbacks in public transportation programs are making the provision of transportation alternatives increasingly difficult.

The future of Cape Cod's transportation system is rooted in a number of opportunities and constraints. The new regional perspective offered by the Cape Cod Commission Act provides an opportunity to improve traffic modeling capabilities and to coordinate new development with the provision of needed facilities. However, financing, land availability, and virtually unmitigatable impacts to water resources and scenic character seriously limit the feasibility of road improvements. The traditional solution of providing an ever-increasing supply of roadway lane mileage is no longer viable. There is a need to explore neglected and new modes and means of moving people including a system of rail, air, and waterborne service to and from the Cape, integrated with an on-Cape system of automobile, bicycle, pedestrian and public transportation facilities.

The Commission is in an ideal position to shape new transportation initiatives to meet the demand for alternate modes of travel. The issues of automobile traffic demand and roadway capacity supply must be addressed so as to:

- Shorten distances between trip origins and destinations by promoting a village-centered settlement pattern;
- Promote safe access to roadways through controlled spacing of curb cuts;
- Promote development patterns which permit traffic improvement measures only where they can be provided without detracting from environmental and scenic resources; and finally,
- Promote alternatives to conventional automobile travel such as public transportation, bicycling and walking, and public/private associations dedicated to implementing commuting and recreational travel alternatives, considering also the needs of the disabled.

The natural beauty, historic abundance and rural charm of the Cape should not be compromised merely to accommodate more automobile traffic. The mobility that the people of the Cape need and deserve should be consistent with the Cape's historic, scenic and natural resources.

Goals and Policies

4. Community Facilities and Services

4.1 Transportation

4.1.1 Goal: To foster a transportation system on Cape Cod for present and future year-round needs which is safe, convenient, accessible, economical and consistent with the Cape's historic, scenic and natural resources.

Classification System and Minimum Performance Standards

4.1.1.1 Development and redevelopment shall not degrade the existing levels of service (LOS) of surrounding roads and intersections below LOS C based on summer peak hour traffic volumes. Levels of service shall be measured using performance indicators such as reserve capacity, delay at intersections and

volume to capacity ratio as defined in the Highway Capacity Manual. As an exception, within designated growth centers, levels of service may be reduced to LOS E if there is a provision for safe pedestrian traffic. Where existing levels of service are below these specified levels, development and redevelopment shall maintain or improve performance indicators.

4.1.1.2 Developments of Regional Impact shall mitigate any traffic impacts that are created by such developments. The mitigation strategies shall include both structural and nonstructural improvements, with special emphasis on alternatives to private automobile transportation. Necessary improvements shall occur concurrently with any development, or a contribution of funds toward the necessary improvements shall be provided. All traffic mitigation measures on state highways must be in accordance with Massachusetts Department of Public Works access requirements, standards and policies. At a minimum, projects shall be evaluated using MEPA's Guidelines for Traffic Impact Assessment.

4.1.1.3 Development and redevelopment shall comply with permissible forms of mitigation as delineated below. These permissible forms of mitigation take into account not only road function and classification but the presence of environmentally sensitive areas, regional economic impacts, and scenic and historic values. Roadway classifications are illustrated on the Regional Policy Plan Cape Cod Transportation Classification Map, June 20, 1991 as amended.

Class A. Major Regional Roadways - Major regional roadways consist of limited access roadways and other roadways that provide mobility to and within heavily developed commercial areas. Examples include Route 6, Route 132 from Route 6 to the Airport Rotary in Hyannis and sections of Route 28 from Harwich through Bourne.

Class B. Regional Roadways with Scenic and Historic Values - This category of roadway consists of regional roads that have scenic and historic values inherent to Cape Cod that must be preserved. Such roadways often provide access to a mix of residential and small commercial areas. Examples of such roadways include Route 6A, Route 28A and Route 28 from Harwich through Orleans.

Class C. Local Roadways of Regional Significance - These are roads that typically serve local traffic but provide mobility between towns. Area development is often characterized primarily by residential uses. Examples include Setucket Road (in Yarmouth, Dennis, and Brewster), Great Western Road (Harwich and Dennis), Rock Harbor Road (Orleans and Eastham), parts of Route 130 (Sandwich and Mashpee), Route 151 (Falmouth and Mashpee).

Class D. Other Local Roadways - These are roads that typically serve local traffic. Examples include: Shore Road (Bourne), Mill Way (Barnstable), Crowell Road (Chatham), and Conwell Road (Provincetown).

Permissible mitigation is as follows:

1. Alternatives to automobiles and reduction in peak hour site traffic: Along all roads (Classes A, B, C, and D), mitigation that reduces automobile trips and peak traffic demands without construction of facilities for the alternate modes shall be permissible. Examples of this form of mitigation include demand management, providing shuttle bus services, car or van-pooling and promoting pedestrian and bicycle accessibility. If structural mitigation is required to reduce automobile trips, such as the construction of sidewalks, bicycle paths and shuttle bus stops, these shall be permissible provided that the construction does not degrade environmentally sensitive areas or interfere with scenic or historic values.

2. Non-structural mitigation: Measures such as demand management, changes to pavement markings, signage, signal timing optimization of existing traffic lights, turn restrictions, changes in traffic patterns, limited removal of obstructions to safe sight distances, curb cut consolidation, conflict point reduction are generally permissible mitigation strategies on all roads (Classes A, B, C, and D).

3. Structural mitigation (new signalization, new road links, intersection widening, road widening, interchange construction or improvements): These types of mitigation are generally acceptable only in areas that are not environmentally sensitive and do not have scenic or historic qualities that would be degraded by the mitigation and only if it is demonstrated that other forms of mitigation in 1 and 2 are inadequate to

alleviate a project's impact on traffic safety and operations. Therefore, this mitigation is generally permissible only on Major Regional Roadways (Class A). Under limited circumstances, these may be permissible on portions of Local Roadways of Regional Significance (Class C) and Other Local Roadways (Class D) provided no scenic or historic values are degraded. Such mitigation is generally not permissible on Regional Roadways with Scenic and Historic Value (Class B).

4.1.1.4 Construction of new regional roads and widening of major road segments shall be undertaken only where other alternatives have been demonstrated to be ineffective or infeasible. Such improvements shall be consistent with Local Comprehensive Plans.

4.1.1.5 Proposed development and redevelopment shall analyze the summer peak hour condition in assessing traffic impacts.

4.1.1.6 Development and redevelopment shall provide adequate and appropriately designed on-site parking. The Commission shall encourage adjacent commercial uses to share parking and access points so as to minimize curb cuts and pavement coverage. Where appropriate, adequate off-site parking may be substituted for on-site parking. Where it is not feasible to provide private parking, new development shall contribute to the creation of public parking facilities.

4.1.1.7 Where appropriate, mixed-use development shall be given preference in order to reduce automobile use between commercial and residential areas.

Other Development Review Policies:

4.1.1.8 Where appropriate, subdivision roads should be connected with existing roads to avoid the creation of dead-end streets and contribute to the establishment of secondary road networks.

4.1.1.9 Appropriate plantings should be encouraged along roads and median strips to improve appearance and provide screening.

4.1.1.10 Primary access points from large scale, high traffic-generating development should not be established where traffic is required to travel through areas with significantly lower densities or intensities.

4.1.1.11 Roadways and sidewalks should be designed to accommodate access for the disabled.

4.1.2 Goal: To develop alternate modes of transportation so as to reduce dependence on private automobiles.

Minimum Performance Standards:

4.1.2.1 Developments of Regional Impact shall make provision for alternate transportation modes to offset at least 20% of their projected traffic volumes. Acceptable alternatives include but are not limited to carpool programs, shuttle bus service, employee housing on site, and related programs to ensure a 20% reduction in vehicle trips to and from the site. In lieu of providing these services in-kind, the developer may make a contribution to the Cape Cod Regional Transit Authority or a private transit company approved by the Commission in order to provide public transportation.

4.1.2.2 Development and redevelopment shall incorporate provisions for bicyclists and pedestrians so as to minimize automobile trips.

4.1.2.3 Roadway construction and upgrades shall include provisions for bikeways, where appropriate. Roadway safety features such as adequate lane and shoulder widths, smooth pavements and bicycle responsive traffic signals shall be included.

Other Development Review Policies:

4.1.2.4 Bicycling and walking should be encouraged as an alternative to automobile trips. Where appropriate, historic footpaths should be maintained and safe bicycle links to regional bike networks should

be established. Where feasible, bikeways and footpaths between existing subdivisions are encouraged in order to open up through-linked bicycling and walking routes away from major roads.

4.1.2.5 The Cape's current airport capacity should be maintained as a vital economic and transportation resource. A buffer area should be maintained around regional and local airports to ensure future development in the buffer area is consistent with the airport operation, and development outside the buffer is protected from noise, fumes and loss of life or property. However, an Eastern New England Regional Airport should not be permitted on Cape Cod due to the environmental sensitivity of the area and the very limited transportation infrastructure.

4.1.2.6 Existing transportation rights-of-way should be retained for future transportation uses.

4.1.2.7 Where appropriate, Developments of Regional Impact should provide bus turn-outs, taxi-stands, park and ride lots, and related facilities.

4.1.2.8. Opportunities for other forms of public transportation including bus, rail, ferry and shuttle vans should be expanded, in order to serve visitors and residents.

Implementation

Commission Actions:

A. The Commission will work with the Cape Cod Regional Transit Authority to encourage the development of public transportation alternatives such as bus routes, rail lines and shuttle van service.

B. The Commission will work with the Regional Transit Authority and other appropriate state and private parties to identify locations for future park and ride lots, and encourage the provision of bicycle storage facilities at such locations.

C. The Commission in cooperation with other interested agencies will investigate the feasibility of establishing intermodal transportation center(s) to link rail, water, aviation and bus transit systems as well as private motor vehicles, bicycles and pedestrians.

D. The Commission will support efforts to mitigate traffic impacts by better managing the timing and occupancy of automobile trips and by encouraging organized commuting alternatives such as "flex-time" and carpooling.

E. The Commission will work with appropriate state and regional authorities to maintain and better publicize the availability of a coordinated system of roads, railways, aviation, ferry service and related facilities to provide the safe and efficient movement of people and goods.

F. The Commission will encourage the development of water taxi and/or passenger ferry service between harbors during the summer months and the provision of bicycle racks at public beaches and landings.

G. The Commission will coordinate with the Woods Hole-Martha's Vineyard Steamship Authority to encourage solutions on issues of mutual concern relating to marine transportation.

H. The Commission will work with its Joint Transportation Committee and the Department of Environmental Management to develop a coordinated bicycle route plan to link major population centers and other important trip origins/destinations. The plan shall use existing roads and paths where feasible, upgrading them as needed, and proposing new facilities in corridors which are presently poorly served by routes suitable for bicycling.

I. The Commission will develop a model traffic impact assessment bylaw.

Recommended Town Actions:

A. Towns should establish a traffic impact assessment and mitigation program to require the evaluation of the impacts of new developments and expansions on Levels of Service.

B. Towns should develop thresholds for review of traffic impacts of proposed projects within their zoning and/or site plan review bylaws.

C. Towns should identify areas in need of curb cut reductions and improvements to decrease accident rates and traffic congestion.

D. Towns should identify and take steps to re-establish historic pedestrian footpaths.

E. Towns should adopt buffer requirements through zoning bylaws or easements to protect existing airports and residential uses surrounding them from conflicts in use.

4.2 Issue Area: Solid and Hazardous Waste Management

Like most other regions of New England, Cape Cod faces the challenge of managing its solid and hazardous waste in an environmentally sound manner at the same time that other priorities and issues compete for attention and scarce funding. However, in the last five years, waste management has gone from being a largely overlooked area of government operations to being, in some communities, the third most expensive governmental function after schools and roads. In the Cape Cod Residents' Survey, 75% of the respondents indicated that the Commission should ensure that each town has adequate facilities for the disposal of sewage, garbage and hazardous wastes. Eighty-three percent (83%) supported requiring businesses to separate solid wastes for recycling, and 88% indicated that they want their town government to maintain or increase the amount of tax money spent for solid waste management.

Solid waste includes residential and commercial refuse (193,000 tons on Cape Cod in 1990), landscaping waste, sewage/septage treatment plant sludge, and construction and demolition materials. Today, it is believed that the best approach to solid waste is as follows:

1. to reduce as much as possible the amount of solid waste created;
2. to compost organic wastes for which there is an end-use;
3. to collect and market recyclable materials for which there are markets
4. to incinerate waste that would otherwise be landfilled; and
5. to landfill only wastes that cannot be composted, recycled or incinerated.

This approach is called "integrated solid waste management."

Every waste management method and technology has drawbacks. Before embarking on a new direction in waste management, each option should be carefully analyzed with respect to siting, technology, cost, social acceptability, environmental impact, and public versus private ownership and operation. The key to "integrated solid waste management" is diversification; to not rely on any one method or technology.

Source Reduction

Source reduction includes any effort which lessens the production of waste. Examples include changing buying habits, improving manufacturing processes, redesigning packaging (packaging accounts for one-third of all waste), and redesigning products to be recyclable and more durable. Producing less waste means managing less waste, whether the method used is composting, recycling, incineration or landfilling. Successful source reduction efforts translate into less labor, less hauling, less air and ground water pollution, less generation of hazardous waste, less use of fuel, less use of scarce landfill space, and less use of natural resources such as metals, minerals, timber and oil.

Composting

Currently, 10 towns compost leaves, handling about 4% of Cape Cod's solid waste by weight. Several private facilities compost, or chip and recycle, an undetermined quantity of organic material delivered to them by developers, landscapers and property owners. A report conducted for the U. S. Environmental Protection Agency states that yard wastes represent nearly 18% of all solid wastes generated nationally. Composting represents a safe, efficient and relatively inexpensive way, using low technology, to convert organic yard wastes into a useful, even saleable, item. Household participation could be expanded greatly.

The composting of materials other than yard wastes, such as sewage treatment plant sludge and food wastes from stores and restaurants, requires a more capital-intensive (and thus regional) approach but represents a viable method for returning such wastes to productive use.

Recycling

Every town on Cape Cod has a recycling program. Recycling rates (as a percentage of all residential and commercial waste) are estimated to range from 1% to 7% by weight, with the Cape-wide average being about 4%.

Cape Cod residents strongly support recycling efforts. However, impediments to increased recycling include: relatively low population densities, thus making curbside pickup too expensive in many towns; a constant need to educate tourists; the distance to markets or end-users (all off-Cape); a congested road system; the marketing of recyclables by each of the 15 towns (which ensures small quantities); the lack of paid recycling coordinators and, finally, state and local governments that are in financial turmoil and hesitant to expand programs.

In spite of these hindrances, it is felt that Cape Cod could achieve a recycling rate of 30% by 2000. This would involve the collection and aggregation of newsprint, glass, cans, scrap metal, plastic containers and leaves from residents; and corrugated cardboard and office paper from businesses. Eighty percent of all households would have to participate, and a centrally located facility on Cape Cod to process and market recyclable materials would have to be developed, to achieve a recycling rate of 30%.

An analysis of regional recycling options, commissioned by the Massachusetts Department of Environmental Protection and completed in April 1991, found that a centrally located, low technology facility is the most feasible way to promote long-term recycling on Cape Cod. The facility would aggregate, bale, market and prepare for shipment separated recyclables delivered by towns and private haulers. Single communities will not be able to cost-effectively produce recyclables that meet market specifications. Such a facility could be publicly or privately owned.

Incineration

In 1990, approximately 34% of Cape Cod's municipal solid waste was incinerated at the SEMASS resource recovery facility in Rochester. Fourteen Cape Cod towns signed 20 year contracts with SEMASS in 1985; 12 are now on-line. Ten town transfer stations and two regional stations have been built.

Participation in SEMASS is not a panacea to any town's solid waste woes. It simply gives towns some "breathing room" to develop composting and recycling programs, to establish recycling markets, and to conserve precious landfill space while alternate methods are being developed. It is not advisable to send to SEMASS wastes that can be composted or recycled and have markets. The incineration of recyclable materials, lead batteries, tires, and yard wastes will be phased out by December 31, 1994 under 310 CMR 19.00.

Landfill

With increasing quantities of waste projected to be composted, recycled and incinerated, the percentage of residential and commercial solid waste going to landfills will decrease to an estimated 15-20% Capewide by 1995, drastically reducing the need to operate and maintain 15 municipal landfills on Cape Cod. Wastes that will continue to require landfilling include some construction and demolition materials (most of these materials can be recycled), bedding, carpeting, street sweepings, possibly sewage sludge, and other non-organic, non-recyclable and unacceptable-to-SEMASS wastes.

New regulations promulgated by DEP, effective July 1, 1990, may require some landfills on Cape Cod to close. New landfills will be difficult to site and financially unaffordable for any one town by itself. Construction and demolition material is not accepted at SEMASS. This material is accepted at some town landfills, at private on-Cape and off-Cape landfills, and at about a dozen demolition processing and recycling firms in New England.

Sludge

Facilities that generate sludge on Cape Cod include sewage or septage treatment facilities, septage pits or lagoons (now illegal), and "package" sewage treatment plants. Sewage treatment facilities are located in Barnstable, Chatham, Falmouth and at the Otis Air National Guard Base. A septage treatment facility serving Brewster/ Eastham/Orleans is located in Orleans. Another is under construction in Yarmouth; others are in the planning stages. If a town that now landfills sludge must close its landfill, some other treatment or disposal method must be developed. The options are composting, incineration, landfilling or long-distance hauling to a permitted facility.

Hazardous Wastes

On Cape Cod, thousands of households and businesses dispose of small quantities of hazardous waste in town landfills. However, this adds up to tons of hazardous waste each year being placed in unlined landfills in close

proximity to ground water with a potential for contamination of drinking water supplies. Legal and environmentally safe disposal methods for generators of very small quantities of hazardous waste are simply unavailable or expensive. More importantly, hazardous wastes are being generated unnecessarily due to carelessness, lack of information and inadequate employee training. Many people are simply unaware of which wastes are hazardous.

Regionalization

Solid waste planning on Cape Cod has been coordinated regionally by Barnstable County since 1969, however solid waste management is a town activity. Decision-making authority for the development and daily operation of waste handling facilities remains with the 15 towns. Solid waste management activities that may be more appropriately performed regionally (two or more towns), by public entities or private enterprise, are: the processing, marketing and hauling of recyclables; the hauling of solid waste to SEMASS; the composting of sewage/septage treatment plant sludge; and the collection and storage of hazardous wastes generated by households, schools and other very small quantity generators.

Regional mechanisms that municipalities may use to manage solid and hazardous wastes include: contracting with a lead community, intermunicipal agreements, and establishment of a County Department or Refuse Management District.

Goals and Policies

4.2 Solid and Hazardous Waste Management

4.2.1 Goal: To manage solid waste using an integrated solid waste management system that includes source reduction, recycling, composting, incineration and landfilling, and to divert 20% of municipal solid waste from incinerator and landfill facilities through recycling and composting programs by 1996; and 30% by 2000.

Minimum Performance Standards:

4.2.1.1 Developments of Regional Impact shall address how the quantities and types of solid 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 which cannot be avoided. The third priority is to incinerate waste that cannot be recycled or composted, and finally, to landfill only those wastes that cannot be recycled, composted or burned.

4.2.1.2 Development and redevelopment shall allocate adequate storage space for interim storage of materials to be recycled.

4.2.1.3 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 paragraph 4.2.1.1.

4.2.2 Goal: Hazardous wastes generated by Cape Cod households and businesses shall be disposed of in an environmentally sound manner.

Minimum Performance Standards:

4.2.2.1 Development and redevelopment shall make reasonable efforts to minimize their hazardous waste generation through source reduction, reuse, material substitution, employee education and recycling.

4.2.2.2 Development and redevelopment shall be in compliance with Massachusetts Hazardous Waste Regulations, 310 CMR 30.00.

4.2.2.3 Commercial and industrial development and redevelopment that involves the use, treatment, generation, storage or disposal of hazardous wastes or hazardous materials, with the exception of retail sales and household quantities, shall not be allowed within Wellhead Protection Districts.

Implementation

Commission Actions:

- A. The Commission will research and develop alternate methods for collection and disposal of hazardous wastes generated by households, schools and small businesses.
- B. The Commission will promote the development of a permanent regional recycling facility on Cape Cod, to process and market recyclables. Opportunities for regional marketing will be pursued as an interim measure.
- C. The Commission will work with towns to explore regional alternatives to meet future landfill needs for non-recyclable and non-combustible solid waste.
- D. The Commission will seek to educate and assist residents, businesses, institutions and governments on source reduction of solid and hazardous wastes and the identification of products posing fewer disposal difficulties.
- E. The Commission will encourage government, businesses, institutions and individuals to purchase goods made from recycled materials in order to increase the marketability of the recyclable materials they generate.
- F. The Commission will conduct, publish and distribute an annual survey of the quantities of solid waste that are recycled, composted, incinerated and landfilled by each town.
- G. The Commission will work with the tourism industry and the Chambers of Commerce to encourage "green tourism" as a means of educating visitors to Cape Cod that they will be expected to recycle and to keep beaches and roadways clean.
- H. The Commission will work with the Cape Cod Environmental Education Resource Center to encourage incorporation of source reduction and recycling in primary and secondary educational curricula in Cape Cod schools.
- I. The Commission will monitor SEMASS contract implementation as it relates to regional issues.
- J. In 1992, the Commission will evaluate the town-by-town cost of rail and truck transfer for the shipment of solid waste to SEMASS to determine possible cost-effective improvements.
- K. The Commission will support proposed legislation to require source separation of solid waste and to promote environmentally acceptable packaging.
- L. The Commission will continue to assist in the development of state policies and regulations through participation in various Department of Environmental Protection (DEP) advisory committees.
- M. The Commission will promote "backyard composting" of yard wastes and household food wastes, and will help disseminate information on composting in conjunction with the County Extension and DEP.
- N. The Commission will support methods to provide accurate labelling of household products containing hazardous materials.
- O. The Commission will research potential problems and possible improvements to the methods currently used for disposing of food wastes, sewage treatment plant sludge, medical wastes and low-level radioactive wastes.
- P. The Commission will encourage creation of an annual awards and publicity program for exemplary businesses, institutions and schools that institute outstanding source reduction and recycling programs.

Recommended Town Actions:

- A. Towns should adopt accounting methods which reflect all capital costs and operational expenses of solid waste disposal and recycling and establish fee schedules based on such costs, or make it known to taxpayers what they are paying to subsidize such disposal and recycling.

B. Towns should develop an integrated system of waste management that involves recycling, composting, incineration, and landfilling for dealing with municipal solid waste, sludge, and construction and demolition materials.

C. As markets are established, towns should adopt mandatory recycling bylaws.

D. Towns should develop leaf and yard waste composting programs, with mandatory bylaws, by 12/31/91 for leaves and 12/31/92 for other yard wastes.

E. Towns should adopt a toxic and hazardous materials bylaw or regulation, utilizing the County's model or similar regulations.

F. Towns should continue to hold household hazardous waste "collection days" until an alternate collection system is established.

G. Towns should develop and maintain an emergency response plan for spills of hazardous materials during transit.

4.3 Issue Area: Capital Facilities and Infrastructure

The availability of capital improvements and infrastructure plays a major role in determining the rate and location of development on Cape Cod. In turn, new residents and businesses place increased demands on community infrastructure and services. Therefore planning for capital improvements must be an integral effort of the planning efforts of the Cape Cod Commission and of towns through local comprehensive plans.

In many areas of the Cape, infrastructure and public services are inadequate to handle existing development, and projected development is likely to further increase the demand on these facilities and services. Many roads are at an unacceptable level of service even during the off season. Infrastructure limitations in village and town centers can lead to land consumptive, sprawling development outside of these areas. Communities are increasingly unable to expand facilities and services to meet existing needs due to diminishing state and federal assistance and fiscal constraints. Few communities have capital facilities plans which provide for planned expansion of such infrastructure, or if they do, they have been unable to fund them. In addition, public investment in infrastructure and services is sometimes inconsistent with existing community plans. For example, the federal government is seeking to relocate Post Offices from downtown areas to outlying locations, such as recently occurred in Harwich, undermining downtown development and redevelopment efforts. Similarly, placement of infrastructure such as sewers in low-lying coastal areas is often necessary to remediate existing water quality problems, but may lead to further growth and development in inappropriate areas.

With a severely limited fiscal capacity, Barnstable County government cannot be a primary provider of needed infrastructure and services. However, the County has a key role to play in planning for regional needs. In the past it has proven difficult to develop regionally needed but locally unwanted facilities such as waste disposal facilities (sewage, septage, solid and hazardous waste), special needs housing and hospitals, due to local opposition. One community's residents may oppose such facilities, expecting another community will assume the burden of providing them. The resulting bitter siting battles mean that such facilities are often never built. The County can help to coordinate the siting of such facilities.

The Cape Cod Commission Act authorizes towns to charge impact fees once they have completed their local comprehensive plans. This represents a major opportunity to ensure that existing infrastructure is not further strained by new development. However, public investment in infrastructure will also be needed to ensure that a reasonable amount of growth can be accommodated without negative impacts. Local capital facilities plans will be key to effective growth management.

Goals and Policies

4.3 Capital Facilities and Infrastructure

4.3.1 Goal: To provide adequate community and regional facilities to meet community and regional needs.

Minimum Performance Standards:

4.3.1.1 Approval of development and redevelopment which increases the intensity of use shall be based on existing infrastructure capability or on a development's ability to provide for or contribute to the infrastructure and services necessary to support it. 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.

4.3.1.2 Development of new infrastructure shall only occur after an analysis of the impacts of this infrastructure with regard to land use, traffic, and water quality.

4.3.1.3 Privately provided infrastructure to service development and redevelopment shall be consistent with local comprehensive plans.

Other Development Review Policies:

4.3.1.4 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, and related facilities should reinforce the traditional character and village development patterns of Cape Cod.

Implementation

Commission Actions:

A. The Commission will identify needed regional facilities including but not limited to: water supplies, septage disposal facilities, water and wastewater treatment plants, Materials Recycling Facilities, hazardous waste collection facilities, landfills and other solid waste disposal facilities, mass transit facilities, health care facilities, and special needs housing; the Commission will identify possible sites, coordinate with appropriate agencies, and solicit host communities to accommodate these facilities.

B. The Commission will aid in the development of interlocal agreements to facilitate siting of needed regional facilities.

C. The Commission will help communities with preparation of capital facilities plans as part of their local comprehensive plans.

D. The Commission will develop regulations governing assessment and imposition of impact fees by local governments on proposed developments.

Recommended Town Actions:

A. Towns should review their zoning regulations and maps in order to plan for sufficient quantities of land in appropriate locations to serve community needs, including economic development, housing, water supply, police, fire, libraries, health and social services, government, waste disposal, education, community centers, and recreation, as well as a fair share of necessary regional facilities. Specific sites for such purposes should be identified in local plans.

B. Towns should identify and plan for the provision of appropriate infrastructure improvements, such as public water supply and wastewater treatment facilities where needed in growth centers and business areas to support concentrated development, and should limit infrastructure improvements in areas where development is not encouraged.

4.4 Issue Area: Energy

According to the Department of Energy Resources, the Cape and Islands have traditionally had the highest average heating oil and gasoline prices in the nation. A large percentage of the Cape's electricity is generated by

Commonwealth Electric's Sandwich Power Station, which uses oil as its primary energy source. The price of oil therefore directly affects the power cost charge for electricity which is a major portion of the Cape's cost per kilowatt hour. The majority of oil used in New England is imported from overseas and is subject to increases in cost which reflect the prevailing situation in the Middle East. As of January 1990 the U.S. imported 54% of its oil, accounting for 40% of its \$102 billion 1989 trade deficit. The other primary source of electricity provided to Cape Cod comes from the Pilgrim Nuclear Power Plant, which only has a projected life span of 40 years. The Cape as a region is especially vulnerable to the inevitable rise in cost of fossil fuels.

Most Cape residents understand that conservation measures can lower utility, oil and gas bills paid by households and businesses. There is also an increasing understanding by the public that conservation, and the skillful management of peak electrical demand may also play an important role in postponing major investment in additional electric generating capacity. This could have important moderating effects on future increases in electric rates. Incentives for energy conserving home improvements would create more jobs for local people with expertise in this area. Prior to 1986, when the federal solar tax credits were still in place, there were at least seven local contractors that installed solar domestic hot water systems. Now that the solar tax credits have been rescinded, there is only one local contractor.

Some local building codes presently do not require the use of energy conservation techniques and materials in new homes. Cape and Islands Self Reliance Corporation estimates that 90% of Cape homes, even those built in the last 10 years, could save energy through weatherization treatments such as air sealing in conjunction with air exchange systems and added insulation. In general, alternate technologies, which dominated the subject of energy in 1983 during the oil embargo, have not been stressed in recent years. Little has been done to encourage community awareness or provide programs and information to encourage the use of these technologies.

Additionally, most Cape residents rely entirely on automobile transportation. Although some bus service does exist, it primarily serves to transport people on and off Cape rather than providing local service. This severely limits the ability of Cape Codders to use more energy efficient modes of transport and has, together with the development boom of the 1980s, steadily worsened traffic congestion, which approaches gridlock conditions in some locations during the summer months.

The Self Reliance Corporation estimates that in 10 years, Cape Cod could save 33% of its annual energy bill, or \$107 million, by making a small investment to provide an incentive for conservation and renewable energy projects. This would also create jobs, return tax dollars to local governments and help improve air quality.

Goals and Policies

4.4 Energy

4.4.1 Goal: 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.

Minimum Performance Standards:

4.4.1.1 Development and redevelopment shall 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. Detailed requirements will be outlined in a forthcoming County Energy Plan.

Other Development Review Policies:

4.4.1.2 Energy efficient construction techniques and materials should be encouraged for all development and redevelopment. They should include but not be limited to:

- above minimum R values for insulation of walls, attics and foundations;
- use of thermal pane windows with low emissivity coating with high R values;
- annual fuel usage efficiency ratings of at least 80% for all new heating systems; and
- use of indirect type water heaters and minimum efficiency requirements for stand alone water heaters.

4.4.1.3 Energy saving transportation activities including carpooling, mass transit programs, bicycling and

walking should be encouraged.

Implementation

Commission Actions:

Energy Plan

A. The Commission will work with the Cape and Islands Self Reliance Corporation and other appropriate organizations to develop a comprehensive County Energy Plan which will:

- quantify the current energy requirements of all sectors of the economy and identify the economic impacts of these requirements;
- project the potential energy savings under different types of energy regulations and preservation strategies;
- define requirements for building efficiency and renewable energy devices;
- establish a procedure for certifying installers of alternative energy equipment;
- develop a procedure for funding and implementing all proposed energy saving strategies; and
- disseminate practical information.

Research

B. The Commission will actively encourage research and development of alternative energy sources on Cape Cod including tidal and solar power, and the establishment of zones for windmill farms that produce electricity.

C. The Commission will promote the development of energy efficient transportation alternatives.

Coordination

D. The Commission will work with County Extension and other concerned organizations to promote energy conservation measures in existing buildings.

E. The Commission will encourage the state and federal government to establish tax incentives for renewable energy product manufacturers in specified locations.

Recommended Town Actions:

A. Towns should revise and enforce energy conservation standards for development and redevelopment.

B. Towns should consider providing incentives for the use of energy conserving building improvements and renewable energy devices in all existing and new buildings, if cost effectiveness over the improvements' expected lifetime can be demonstrated.

5. Issue Area: Affordable Housing

The past decade witnessed an unprecedented and far reaching change in the Cape's housing market. Nowhere was this more evident than in the rise in unit construction and housing costs. According to figures compiled by the Cape Cod Planning and Economic Development Commission (CCPEDC) from town building permit records, between 1980 and 1989 the total number of housing units for Barnstable County increased by 35%. Information from the Cape Cod Board of Realtors shows that during this same period the mean cost of housing rose 230%.

There were many factors that contributed to this change in the housing market. Certainly the real estate boom taking place throughout the state at this time had its effect on the Cape. At the same time, however, there were specific factors that were unique to this region. One of these had to do with the perception of the Cape as an attractive, easily accessible, resort area. This fact, coupled with low interest rates, became the driving force that led increasing numbers of off-Cape retirees and second homeowners to buy into the Cape's housing market.

In general these newcomers to the Cape had incomes and/or assets that far exceeded those of the average Cape Cod working household. The net effect of this population change was best summed-up in a 1987 study for CCPEDC: "Since the housing market is driven by ability to pay rather than by housing cost or public altruism, prices rise to meet off-Cape incomes." The Cape's limited size and environmental constraints also played a role in driving up

housing costs.

Today the Cape's housing market is in a different situation. For the past two to three years prices and sales have declined. Data from the Cape Cod Board of Realtors indicates that in 1989 the median cost of housing was \$135,000. In the fall of 1990 it was \$130,000, representing a 3.7% decline. As far as rents are concerned it appears that they have leveled off during the past year. The average rent for a two bedroom apartment, with utilities, is \$650 per month. The Board of Realtors reports that there are some 7000 residential units on the market and that more and more rentals are appearing each day.

It would be a mistake, however, to interpret such changes as a sign that the lack of affordable housing is no longer a serious problem. During the boom years wage increases lagged far behind the dramatic rise in housing costs. It would take a decline in costs far more substantial than what has occurred to eliminate the mismatch between income levels and housing costs (both sales and rentals) that currently exists. Additionally, the recession and higher utility costs have eroded what opportunity, if any, the sagging housing market offers the low and moderate income household. In the Cape Cod Residents' Survey, 49% of the respondents indicated that the availability of affordable housing had worsened in the last five years.

This explains, in part, why the increased number of units available to buy or rent has not had a significant impact on the housing needs of the low and moderate income household. The majority of these units still remain unaffordable for such households. For example, approximately 5% of the MLS listings in the fall of 1990 were priced at \$100,000, or less. Additionally, the waiting lists for all of the County's Local Housing Authorities total 7660 applications.

For the Cape's low and moderate income tenants the rise in housing costs has produced some real hardships. Under state and federal standards a household is considered low or moderate when its income does not exceed 50% or 80% of the area's median income. When applied to Barnstable County this produces income levels of \$16,950 and \$27,120 for 1990. To afford the average rent for the two bedroom unit cited above, a household would need an income of \$28,000 (assuming that rental costs do not exceed 30% of household income). These facts demonstrate the income gap that exists for the majority of the County's low and moderate income tenant households.

The first time moderate-income homebuyer has fared no better in today's housing market. This can best be demonstrated by a comparison of the area's median household income with the income needed to purchase a home at the median cost. Using such a comparison we find that a household would need to earn at least \$44,000 (assuming 10% down, 30-year note at 10%, mortgage not to exceed 30% of gross income) to afford 1990's median cost of \$130,000. This produces an income gap of over \$15,000 for the household at 80% of the area's median income.

The lack of affordable housing becomes even more evident when viewed in the context of MGL Chapter 40B, which provides incentives to communities to provide at least 10% of their housing stock in subsidized units. When the 10% threshold is applied to the Cape, we find that not a single town has attained this level. Information compiled by the Massachusetts Executive Office of Communities and Development (EOCD) indicates that the percentages range from zero in some communities to a high of 7%. It should be noted that the Cape is not unique in this respect from most rural communities; nevertheless, it does serve as an important indicator of the area's housing need. County-wide, the average stands at roughly 2.5% (2670 units). To bring the entire County up to the 10% standard it would be necessary to create or adapt 7079 units. It is important to point out that at the beginning of the decade the county-wide average of 40B units was 3.46%. There has been a drop in the proportion of affordable units to total units over the past 10 years.

As cited earlier, the lack of affordable housing has had a direct impact on the low and moderate income tenant and homebuyer. Within these general categories, however, there are segments of the population who are at risk of suffering even greater hardship due to this problem. For example, the Department of Mental Retardation reports that out of 385 clients, 120 reside within what is considered supportive facilities. The Department of Mental Health also reports that while 54 of its clients have their own housing, there are 250 in need of affordable housing. Homelessness for single people and families continues to be a problem. In November of 1990 there were 119 families living in family shelters or motels. During 1989, 585 single people used the NOAH Shelter in Hyannis. The need for transitional and other forms of affordable housing for people with AIDS is clear. These are but a few of the groups who are at risk of suffering greater hardship due to the lack of affordable housing. Others include the very low income, people on fixed incomes, the elderly, single female heads of household, minorities, and others with special needs.

If the housing needs of the above are to be effectively addressed it will require very specific strategies on both a town and regional basis. Actions such as development of more multifamily housing, providing an affordable mass transit program, affordable child care, combating discrimination, congregate housing and others need to be considered.

Addressing the County's affordable housing needs and protecting its environment should not be seen as mutually exclusive. In fact, there are a number of policies that could go a long ways toward making sure that the resolution of one does not come at the expense of the other. A strategy that targets use of the many units now on the market needs to be aggressively pursued. Where new construction is concerned, the County should encourage cluster developments and accessory apartments in appropriate locations. If done properly, such developments can preserve open space and provide needed affordable housing.

Finally, there needs to be a policy that addresses the amount of remaining developable land that should be set aside for affordable housing. Asking each town to develop an inventory of public and private land suitable for development of affordable housing would be in line with such a strategy.

In the Cape Cod Residents' Survey, 52% of the respondents indicated that they would support the development of affordable housing for low and moderate income people in single or duplex units in various locations in their towns. The Commission has a critical role to play in addressing the County's affordable housing needs. Many of the solutions to this problem will require regional action. Specifically, the forms this role could take include:

- Development of policies, plans and strategies that address this issue on a regional and town basis;
- Encouragement of local towns to develop local housing plan;
- Development and maintenance of housing data base;
- Monitoring town's progress in addressing local housing needs.
- Development of information and resource base;
- Through DRI permitting process linking development with the provision of affordable housing; and
- Establishment of housing DCPCs.

Goals and Policies

5. Affordable Housing

5.1 Goal: To promote the provision of fair, decent, safe, affordable housing for rental or purchase that meets the needs of present and future Cape Cod residents. At a minimum each town shall seek to raise its affordable housing stock to 10% of all year-round units by the year 2000.

Minimum Performance Standards:

5.1.1 Affordable housing shall be encouraged in all areas that are appropriate for residential and mixed use residential and commercial development. Particular attention shall be given to locating affordable housing in or near designated growth centers and convenient to transportation corridors.

5.1.2 Residential construction and redevelopment projects of 10 units or more shall provide at least 10% of the proposed units as affordable units. In lieu of providing such units on site, the applicant may satisfy these requirements by providing equivalent housing units off site through the purchase of existing units, redevelopment, new construction, or a contribution of land.

5.1.3 Residential subdivision plans of 10 lots or more shall provide at least 10% of the proposed lots as affordable housing sites. Unless developed by the applicant, such sites shall be contributed to an eligible local entity. An applicant may also satisfy these requirements through one of the options specified in Section 5.1.2.

5.1.3.1 In lieu of providing such lots on site, an applicant may develop or contribute equivalent off-site lot(s) that possess the capability of supporting the designated number of affordable units.

5.1.4 In lieu of providing units or lots, an applicant may provide a cash contribution of equivalent value to a local fund for affordable housing. The method of payment shall be agreed upon between the applicant and

the Commission and shall be secured as a condition of development approval.

5.1.5 Prior to final review by the authorized board or commission, an applicant must demonstrate that off-site lots are buildable and/or units habitable. In the event that the off site lots or units prove to be unsuitable for any reason, an acceptable alternate contribution will be required.

5.1.6 All affordable housing contributions shall be initiated upon the conveyance of any of the subdivision lots or the issuance of a building permit for any of the lots, whichever occurs first.

5.1.7 The development of on-site affordable housing shall be phased in at the same rate as the project's overall development plan. For example, if the overall plan calls for the project to be completed in three phases, then at least one-third of the affordable housing units must be completed during each phase. This condition does not prohibit an applicant from satisfying the affordable housing component sooner.

5.1.8 The Commission shall follow guidelines contained in certified Local Comprehensive Plans in determining the local entity or organization that will receive the affordable housing contribution. In the absence of such a plan the Commission shall make this determination.

5.1.9 Affordable housing units created by this section shall remain affordable year-round through the use of resale deed restrictions or rental restrictions that require the units to remain affordable for 99 years. Such restrictions shall be made known to the homebuyer or renter prior to the purchase/occupancy of the unit.

5.1.10 Affordable housing units within market rate developments shall be integrated with the rest of the development and shall be compatible in design, appearance, construction and quality of materials with other units.

5.1.11 Affordable housing provided for purchase through the review process shall be made available to potential home buyers through a lottery process (which incorporates an affirmative action plan), or another method approved by the town through its local comprehensive plan.

5.1.12 For the purposes of calculating the 10% affordable housing contribution, all numbers shall be rounded to the nearest whole figure.

5.1.13 Residential construction, redevelopment, or subdivision development projects which are entirely comprised of housing units that are affordable for households at or below the median income may qualify for a waiver of the 10% affordable housing requirement.

Other Development Review Policies:

5.1.14 The Commission's preference regarding off-site compliance with the affordable housing requirement should be in the following order: use of existing structures, cash contribution, or land contribution.

5.1.15 Incentives to maximize the number of affordable units should be considered, including, but not limited to, waivers of certain fees, expedited permitting processes and town-approved density bonuses.

5.1.16 Nonresidential development projects should be evaluated as to the need for affordable housing created by such development and should provide such housing or should contribute to its development by one of the methods cited above.

5.2 Goal: To promote equal opportunity in housing and give special consideration to meeting the housing needs of the most vulnerable segments of the Cape's population including, but not limited to: very low income (50% of median income), single female heads of household, racial minorities, people with AIDS, elderly, the homeless, disabled, and others with special needs.

Minimum Performance Standards:

5.2.1 In all of its actions the Commission shall work to prevent discrimination in housing because of race, color, creed, religion, sex, national origin, primary language, age, political affiliation, disability, sexual

orientation or any other consideration prohibited by law, and shall not knowingly approve any development that so discriminates.

Other Development Review Policies:

5.2.2 Congregate, single-room occupancy, shared and community residential housing should be encouraged to address the housing needs of the most vulnerable segments of the Cape's population.

5.3 Goal: To seek out, provide support and encourage the development of innovative strategies designed to address the housing needs of Cape Cod residents, with particular attention to the needs of low and moderate income renters.

Minimum Performance Standards:

5.3.1 Use of innovative funding strategies such as reversed annuities and shared ownership shall be encouraged.

5.3.2 Renovation and reuse of existing structures shall be a primary means for addressing affordable housing needs.

5.3.3 Cluster development shall be encouraged as a means of providing affordable housing.

5.3.4 New seasonal developments shall make provision for employee housing or assist in placing summer employees in housing designed specifically for summer use.

Other Development Review Policies:

5.3.5 Bylaws allowing the creation of affordable housing units by conversion of existing buildings or creation of accessory apartments should include provisions consistent with Section 5.1.9 on a year-round basis. The granting of any variance or special permit to create such units should be linked with acceptance of such provisions.

5.3.6 Nonprofit housing developers should be given preference in developing parcels of town owned or leased land for affordable housing.

Implementation

Commission Actions:

A. The Commission will provide technical assistance to communities in developing their housing plans. The Commission will also monitor each town's compliance with their comprehensive housing plan on an ongoing basis.

B. The Commission will develop a county-wide housing needs assessment that shall be updated every three years. The Commission will maintain an ongoing research and information effort on housing and related issues, including state and federal legislation affecting housing, the provision of advice regarding assistance programs, and eligibility information for qualification for affordable housing programs.

C. The Commission will coordinate with the Executive Office of Communities and Development to encourage participation by communities in their new Local Initiatives Housing Program and Community Participation Program.

D. The Commission will work with the Massachusetts Housing Partnership and local communities on implementation of the new Federal Housing Act. The Commission will seek funds to be provided by the Act for implementation of housing programs on the Cape to meet the region's affordable housing needs.

E. The Commission will support, and take an active part in, those efforts designed to create a banking consortium whose funds would be used to finance the construction of affordable housing to rent or own.

F. In consultation with the towns, the Commission will compile a list of all municipally owned land which might be appropriate for multifamily housing development and circulate the same to state and municipal affordable housing agencies.

G. The Commission will work with local towns, for-profit and nonprofit developers, human service agencies, and others, in developing strategies that address the housing needs of the most vulnerable population groups as identified in Goal 5.2.

H. Although the Commission does not have regulatory authority to review Chapter 40B projects, the Commission, acting as a local board, will provide comments on Chapter 40B projects.

I. The Commission will provide applicants and the towns sample language for deed restrictions which ensure the long term affordability of housing units.

J. The Commission will provide technical assistance to those efforts designed to prevent the termination of federal and state subsidized rental units due to mortgage pre-payments by privately subsidized developments.

K. The Commission will work to foster greater cooperation and collaboration between housing and environmental concerns.

L. The Commission will support legislation calling for the establishment of a regional land bank derived from a land transfer tax or other source to provide funds for affordable housing and open space throughout the Cape.

M. The Commission will promote and provide technical assistance to the nonprofit housing development sector.

N. The Commission will investigate, and if feasible, sponsor the development of a photo-documentary that features attractive, effective affordable housing developments for use as a information/education tool throughout the County.

O. The Commission will provide technical assistance in assessing the feasibility of establishing Community Development Corporations that serve more than one town.

P. The Commission will provide written information and technical assistance on matters such as condominium conversion ordinances, rent review boards and other similar measures.

Q. The Commission's Housing Specialist will serve as the Commission's liaison to national, state, county-wide and local organizations that directly deal with the issue of affordable housing.

Recommended Town Actions:

A. Each town should establish, where one does not already exist, a local affordable housing committee, local housing partnership, or a comparable body whose purpose would be to develop housing policy, review proposals, recommend actions and maintain communication with the Commission.

B. Each town that prepares a Local Comprehensive Plan shall develop a local needs assessment that will be updated every three years. Local housing plans should be based on such an assessment and shall be consistent with the regulations and guidelines that govern MGL Chapter 40B. Within the plan, specific attention shall be given to identifying the needs of those special groups identified in Goal 5.2. The plan should also include a fair housing section that targets housing accessibility for those groups identified in Goal 5.2.

C. Each town should inventory public and private land suitable for the development of affordable housing. Factors that could be considered in the selection of such sites by the town should include: proximity to water and sewer (where applicable), schools, and services, proximity to existing developed areas and environmental constraints. At a minimum, local housing and environmental advocates should be involved in the site selection process.

D. Towns should re-evaluate their zoning bylaws, codes, and regulations for the purpose of removing barriers to affordable housing and encouraging its development.

E. Towns should adopt zoning bylaws that allow for the conversion of existing buildings into permanent, year-round

affordable housing. Such conversions shall include, but not be limited to, cottage colonies, in-law apartments, rental duplexes and condominiums where appropriate to the site's characteristics and availability of facilities.

F. Towns should consider donating or leasing parcels of town-owned land for affordable housing.

G. Towns should adopt assessing practices that take into account the adjusted value of permanently affordable housing.

H. Towns should develop a system for administering those units created through the affordable housing requirement in Section 5.1.

6. Issue Area: Open Space and Recreation

Cape Cod has a rich heritage of open space resources. With the creation of Cape Cod National Seashore in 1961, more than 27,000 acres of land in six lower Cape towns were set aside for the purposes of protection and enjoyment of outstanding natural, scenic and recreational resources. The federal government has some other large holdings on Cape Cod as well including more than 2000 acres in the Monomoy National Wildlife Refuge. There are more than 17,000 acres of federal and state land within the Otis/Camp Edwards complex in the towns of Bourne, Falmouth, Mashpee and Sandwich. While some of this land is undeveloped, much of it is used for a variety of military activities including runways, hangars, residences and firing ranges. The Commonwealth of Massachusetts also owns significant open space areas on Cape Cod, including Nickerson State Park in Brewster, Crane Wildlife Management Area in Falmouth and numerous other smaller parks and preserves.

Rural character is one of Cape Cod's strongest assets. Beaches, farms and woods contribute directly to key industries on Cape Cod, attracting tourists, providing areas for farming, cranberry growing, hunting, fishing and swimming. However, the region is at great risk of losing the very attributes that draw millions of tourists to its resort communities. Open space in particular, is disappearing at an alarming rate. Over 35,500 acres have been developed on the Cape since 1971. Of the five towns in Massachusetts which have lost the most land to recent development, four are on Cape Cod.

In the Cape Cod Residents' Survey 74% of the respondents indicated that the rural character of the Cape was an important factor in their deciding to live here. Sixty percent (60%) identified loss of open space as one of the most serious problems facing the Cape and 71% said that the Cape Cod Commission should work to protect open space and scenic landscapes. In addition, 66% said they would support regulations requiring developers of large projects to donate land to the local community for use as open space. Important open space-related resources that presently have little or no protection include archaeological sites, significant landforms, scenic roads and views. The preservation of scenic roads and views in particular is critical to the tourist industry on Cape Cod. Tourists and summer residents make up 48.2 percent of the Cape's economic base. Once the outsider perceives that Cape Cod's quaint seaside charm has vanished, so too will the tourist dollars.

Through the development of local open space plans, many Cape communities have sought to protect significant natural and fragile areas such as outstanding water resources including lakes, rivers, aquifers, shorelands and wetlands. Including federal, state and local holdings, a total of 80,315 acres can be considered reserved open space on Cape Cod, or 32% of the land mass. The percentage of reserved open space per town varies widely from 12% of the total land mass in Harwich to 71% of the total land mass in Provincetown. Even in the towns with large areas of National Seashore, preservation of open space is a major concern.

In the 1980s many towns embarked on ambitious land acquisition programs for conservation, recreation and wellfield protection. Based on information from the Compact of Cape Cod Conservation Trusts, over 4700 acres have been bought by towns since 1983 at a total cost of \$89,715,000. During that time, the state spent \$9,916,000 to buy 500 additional acres. Combined town and state purchases of open space since 1983 total \$99,631,000. While this figure represents a significant public commitment of funds, the economic slowdown has strained both state and town financial resources and few Cape towns have been able to make open space acquisitions in the last two years.

Limited local funds will make the purchase of land for conservation and recreational use more difficult over time. Although a regional land bank derived from a land transfer tax has been proposed in the past, efforts to form such an entity have been defeated in the state legislature.

Many Cape communities have attempted to expand the amount of their open space acreage at no cost to the town by requiring that new development set aside a certain percentage of open space within the developed parcel. Few towns, however, specify the exact nature of these reserved areas in their bylaws or have developed adequate design standards or layout requirements for the open space portion of the development. Consequently, the land which is most frequently set aside is of limited use for recreation purposes or as a wildlife corridor, and efforts to connect protected open space have had little success.

Opportunities for active and passive recreation in the natural environment are a unique asset of Cape Cod. Historically, the most common outdoor activities have included boating, fishing, swimming, walking, hiking and bicycling. All of these activities are generally compatible with the natural environment and the protection of wildlife habitat. The 1989 Statewide Comprehensive Outdoor Recreation Plan identified an increased need on the Cape for recreation facilities including: beaches and water-based recreational opportunities, protection of wildlife habitat, expansion of trail corridors, protection of scenic roadways and the provision of access for the disabled to recreational facilities. The provision of such facilities should be balanced with protection of sensitive resources.

Goals and Policies

6. Open Space and Recreation

6.1 Goal: To preserve and enhance the availability of open space on Cape Cod in order to provide wildlife habitat, recreation opportunities, and protect the natural resources, scenery, and character of Cape Cod.

Minimum Performance Standards:

6.1.1 Development or redevelopment within the Capewide Open Space/Greenbelt network as illustrated on the map "Regional Policy Plan-Open Space Greenbelt Map" dated June 20, 1991 as amended, shall maintain its integrity by clustering away from sensitive resources and maintaining a continuous corridor to preserve both edge and interior wildlife habitat. Where a property straddles the greenbelt boundary, development shall be clustered outside of it. 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. Public access to greenway areas should be encouraged where such access will not adversely effect greenbelt resources.

6.1.2 The submission of a cluster development preliminary plan for residential subdivisions of five or more lots shall be required for consideration during the development review process. Preserved open space within such developments shall be designed to be contiguous and interconnecting with adjacent open space, and shall be subject to permanent conservation restrictions. Towns may develop bonus provisions to allow increased density through their local bylaws for preservation of additional high quality open space.

6.1.3 Residential development which qualifies as a Development of Regional Impact shall provide 60% of the lot area excluding wetlands, as permanent open space which will provide benefits to wildlife, residents and, in appropriate cases, the general public. Such open space may be provided through cluster development and/or may be part of individual lots provided that it is permanently restricted. Where appropriate, open space may be provided off-site within the same town or a contribution of funds may be made to the town for open space acquisition. Redevelopment within designated growth centers shall maintain the amount of existing open space on the site.

6.1.4 Commercial development which qualifies as a Development of Regional Impact shall provide 40% of the lot area excluding wetlands, as permanent open space including landscaped areas designed to screen and buffer the development. Within this area, the maximum amount of natural vegetation shall be maintained.

Where appropriate, open space may be provided off site within the same town, or a contribution of funds may be made to the town for open space acquisition. Redevelopment within designated growth centers shall be exempt from this requirement.

6.1.5 In the design of developments, significant natural and fragile areas including critical wildlife and plant habitat, water resources such as lakes, rivers, aquifers, shorelands and wetlands; historic, cultural and archaeological areas, significant scenic roads and views, and significant landforms shall be protected.

Other Development Review Policies:

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

6.1.7 Wherever possible, off-site open space provided through §6.1.3 and §6.1.4 should be located within or contiguous to the Capewide greenbelt network or in the areas identified in §6.1.5.

6.2 Goal: To preserve and enhance opportunities for passive and active recreation in the natural environment to meet the needs of both residents and visitors.

Development Review Policies:

6.2.1 Recreational needs as identified in the 1989 Statewide Comprehensive Outdoor Recreation Plan should be addressed in the development of projects on Cape Cod. Such needs include opportunities for wildlife study, expansion of trail corridors, protection of scenic roadways, development and expansion of access for the disabled, additional public beaches and water-based recreational opportunities with associated parking facilities to the extent these minimize alteration of natural shorelines and do not harm wildlife habitat.

6.2.2 New development should provide suitable recreation and play areas to meet the needs of the residents of that development such as ballfields, playgrounds, basketball courts or bicycle and walking paths.

Implementation

Joint Commission/Town Action:

A. The Commission will use its Geographic Information System (GIS) to map regionally significant natural and cultural (e.g. archaeological sites) resources, existing development and protected open space, and will designate a Capewide open space/greenbelt network. Towns should establish the precise greenbelt boundaries through local comprehensive plans and develop strategies for protecting these areas.

Commission Actions:

A. The Commission will work cooperatively with towns, local land trusts and state and federal agencies to protect significant natural and fragile areas and to develop a regional open space plan.

B. The Commission will make recommendations on the general location and feasibility of a county-wide bicycle and walking path network.

C. The Commission will provide communities with a model for fiscal impact analysis that weighs the costs of open space acquisition against the costs of development.

D. The Commission will advocate establishment of a regional land bank derived from a land transfer tax or other source to provide funds for open space and affordable housing throughout the Cape.

E. The Commission will investigate the feasibility of developing common signage for recreation facilities such as boat ramps, beaches, foot and bike paths.

Recommended Town Actions:

A. Towns should actively seek to protect areas which have been identified by the Commission and town boards as suggested components of the Cape-wide open space/greenbelt network. Local bylaws and regulations including mandatory cluster, increased lot sizes and overlay districts are encouraged to preserve the sensitive resources within the greenbelt.

B. Towns should work with local land conservation organizations to identify, acquire and manage open space to meet projected community needs. Priority should be given to the protection of significant natural and fragile areas as described in section 6.1.5.

C. Towns should maintain and protect public access for recreation to both freshwater and saltwater bodies.

D. Towns should identify lands suitable for active recreation where activities such as ballfields, playgrounds and public swimming areas would not adversely affect sensitive resources, as well as lands for passive or restricted access conservation uses.

E. Towns should aggressively seek to acquire tax title lands and hold them for community purposes such as open space, affordable housing or municipal services. Properties of environmental significance such as wetlands and rare species habitat should be placed under the jurisdiction of the Conservation Commission or other appropriate board or nonprofit organization.

F. Where appropriate, towns should encourage land owners to restore blighted or abandoned areas to open space, whether it be to landscaped parks or natural areas.

G. Towns should establish procedures for approval and assessment of conservation restrictions.

7. Issue Area: Historic Preservation/Community Character

Cape Cod is treasured for the distinctive historic and small town character of its communities and its open landscapes. Erosion of this special character is of great concern to residents. In the Cape Cod Residents' Survey, 66% of the respondents indicated that the Cape Cod Commission should work to preserve historic areas; an equal percentage agreed that businesses should be allowed to locate in Cape historic districts only if they agree to be housed in buildings that blend in with the other buildings in the area. Every community on Cape Cod is struggling to manage growth, preserve historic resources and maintain town character and spirit, often without adequate growth controls and zoning standards. New developments are often incompatible in terms of scale or site design.

Historic districts play an important role in protecting existing historic structures. Twenty-seven such districts presently exist on Cape Cod. Their level of effectiveness varies widely, according to the Massachusetts Historic Commission (MHC). CCPEDC prepared an analysis with MHC funding of local historic districts in Barnstable County in 1989 that made recommendations regarding possible improvements to the management of these districts. In particular, it was discovered that many districts have inadequate and sometimes nonexistent design guidelines. Only six towns have completed surveys of their historic resources. Additionally, a large number of historic properties have no protection at all because they have not been inventoried and do not fall within the boundaries of an historic district. Consequently, many alterations have been made to historic buildings which greatly detract from their architectural integrity.

Archaeological resources (except for burial grounds) currently have no protection of any kind. The MHC can

presently require that important artifacts be carefully removed from an excavated site (if it is notified of the presence of these sites), but has no ability to require that these areas remain intact. Similarly, communities have little ability, short of land acquisition, to preserve scenic or historic landscapes such as old farmsteads or coastal moors. These areas often contribute greatly to the special visual character which residents and visitors alike associate with Cape Cod.

Scenic roads are abundant on Cape Cod and contribute greatly to its seaside charm and rural atmosphere. Many old roads are lined with stone walls and large, elegant shade trees. Few towns have actually inventoried these roads and made attempts to preserve their special character.

The most significant problem relative to town character is the land consumptive pattern of development on the Cape. Sprawling subdivisions and strip development along major roadways have significantly altered the early village settlement pattern which consisted primarily of small villages separated by farm land and rural areas. Existing zoning and subdivision regulations which require wide roadways, large lot sizes and setbacks, and excessive amounts of parking have encouraged a suburban development pattern for Cape Cod. Such a pattern so strongly promotes and favors the use of the automobile that pedestrians can no longer comfortably walk to village centers from their homes.

Under Chapter 40A of Massachusetts General Laws, local boards have no explicit authority to require mandatory site plan review. They have limited ability, when approving development projects, to influence building and site design. Numerous structures, both residential and commercial, have been built which are not compatible with historic Cape styles. The absence of local control on this issue has in effect encouraged a dramatic departure from the beach cottage and small village character that is such an important part of the Cape's heritage.

Finally, the Cape's communities, like many others around the nation, have visually suffered from the construction of above-ground utility lines and radio towers. Utility companies have historically sought approval on placement and height from the towns where the utilities were to be located. There has never been a regional approach to the impact of these structures on the landscape as seen from other neighboring towns or from important regional viewing points. Additionally, excessively bright lighting on both public and private properties has created a growing problem with light pollution.

Goals and Policies

7. Historic Preservation/Community Character

7.1. Goal: To protect and preserve the important historic and cultural features of the Cape landscape and built environment that are critical components of Cape Cod's heritage and economy.

Minimum Performance Standards:

7.1.1 Additions or alterations to historic structures shall be consistent with the building's architectural style and shall not diminish its historic and architectural significance. The Massachusetts Historical Commission (MHC) shall review any projects which require a state or federal license, permit or funding as defined by the National Historic Preservation Act for their conformance to the Secretary of the Interior's rehabilitation guidelines and for their effects on the historic significance of the property and district. The MHC will also assist the Commission in reviewing projects which will affect buildings listed on the State or National Registers of Historic Places.

7.1.2 The distinguishing, original qualities of an historic building, structure or site and its environment shall be preserved. The needless destruction, removal or alteration of historic material or architectural features shall be avoided unless the applicable local authority (historical commission or historic district commission) believes such removal will not damage the integrity of the building.

7.1.3 Where development is proposed on or adjacent to prehistoric or historic archaeological sites as identified by the Massachusetts Historical Commission or local historic commissions, it shall be configured so as to maintain and/or 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.

Other Development Review Policies:

7.1.4 Historic buildings that may be slated for demolition or relocation should be preserved on site and 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 or replaced with similar elements unless the local historical commission believes another alternative is historically appropriate to the area.

7.1.5 The reuse of unique historic structures in village centers is encouraged so as to promote revitalization of these areas. Where reuse is not possible, these buildings should be replaced with structures of similar character, mass, proportion and scale when feasible.

7.2 Goal: To ensure that future development and redevelopment respects the traditions and character of historic village centers and outlying rural areas so as to protect the visual character of Cape Cod.

Minimum Performance Standards:

7.2.1 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.

7.2.2 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. In general, where new buildings and additions are proposed, the mass and scale of the building, roof shape, roof pitch, and proportions and relationships between doors and windows shall be harmonious among themselves and consistent with traditional Cape Cod architectural styles.

7.2.3 Attractive landscaping that integrates buildings with their environment, enhances architectural features and provides amenities for pedestrians shall be provided on site by all new development.

7.2.4 All development shall implement a landscape plan which addresses the functional aspects of landscaping, such as drainage, erosion prevention, wildlife, wind barriers, provision for shade, energy conservation, sound absorption, dust abatement and reduction of glare.

7.2.5 Unnecessarily bright lighting of a building or grounds shall not be permitted.

7.2.6 The installation of billboards, offsite advertising (excepting approved directional signs) and internally lit or flashing signs shall not be permitted.

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

7.2.8 Parking shall be located to the rear or the side of a building or commercial complex unless such location is completely infeasible.

7.2.9 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. 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 harmonious with the building.

Other Development Review Policies:

7.2.10 The integrity of natural landforms and broad, open views of the landscape as seen from major arterial and scenic collector roads should be maintained.

7.2.11 Existing views to the shore from surrounding areas should be maintained wherever possible.

7.2.12 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" in diameter.

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

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

7.2.15 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 side of buildings, window boxes and planters are encouraged. Benches or other seating arrangements and walkways within the development and linking to other buildings should be provided where appropriate.

7.2.16 Traditional building materials such as wood shingles, clapboards and brick should be used for new construction and rehabilitation of existing structures.

7.2.17 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. Wooden signs, either painted or carved, are usually most appropriate.

7.2.18 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.

Implementation

Commission Actions:

A. The Commission, after consultation with Local Historical Commissions, Historic District Commissions and/or similarly functioning organizations, will develop design guidelines for historic structures for use in its DRI review process and as a suggested model for Local Historic Districts.

B. The Commission will develop design guidelines for new construction to be used in its DRI review process and as a model for towns. Such guidelines will reflect current research on town character, promote styles that are indigenous to Cape Cod and recommend procedures for implementing design review at the local level.

C. The Commission will provide technical assistance in identifying appropriate revisions to zoning bylaws and ordinances that promote village style development and maintain public safety.

D. The Commission will develop sign regulations that encourage appropriate signage for use in its DRI review process and as a model for local towns.

E. The Commission will work in consultation with the Massachusetts Historical Commission and Local

Historical Commissions to identify important archaeological sites and other historic resources as part of a coordinated preservation planning process.

F. The Commission will identify and work to protect scenic landscapes of exceptional quality. The 1987 Massachusetts Scenic Landscape Inventory prepared by the Department of Environmental Management, will be used as one guide to identifying such areas.

G. The Commission will work with utility companies to encourage placement of existing utility lines underground.

Recommended Town Actions:

A. Towns should develop local design guidelines and a design review process through zoning bylaws, overlay districts or site plan review bylaws. As towns develop their own local review guidelines and procedures through their local comprehensive plan, the Commission will defer to local standards in reviewing Developments of Regional Impact.

B. Where appropriate, structures of historic significance should be nominated by towns or property owners for listing on the State or National Historic Registers. Towns should consider making discretionary referrals (per §12(c) of the Cape Cod Commission Act) to the Commission for DRI review of projects affecting these structures regardless of their Register status.

C. Towns should identify scenic roadways and establish local bylaws or guidelines that serve to preserve the character of these areas including:

- guides on clearing or planting;
- rules for signs and utilities;
- plan review procedures for key locations;
- measures to preserve scenic views;
- restrictions on height of buildings;
- controlling the removal or alterations of stone walls;
- discouraging the cutting of large trees (greater than 6" in diameter); and
- the institution of tree planting programs to replace trees in areas where older specimens have died.

D. Towns should strive to reduce and be more flexible regarding parking requirements such as allowing shared parking lots, reducing the number of spaces presently required per development, requiring secure bicycle parking in shopping and business districts, allowing reserve parking strategies and where safety permits, encouraging curbside parking in village centers in order to slow traffic and buffer pedestrians.

E. Towns should consider phasing out existing signs which do not conform to Policy §7.2.6.

F. Towns should establish tree planting programs for important roadways within the community.

G. Towns should develop a bylaw which requires screening and landscaping of new development from major roads.

H. Towns should give special attention to the placement of utility structures such as radio towers, high voltage lines, water towers and other transmission structures.

I. Local Historic Districts should consider the recommendations made in CCPEDC's "Analysis of Local Historic Districts in Barnstable County", dated June 1989. It suggests that districts should:

- undertake surveys of historic structures;
- develop design guidelines that reflect the district's unique character;
- build strong local support for the district's objectives

- improve and standardize operating procedures;
- be comprised of members with a strong technical background and knowledge of the provisions of their enabling statute.

J. Where feasible, towns should require the placement of new utility lines underground.

(c) Resources of Regional Importance

Background

Section 7(b)(1) of the Cape Cod Commission Act requires that the Regional Policy Plan identify Barnstable County's critical resources and management needs including its "natural, scientific, coastal, historical, recreational, cultural, architectural, aesthetic, and economic resources, ground water and surface water supplies, available open space, and available regions for agricultural, aquacultural and development activity." Regional resources for the purpose of the Plan are considered to be those resources which are significant to more than one town or cross jurisdictional boundaries. They include both natural and manmade resources; they are areas that have public value and that may be vulnerable to damage from uncontrolled or inappropriate development.

Key regional resources on Cape Cod include but are not limited to those listed below. Most of these areas have been mapped by the Commission on its computerized geographic information system.

Natural Resources

- Recharge areas to existing and future public water supply wells
- Recharge areas to coastal embayments
- Inland and coastal wetlands and their recharge areas
- Inland and coastal ponds
- Floodplains, beaches, banks and dunes
- Shellfish and finfish habitat areas
- Rare plant and animal habitat and unusual biological habitats (e.g. sand plain grasslands, cedar swamps, etc.)
- Designated Areas of Critical Environmental Concern
- Federal, state and regional parks and nature reserves (e.g. Cape Cod National Seashore, Nickerson State Park, Audubon Sanctuaries)
- Private open space

Economic, Historic, and Cultural Resources

- Historic village centers
- Working waterfronts and harbor areas
- Active aquacultural and agricultural areas including cranberry bogs
- Regional business districts
- Properties listed or eligible for listing on the National or State Register of Historic Places
- Scenic landscapes
- Archaeological resource areas

Key Regional Facilities

- Regional transportation corridors (roads, rail lines, bikeways)
- Major airports and ferry ports
- Landfills, transfer stations, recycling centers
- Public water supply and distribution systems
- Public wastewater and septage collection and treatment systems

Regional health care facilities

Districts of Critical Planning Concern

Sections 10 and 11 of the Act authorize the Commission to designate certain resources of regional importance to Barnstable County as Districts of Critical Planning Concern. These resources should be of critical value to the area and in need of protection from inappropriate development. According to the Act, a proposed district must possess "significant natural, coastal, scientific, cultural, architectural, archeological, historic, economic or recreational resources or values of regional, state-wide or national significance." A proposed district may also include areas where sensitive ecological conditions preclude development or where a major capital public facility or area of public investment is proposed.

The District of Critical Planning Concern (DCPC) designation allows communities to protect or promote a resource which has been identified in the Commission's Regional Plan and/or a town's Local Comprehensive Plan as being critical to the character and viability of the region. The designation process encourages towns to work together to address problems or concerns that are crucial to the well being of all Cape residents such as the protection of clean drinking water. Most importantly, the DCPC designation is a powerful regulatory tool that can augment existing local bylaws and regulations in areas where existing laws may be unable to prevent environmental degradation or may discourage sound economic development or construction of affordable housing. A designation allows for the creation and adoption of special rules and regulations to govern development within the district. Therefore, a nominated area should require a special regulatory or planning effort which cannot be addressed adequately through existing local or state regulations.

Once an area has been designated as a District of Critical Planning Concern and implementing regulations adopted, projects within its boundaries would be regulated under the new rules established to protect the resources within that district. Grandfathering protections afforded by MGL Chapter 40A would not apply. For example, Implementing Regulations for a district which is designated to promote village center revitalization may provide incentives for development more dense than is otherwise permitted. Alternately, regulations designed to protect a critical environmental resource may provide safeguards to prevent inappropriate development. Once a district has been designated and Implementing Regulations adopted, town agencies will oversee development and grant permits within the district.

Management of Critical Resources through Districts Of Critical Planning Concern

The Commission has identified various types of districts that might be proposed as districts of critical planning concern. They include, but are not limited to, those listed below. The accompanying descriptions are intended to provide guidance for district nominations and should in no way limit their scope. In some situations, a significant resource area may qualify for designation as more than one type of district.

Water Resource District: This designation is appropriate for the protection of an aquifer, watershed, aquifer recharge zone or surface water body which could be endangered by continued development. Studies or expert advice should indicate how special regulations could improve the quality or quantity of water.

Through the designation of a Water Resource District, a town might seek to limit nitrate-nitrogen loading within the recharge area of an existing or proposed public well to ensure a sustainable supply of high quality drinking water or to limit nitrogen and phosphorus loading to a freshwater pond to avoid eutrophication. Other potential regulations could include restrictions on toxic or hazardous materials discharge, limitations on lot coverage or the number of bedrooms allowed and/or controls on conversion of seasonal residences to year-round occupancy. Additionally, remediation of existing stormwater discharges into surface water bodies could be required.

Shellfish Resource District: This designation may be used to protect a water body that is particularly suited for production of shellfish or finfish and is either productive now but in danger of contamination, or can be made

productive through good management. Shellfish may occur either naturally or through aquacultural production.

As in a Water Resource District, the primary intention would be to limit the discharge of contaminants into those waters which provide good shellfish and finfish habitat. Potential regulations could include prohibitions on the discharge of untreated stormwater into coastal waters or wetlands and the prohibition of construction or expansion of docks and piers within significant habitat areas. Additionally, new dredging projects might be prohibited unless it could be proven that they would enhance the habitat. If a marina falls within the boundaries of the district, it could be required to provide boat sewage pump-out facilities and collection facilities for waste oil.

Agricultural Resource District: This designation should include areas particularly suited now or in the future for agricultural production. If the district is not being farmed at the time of designation, it should be practical to convert it to agricultural uses due to soil and topography conditions and adequate available acreage.

Through the designation of an Agricultural Resource District, several adjoining towns might seek to provide incentives to farmers to produce locally grown fruits and vegetables or to support the increased production of cranberries. Potential regulations could include the requirement of management practices that would improve water quality and conserve water. A buffer area might be required to separate agricultural and residential uses and to allow farmers proper management of their growing areas. Permanent title restrictions that would reduce property taxes might be placed on land within the district to promote agricultural use in perpetuity.

Wildlife, Natural, Scientific or Ecological Resource District: This designation should include important and identifiable wildlife, natural, scientific or ecological resource. This might include rare plant and animal habitats, unusual biological habitats such as sandplain grasslands or quaking bogs, and unusual geological features.

The primary intention of this type of designation is to keep significant habitat areas intact. Potential regulations could include the prohibition of certain types of new development that would adversely affect threatened species and a requirement that a wildlife management plan be prepared for the district. In many cases, developments can be planned to minimize impacts on wildlife by sensitively locating structures away from migrating or nesting areas and by minimizing the clearing of vegetation and alteration of natural topography. Construction could also be prohibited in vernal pools and within a minimum 100' buffer around these areas.

Cultural, Historic, Architectural or Archaeological Resource District: This designation is appropriate for the protection of a place, landscape, way or view which is in some special way expressive of the character of Cape Cod or the traditions of its residents. Designations should symbolize and support traditional activities and ways of life on Cape Cod, and should be considered for those areas which are of great aesthetic value to the region or are important historically such as a Native American settlement or quaint fishing village. This district may also be appropriate for the protection of regionally significant recreational areas including those used for hunting, fishing and wildlife observation. Any area designated as this type of district should be irreplaceable, or replaceable only with extraordinary effort or expense.

Potential regulations could require that new construction within an historic village be consistent with historic architectural styles and that archaeological sites not be adversely impacted. Signage might be restricted and parking may be required to be located to minimize its visibility. The alteration of ancient ways or carpaths might be prohibited and regulations might require that significant scenic views from roadways or other publicly accessible places be maintained or protected. The removal of old stone walls or large trees might also be limited.

Economic Development Resource District: This designation is appropriate for the setting aside of areas which have special potential for providing employment or housing for Cape Cod residents, or for accepting necessary development which might be detrimental in other locations. The area should be better suited or more readily available for development than other areas of Cape Cod, considering topography, utilities, costs and environmental and social impact. These areas should promote activities with the greatest economic potential for Cape Cod such as shell or finfishing, aquaculture, marine science, cranberry farming, health services, tourism, clean manufacturing, computer software, education, environmentally-oriented industry and cultural facilities.

An appropriate area for this designation should require special regulations to create, preserve or enhance its economic potential. Potential regulations could encourage large scale commercial activities to be concentrated in areas where infrastructure is available or to encourage the redesign, reutilization and infill of existing strip commercial developments. Local zoning requirements might be altered to allow increased densities and to permit variations of building heights and dimensional requirements. A detailed plan for the area could be undertaken jointly by the town and the Commission. Such a plan could establish the locations of uses and all development requirements. The development review process could then be streamlined to allow a developer to receive all permits expeditiously, assuming he meets the requirements. District regulations might also require that certain design standards be upheld to ensure an attractive commercial zone which has pedestrian amenities and suitable landscaping.

Major Public Investment District: This designation should include areas which may now or in the future, have a significant impact on major public investments such as airports, roads and ways, schools, parks, beaches, preserves, public utilities and medical facilities owned or operated by a federal, state, county or municipal agency. It should be clear that inappropriate development in the district would interfere with the use of the public investment or would impair the health, safety and welfare of the public.

Potential regulations could require a buffer zone between airport landing areas and all types of development to protect surrounding residents from excessive noise, fumes and possible airplane accidents. Alternately, a buffer might be required surrounding public parklands. Potential regulations could limit development visibility or densities in the interest of preserving sensitive resources and the attractiveness of the park. Such regulations would protect the park's crucial contribution to the local economy as the key destination for thousands of tourists each year. Additionally, a group of communities could determine that an existing roadway is becoming unsafe due to development built along it, and might decide to change local zoning along the roadway corridor to better control access and traffic generation.

Hazard District: This designation should include areas that possess hazards due to natural or man-made conditions which render them unsuitable for intense development. Hazards may include such things as marginal soil or steep slopes, known potential for flooding, erosion or salt water intrusion, areas which are extremely polluted and any area where construction problems may arise due to existing natural conditions. The primary intention of designating such a district should be to protect the public health, safety and welfare.

In areas susceptible to flooding or wave action, new construction and the expansion of existing structures might be prohibited or new public investment of existing infrastructure limited. To reduce the risk of salt water intrusion, limitations could be placed on new private wells within a specified distance of the shoreline. Additionally, construction could be prohibited along dunes or steep embankments where the threat of erosion is great.

Waterfront Management/Watersheet Zoning District: This designation should identify appropriate uses of harbor and waterfront resources, including maritime, fishing and recreational uses of the shoreline and adjacent waters, and should promote conservation.

Potential regulations might restrict non-water-dependent uses within this area. In order to protect shellfish habitat, moorings might be allowed only in specific areas and dredging be allowed only to maintain an existing channel. Boat sewage pumpout facilities and waste oil collection areas could be required. Furthermore, maintenance of existing public access points to the shore for fishing or boat launching could be required as a condition of development approval.

Downtown Commercial Revitalization District: This designation promotes development in downtown areas with a goal of maintaining their economic vitality and reducing sprawl. These areas might be older commercial "Main Streets" which have seen some decline in recent years.

Regulations in this district could encourage rehabilitation of the area by offering density bonuses and perhaps providing a streamlined approval process as in the Economic Development Resource District. However, regulations might also require that new development be sensitive to historic architectural styles and patterns of development. New buildings could be encouraged to locate on the property line along the sidewalk and to provide pedestrian amenities such as benches, landscaping and street tree plantings. Parking could be encouraged on the street and to the

rear of the buildings.

Transportation Management District: This designation would regulate development in order to facilitate public transportation and/or traffic flow and safety. Any measures taken within this district should be consistent with the Cape's historic, scenic and natural resources.

Potential regulations could require all new development along an existing roadway to contribute funds towards traffic improvements in order to maintain a desired Level Of Service within the district. New developments might be required to provide bus stops at frequent intervals in order to accommodate public transit or to make provisions for bike lanes and paths. Along scenic and environmentally sensitive roadways, major widening or the removal of significant trees, vegetation or scenic features might be prohibited. In order to minimize curb cuts and pavement coverage, adjacent commercial uses might be required to share parking and access points.

Affordable Housing Resource District: This designation could include areas well suited for the provision of decent, affordable housing of all types for low and moderate income Cape Cod residents. A variety of issues should be considered such as proximity to social services and commercial centers, availability of utilities and town infrastructure, topography and environmental impact.

Potential regulations might encourage mixed use of existing or new structures and allow the creation of accessory apartments. Town-owned land might exist within the district which could be donated for the development of affordable units. Local zoning might be amended to allow higher density, and affordable projects could be eligible for waivers or reduced permitting fees. When market rate and affordable housing are developed within the same project, integration of landscape and architectural details might be required. Deed restrictions that require units to remain affordable and procedures governing their operation and management might also be required.

(d) Regional Coordination with Other Planning Efforts

Section 7(b)(4) of the Cape Cod Commission Act states that the Regional Policy Plan shall include a section that contains "a policy for coordinating regional and local planning efforts, including coordinating planning activities of private parties and local, state or federal governmental authorities." A review of the goals and policies and implementation actions contained in the Regional Policy Plan makes it clear that a variety of coordinating efforts will need to be undertaken both formally and informally to carry out the purposes of the Plan. Many of these activities are already planned or underway through public and private sector programs. The Cape Cod Commission should not duplicate existing efforts but should supplement these efforts and provide technical assistance where appropriate.

The contents of this Coordination section have evolved as various drafts of the Commission's Regional Policy Plan were reviewed by local, county, state and federal agencies. During this period the Commission has attempted to incorporate into the Plan a discussion of coordinating efforts that would be undertaken to further the goals and policies of the Regional Policy Plan. The Regional Policy Plan is not a static document, and cooperation among all levels of government will be a significant factor in the Commission's planning and regulatory program and in future refinement and implementation of the Regional Policy Plan.

Local Authorities

The Cape Cod Commission Act provides for establishment of Local Planning Committees to develop Local Comprehensive Plans for each town in consultation with the Cape Cod Commission. Each community on the Cape has established such a Committee and these committees have been meeting regularly. In some towns the Planning Board was appointed as the Local Planning Committee; in others a separate committee was created comprised of representatives of various town boards within the community, including Conservation Commissions, Boards of Health, and Historic Commissions. Regardless of the formal composition of the Local Planning Committees, it is clear that preparation of Local Comprehensive Plans will require the participation of all relevant town boards. The Commission will be encouraging Local Planning Committees to seek the broadest possible input from within their communities in developing local plans. The Commission will be providing substantial financial and technical

assistance to towns to help them develop Local Comprehensive Plans. In addition, the Commission intends to work directly with town boards and staff to implement portions of the Regional Policy Plan and assist local planning efforts by providing data on regional trends and other technical information. Such boards and staff include, but are not limited to: Boards of Selectmen and Town Administrators, Planning Boards and Town Planners, Conservation Commissions and Conservation Administrators, Boards of Health and Health Agents, Housing Partnerships and Housing Committees, Historic Commissions and Historic District Commissions (including the Old Kings Highway Regional Historic District Commission), Recreation Commissions, Water and Sewer Commissions, Natural Resource Departments and Shellfish Officers, Public Works Directors and Town Engineers, Solid Waste Advisory Committees, Harbormasters and Building Inspectors.

In addition to the planning efforts of Local Planning Committees, the Commission will coordinate with local boards on review of Developments of Regional Impact. Commission decisions shall be consistent with local bylaws and regulations as required by the Cape Cod Commission Act. However, the Commission may impose more stringent conditions on development than would be required by local review. In certain cases, the Commission may recommend during its review of a project that a town consider waiving one or more of its local standards in the interest of attaining the intent of the Cape Cod Commission Act. Such waivers would not be mandatory, but they would be considered by the town during its local review process.

County Authorities

In 1988 Barnstable County adopted a home rule charter that established an executive branch of county government, the County Commissioners, and a legislative branch, the Assembly of Delegates. The Cape Cod Commission Act specifies the formal roles that the County Commissioners and Assembly of Delegates play in reviewing and approving certain Commission decisions and regulations.

The Act specifies that a member of the County Commissioners must serve as a member of the Commission. In addition, the County Commissioners appoint two additional members of the Commission: a Native American representative and one minority member. The County Commissioners also appoint the Commission's staff. The Assembly of Delegates approves some of the Commission's regulations by ordinance, including regulations on designation of Districts of Critical Planning Concern, review of Developments of Regional Impacts, and imposition of impact fees. The Act also requires that the Assembly of Delegates adopt the Commission's Regional Policy Plan by ordinance and establish a procedure for review and amendment of the Regional Policy Plan at intervals not to exceed five years. The Assembly must also review and designate by ordinance all Districts of Critical Planning Concern.

In addition to the roles specified by the Act, the Commission will work with the County Commissioners and the Assembly of Delegates on projects of regional interest to further the goals and policies in the Regional Policy Plan. For example, the Commission will work with the County Commissioners to investigate the feasibility of establishing a countywide cooperative for the purchase of oil spill containment and cleanup equipment. The Commission also plans to work with the other departments within Barnstable County government including the Health and Environmental Department and Cooperative Extension on a number of activities.

The Barnstable County Health and Environmental Department, like the Commission's Water Resources Office has been actively involved with the protection of Cape Cod's water resources. The Department assists local health departments throughout the County and conducts laboratory analysis, monitoring and research projects on a number of subjects including septic systems, landfills, safe use of hazardous materials, underground storage tanks, and shellfish contamination. The County Cooperative Extension Department plays a vital role in educational programs for residents of Barnstable County in areas such as agriculture, septic system maintenance, recycling, natural resources, and the safe use of fertilizers and pesticides. Where Commission research or planning activities are proposed in these subject areas they will be coordinated with the applicable county department so as to use their expertise and not duplicate efforts already underway. Educational efforts should be sponsored by Cooperative Extension in cooperation with other appropriate departments and agencies.

There are a number of proposed areas of coordination between existing county departments and the Cape Cod

Commission. For example:

- the Commission will work with the Health and Environmental Department to help it identify unregistered underground storage tanks and will support the County's ongoing tracking program for underground storage tanks;
- the Commission will work with the Health and Environmental Department to encourage town adoption of a model toxic and hazardous materials bylaw/health regulation developed by the Department and the Cape Cod Commission;
- the Commission will work with County Cooperative Extension to encourage the use of alternatives and best management practices for fertilizers, pesticides, road salt, hazardous household chemicals and other materials that could adversely affect surface and ground water quality; and
- the Commission will work with both County Cooperative Extension and the Health and Environmental Department to provide technical assistance to towns on alternate methods of stormwater management.

Other Regional Authorities

The Cape Cod Commission has several advisory committees that were established to provide specialized expertise in a variety of policy areas. These include the Joint Transportation Committee, the Economic Advisory Committee, Recycling Advisory Committee, and Coastal Resources Coordinating Committee. The Commission will continue to work closely with these advisory committees to carry out the policies and implementation actions in the Regional Policy Plan.

Several regional committees have been formed to address coastal resource issues. The Coastal Resources Coordinating Committee is a liaison committee to the Cape Cod Commission for three standing committees: the Coastal Zone Management Advisory Committee, the Shellfish Advisory Committee and the Marine Water Quality Task Force. The Coastal Zone Management Advisory Committee acts as a liaison between the towns of Cape Cod and regional, state and federal agencies on policies and decisions concerning coastal zone management. The Shellfish Advisory Committee is committed to preserving and enhancing the Cape's living marine resources and to increasing the public's understanding of those resources as an economic, as well as an environmental asset. The Marine Water Quality Task Force works with local boards and commissions in identifying sources of coastal pollution and developing and implementing programs to improve marine water quality. The Commission will work with these committees to explore and provide regional solutions to local issues where appropriate.

The Commission will work with the Economic Advisory Committee to identify and implement programs to improve the Cape Cod economy, such as those identified in Commission Actions on economic development.

The Cape Cod Regional Transit Authority provides regional coordination for the Cape's public transportation systems. The Commission will work with the Regional Transit Authority to encourage the development of public transportation alternatives such as bus routes, rail and shuttle van services. In addition, the Commission will work with the RTA and other appropriate state agencies and private parties to identify locations for future park and ride lots, and to encourage the provision of bicycle storage facilities at such locations.

The Commission will coordinate with the Wood Hole, Martha's Vineyard & Nantucket Steamship Authority to encourage joint solutions on issues of mutual concern relating to ferry transportation between the Cape and Islands.

The Commission will actively participate in the Massachusetts Bays, Buzzards Bay and other regional coastal research programs established by the state and federal governments to ensure that technical and scientific issues of importance to Cape Cod are addressed and will coordinate activities related to implementation of these programs linking land use with the protection of water quality.

While the Cape Cod Commission Act does not specifically enumerate health and human services as an interest to be

furthered by the Act, the Commission recognizes the importance of health and human services to the Cape's economy and to the well-being of the Cape's residents. The Commission will work with the Barnstable County Health and Human Services Advisory Council and the County's Human Service Coordinator to incorporate information on health and human service needs and resources into the Commission's library of economic and demographic data. The Commission will also consult with the Council regarding the impact of proposed policies and development on the health and human service needs of Barnstable County residents.

State Authorities

Governor's Committee

The Cape Cod Commission Act created a Governor's Committee composed of the Secretaries of the Executive Office of Environmental Affairs, Transportation and Construction, Economic Affairs, Labor, and Communities and Development, and any other state official designated as a member by the Governor. Through the Governor's Committee a vehicle is also created for coordination with the various state agencies that are situated within these Executive Offices such as the Department of Environmental Management; Department of Environmental Protection; Department of Fish, Wildlife and Environmental Law Enforcement; Department of Food and Agriculture; Department of Public Works; Water Resources Commission and others. The purpose of the Governor's Committee is to coordinate state agency planning with the duties, responsibilities, plans and policies of the Cape Cod Commission. The Act requires that the Commission meet quarterly with the Governor's Committee during its first two years and annually thereafter. The Act also authorizes joint planning programs between the Commission and state agencies. The Commission will work with the Governor's Committee to incorporate new state initiatives and policies into the Commission's policies and programs as well as to discuss modifications to existing state policy that would further the goals of the Regional Policy Plan.

State Agencies

The Commission recognizes that there are a host of existing state regulations and programs that relate to Commission efforts, particularly review of Developments of Regional Impact. These include Chapter 91 regulations on waterways and waterfront development, the Wetlands Protection Act, Massachusetts Environmental Protection Act, Ocean Sanctuaries Act, Title 5, Highway Access Permits, Groundwater Discharge Permits and Chapter 40B. It is not the intent of the Commission to undertake the review required by these laws and regulations. Such review is best undertaken by the appropriate state and local agency. The Commission will make decisions that are consistent with the requirements of these programs and will seek to include conditions on projects that further their regulatory goals. However, in keeping with the intent of the Cape Cod Commission Act, the Commission's decisions and project conditions may be more stringent than would be required by the state.

The Commission will also actively work to streamline existing permitting processes where such reviews overlap with the Commission's review. For example, during the Commission's first year of operation it began development of a Joint Review Process with the Executive Office of Environmental Affairs for projects subject to review under the Massachusetts Environmental Policy Act and the Cape Cod Commission Act. This process will result in a coordinated review of such projects among local, regional and state authorities.

In addition to state regulatory programs, existing state agency policies exert a significant influence on Cape Cod. As far as possible, it would be desirable if future state agency policies and actions reflect the character and sensitive nature of Cape Cod. The Cape Cod Commission intends to undertake planning activities in conjunction with a number of state agencies in a wide variety of subject areas. Many of these activities are discussed in the implementation section of the Regional Policy Plan. For example:

- the Commission will work with the Massachusetts Historical Commission and local historic commissions to identify important archaeological sites in order to protect their integrity;
- the Commission will coordinate with the Executive Office of Communities and Development to encourage participation by communities in their local initiative housing program;

- the Commission will work with the Department of Environmental Protection and local communities to implement programs for composting, recycling, landfill assessment, and hazardous waste reduction and disposal;
- the Commission will work with the Division of Marine Fisheries and local authorities to map coastal habitats, including fish runs, fish spawning and nursery areas, submerged aquatic vegetation and shellfish habitat;
- the Commission will coordinate with the Department of Environmental Management on issues relating to management planning at state parks on Cape Cod; and
- the Commission will coordinate with the Massachusetts Small Business Development Center in order to assist existing small business and encourage the establishment of new ones.

State Legislature

During the process of developing the Regional Policy Plan, the Commission has identified several areas where modifications to existing state law or new legislation may be desirable to further the goals of the Regional Policy Plan. For example:

- the Commission will encourage legislative changes necessary to permit guaranteed long-term ownership and maintenance of Private Sewage Treatment Facilities (PSTFs) by multiple owners in residential subdivisions and commercial areas. Such changes were recently recommended by a state panel studying these facilities;
- the Commission will encourage amendment of the state zoning act to allow cluster development to occur without a special permit at the option of the municipality and will support modification of current zoning and subdivision laws to address problems associated with "approval not required" subdivisions and grandfathering;
- the Commission will support legislation establishing a regional land bank derived from a land transfer tax or other source to provide funds for land acquisition and affordable housing throughout the Cape;
- the Commission will support proposed legislation to require the source separation of solid waste and the reduction of packaging waste.

Coastal Zone Management Program

The Massachusetts Coastal Zone Management Office (MCZM) coordinates development of state policies regarding protection, development and revitalization of Massachusetts coastal zone resources and works with appropriate state agencies to implement these policies. MCZM also provides technical assistance to towns on management of coastal resources including the development of harbor plans. Since the "coastal zone" encompasses all of Cape Cod, MCZM staff has played an integral role in shaping the portions of the Regional Policy Plan that address coastal issues to ensure that its goals and policies are consistent with the state's program.

The Coastal Zone Management Office has no direct regulatory role and does not administer state regulatory programs. However, the Coastal Zone Management Office conducts a federal consistency review on all direct federal actions that affect the Massachusetts coastal zone, require a federal permit, or are federally funded, and determines whether such activities are consistent with the state's coastal policies. The Cape Cod Commission Act requires that the Coastal Zone Management Office refer such consistency certifications for proposed federal activities in Barnstable County to the Commission for review of consistency with the Regional Policy Plan and local comprehensive plans. The Commission must notify MCZM of any objections to a consistency certification where it finds proposed activities are inconsistent with these plans. Conflicts between MCZM and the Commission are to be resolved by the

Secretary of the Executive Office of Environmental Affairs.

The Coastal Zone Management Office may adopt appropriate portions of the Regional Policy Plan, including specific goals and policies, into the state's Coastal Zone Management Program. If this occurs, these policies would also apply to MCZM's federal consistency review discussed above thus requiring federal activities in Barnstable County to be consistent with the Regional Policy Plan.

In addition to this formal consistency review process, the Commission will continue to work closely with the Coastal Zone Management Office on planning issues that affect coastal resources, including development of local harbor management plans. For example, the Commission will work with MCZM to develop educational campaigns concerning coastal hazards, sea level rise and coastal construction practices. Since two regional MCZM staff work out of the Commission's office, numerous opportunities exist for direct coordination between the two agencies.

Federal Authorities

National Park Service (Cape Cod National Seashore)

Located in six towns on the Outer Cape, Cape Cod National Seashore is a patchwork of public and private lands with numerous public and private inholdings, including town-owned land. The purposes of the Seashore are to protect outstanding natural, cultural, scientific, scenic and recreational resources; to ensure current and future generations opportunities to enjoy these resources; and to advance an understanding of and appreciation for the interrelationship between humankind and the environment.

Many of these communities that include the Seashore have traffic and other problems that are created, at least in part, by the presence of the National Seashore. Although the towns in which the Seashore lies have zoning districts designed to promote compatible uses on lands within the Seashore, the level of protection provided by these zoning districts may be inadequate. The Park Service's Statement for Management, prepared in 1990, lists a number of major issues facing the park. In the area of land use, many of these issues are related to the six towns and include:

- future use of undeveloped town-owned lands within the Seashore boundaries;
- need for boundary revisions or adjustments;
- lack of joint Seashore-municipal agreements for septage, solid and hazardous waste disposal; and
- the need for planning coordination between the Seashore and the local towns.

In addition, the towns have expressed concern about planning for the natural resources that lie within the National Seashore. The need for joint planning between the National Park Service and communities is clearly pointed out by a number of major issues including the transfer of the North Truro Air Force Base to the Seashore, the Provincetown landfill, and water supply management on the Outer Cape. The National Park Service's "1988 Management Policies" explicitly direct the Service to engage in "Cooperative regional planning . . . to integrate parks into their regional environments and to address adjacent land use issues that influence park resources." In addition, the Service is directed to "encourage compatible land uses and to mitigate potential adverse effects on park values by actively participating in planning and regulatory processes of neighboring jurisdictions, other federal, state, and local agencies, and native American authorities." Both community leaders and park personnel are well aware of community-park interdependence; however, they have often not been able to make planning decisions in a coordinated manner. Communities often feel powerless to influence the lengthy national park planning process and at the same time may resent the intrusion of park personnel into town planning efforts, and the large amount of land "locked up" in park areas. In addition, park staffing is insufficient to allow ongoing involvement in the planning efforts of multiple communities. The Cape Cod Commission should continue to play a mediating role in addressing the mutual concerns of the National Park Service and the towns.

Several opportunities currently exist for planning coordination among the Seashore, local communities and the Cape

Cod Commission. These include NPS staff involvement on Local Planning Committees as they prepare local comprehensive plans and appointment of a member of the Cape Cod Commission to the Cape Cod National Seashore Advisory Commission and/or General Management Plan planning team. In addition, other opportunities to improve and coordinate management under the Cape Cod Commission Act could include stricter DRI review standards for projects on lands in and around the Seashore or designation of critical lands adjacent to the park as a District of Critical Planning Concern. In addition, towns should re-examine their zoning bylaws and regulations for their consistency in protecting Seashore resources. A final opportunity for coordination would be the adoption of the Regional Policy Plan by the Coastal Zone Management Program, thereby requiring the Service's actions to be consistent with the Plan. This would encompass activities undertaken by the National Park Service wherever such consistency can be achieved without compromising the Park Service's mission.

Department of Defense - Massachusetts Military Reservation

The Massachusetts Military Reservation is located within the towns of Sandwich, Bourne, Falmouth and Mashpee and has a significant economic impact on Cape Cod. The former Cape Cod Planning and Economic Development Commission worked for the cleanup and restoration of contaminated ground water on the base. The Cape Cod Commission will continue to play a role in facilitating remediation efforts. Although there are no existing proposals to end military use of the base, recent federal initiatives to close military bases raise the issue of future use of the base. Any major change of use is likely to have a significant regional impact and will be of interest to the Commission. The Commission will also continue to be involved in monitoring environmental issues related to the Reservation, including air and water quality and noise generation.

Other Federal Agencies

A number of federal agencies administer land on Cape Cod or have programs and policies that affect the Cape. In general, either through voluntary efforts or required consistency through the Coastal Zone Management program, federal actions taken on Cape Cod should be consistent with the Regional Policy Plan unless specific statutory mandates make such consistency impossible. These include actions taken by federal agencies such as the Fish and Wildlife Service, Federal Emergency Management Authority, Federal Aviation Administration, the Department of Housing and Urban Development, Army Corps of Engineers, Department of Commerce, Small Business Administration, Environmental Protection Agency, Census Bureau, Federal Highway Administration and Urban Mass Transit Administration.

The Commission will continue to coordinate with these and other federal agencies on cooperative planning and research efforts and will undertake new initiatives as necessary. Many of these activities are discussed in more detail in the Implementation section of the Regional Policy Plan.

Private Parties

The Commission will coordinate with the various educational and research institutions and organizations on Cape Cod to develop information and educational opportunities to further the policies and programs in the Regional Policy Plan. These include the Cape Cod Community College, Woods Hole Oceanographic Institution, the Marine Biological Laboratory, Cape Cod Museum of Natural History, Center for Coastal Studies, and the Thornton Burgess Society. The Commission will work with the Cape Cod Environmental Education Resource Center to encourage incorporation of waste minimization and recycling in primary and secondary educational curricula in Cape Cod schools.

The Commission will work with nonprofit, civic, and professional organizations on Cape Cod including the League of Women Voters, Regional Housing Caucus, Association for the Preservation of Cape Cod, Cape Cod Homebuilders Association, Cape and Islands Board of Realtors, Barnstable County Bar Association, Cape and Islands Recreation Association, surveyors, and others to inform them about the Regional Policy Plan and respond to their comments and concerns about implementation of the policies in the Plan.

The Commission will coordinate with various conservation organizations and agencies on identification and

designation of a-Capewide open space/greenbelt network including the Massachusetts Audubon Society, The Nature Conservancy, Trust for Public Land, Trustees of Reservations, Compact of Cape Cod Conservation Trusts, National Park Service, and the Department of Environmental Management.

The Commission will work with various minority groups on Cape Cod including those of Asian, Pacific Island, Black, Cape Verdean, Hispanic and Native American ancestry and their community associations to address their comments and concerns about implementation of the Regional Policy Plan.

The Commission will work with the Cape Cod Chamber of Commerce, town chambers of commerce, the Cape Cod Economic Roundtable, and others to identify and implement programs to improve the Cape Cod economy.

The Commission will work cooperatively with local land trusts and the Compact of Cape Cod Conservation Trusts to protect significant natural and fragile areas on the Cape. The Commission will also work with private, nonprofit housing trusts to support their efforts to develop affordable housing on Cape Cod.

The Commission will work with existing agricultural organizations including the Cranberry Growers Association, Massachusetts Aquacultural Association, Farm Bureau and Cape Cod Conservation District to encourage continued and expanded agricultural and aquacultural use of lands and waters on Cape Cod.

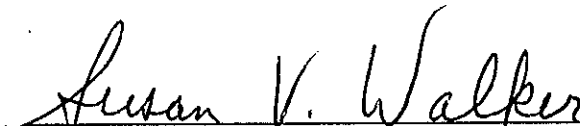
Section 3. References to Maps in the Plan

The maps attached and referenced in Section 2 above are hereby adopted as part of the Regional Policy Plan for Cape Cod.

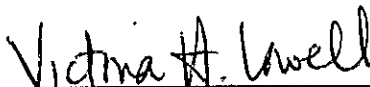
Section 4. Severability

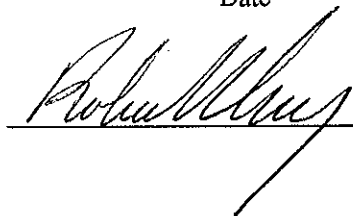
The provisions of this Regional Policy Plan are severable. If any provision of the Regional Policy Plan is held to be invalid, unlawful or unconstitutional by a court of competent jurisdiction, its remaining provisions shall not be affected thereby. If the application of the Regional Policy Plan, or any of its provisions, to any person, entity or circumstance is held to be invalid, unlawful or unconstitutional, the application of the Regional Policy Plan and its provision to other persons, entities or circumstances shall not be affected thereby.

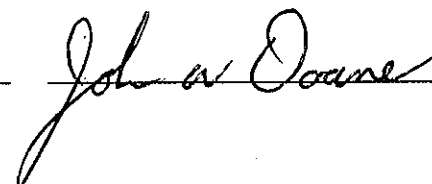
Adopted on July 31, 1991 by the Assembly of Delegates.


Susan V. Walker, Speaker

Approved by the Board of County Commissioners August 7, 1991, at 10:15 a.m.
Date Time


Victoria H. Lowell


Robert M. Mearns


John A. Doane