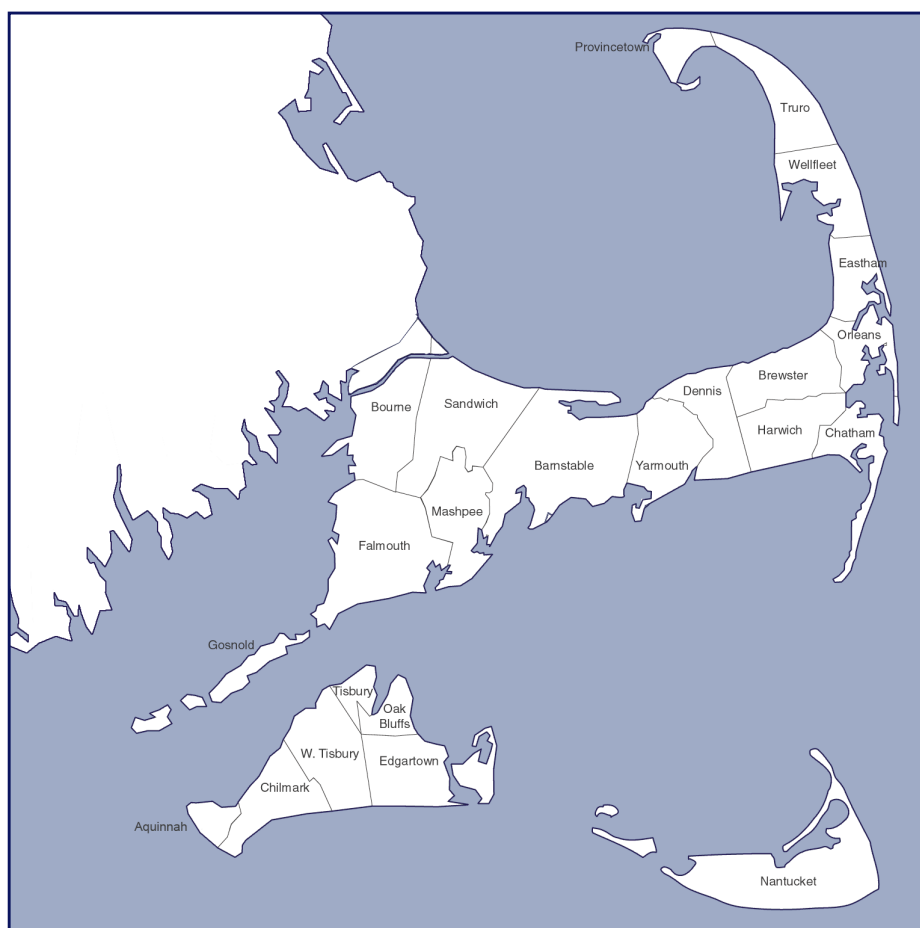


HISTORIC & ARCHAEOLOGICAL RESOURCES OF CAPE COD & THE ISLANDS

A Framework for
Preservation Decisions



MASSACHUSETTS
HISTORICAL COMMISSION

William Francis Galvin

Secretary of the Commonwealth
Chair, Massachusetts Historical Commission

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A Framework for Preservation Decisions

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**Foreword to the 2007 PDF Reprint Edition of
*Historic and Archaeological Resources of Cape Cod and the Islands:
A Framework for Preservation Decisions***

In the late 1970s, the Massachusetts Historical Commission (MHC), like many state historic preservation offices, recognized the need for a more comprehensive understanding of the historic and archaeological resources of the Commonwealth to inform its decision-making processes. While Massachusetts had been a national leader in historic preservation, overall preservation planning efforts still seemed too biased toward a limited range of historic periods, places, events and people. The staff of the Commission felt that decisions on where to direct efforts to protect and preserve properties and sites had to be grounded in a better and more holistic understanding of the types and locations of cultural resources that characterized communities across the state. These efforts to move toward more comprehensive, resource-based decision-making took the form of a special one-year, National Park Service funded study. The result was a groundbreaking, statewide preservation plan: ***Cultural Resources in Massachusetts: A Model for Management***, published in 1979.

In ***Cultural Resources in Massachusetts: A Model for Management***, the MHC advocated an interdisciplinary approach to the assessment and management of the Commonwealth's cultural resources. This approach measured the significance of properties and sites in terms of the broad, anthropological patterns of historical development of the regions and communities of the state. The ***Model for Management*** called for a cultural landscape approach to preservation planning that considered representative and outstanding cultural resources as expressions of the successive patterns of social, cultural and economic activity that shaped and defined communities. To establish local and regional contexts and a uniform baseline of field-observation and artifact derived information on the types and locations of resources, the Commission undertook a statewide reconnaissance level survey. The state was organized into eight study units, and within each study unit, the survey proceeded town-by-town. A major innovation was the assembly of an interdisciplinary team to undertake each regional study unit survey. Each team included members trained in architectural history, historical geography, industrial history, historical archaeology, and prehistoric archaeology.

Three primary products resulted from the statewide reconnaissance survey: 1) individual reports on each surveyed city and town; 2) an accompanying set of thematic maps for each town, produced on transparent polyester sheets overlaid on a USGS topographic mosaic base map; and 3) a summary regional report on each surveyed study unit. The findings and recommendations of the survey teams provided a key organizational framework for the Commission's preservation planning efforts through the 1980s and 1990s. Intensive communitywide surveys and National Register nominations followed the contextual frameworks established by the reconnaissance program.

Although preservation planning concerns have evolved, and the levels of preservation planning activity have advanced considerably across the state, researchers and planners still find the thematic contexts in these reports useful. Long out of print, the completed reports for five regions and the town reports for seven regions³ are now available in electronic format.⁴ Users should keep in mind that these reports are two decades or more old. The information they contain, including assessments of existing knowledge, planning recommendations, understanding of local and regional developments, and bibliographic references all date to the time they were written. No attempt has been made to update this information.

Michael Steinitz
Director, Preservation Planning Division
Massachusetts Historical Commission

³ Completed regional reports include those for the **Boston Area** (1982), **Southeast Massachusetts** (1982), **Connecticut Valley** (1984), **Central Massachusetts** (1985), and **Cape Cod and the Islands** (1987). Regional reports for **Eastern Massachusetts** and **Essex** were never completed, and the survey was not initiated for the **Berkshire** study unit.

⁴ Electronic text was not available for digital capture, and as a result all reports have been scanned as pdf files. While all have been processed with optical character recognition, there will inevitably be some character recognition errors.

Cape Cod and the Islands Study Unit

Cities and Towns

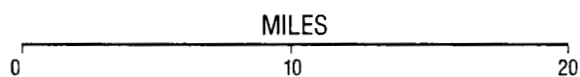
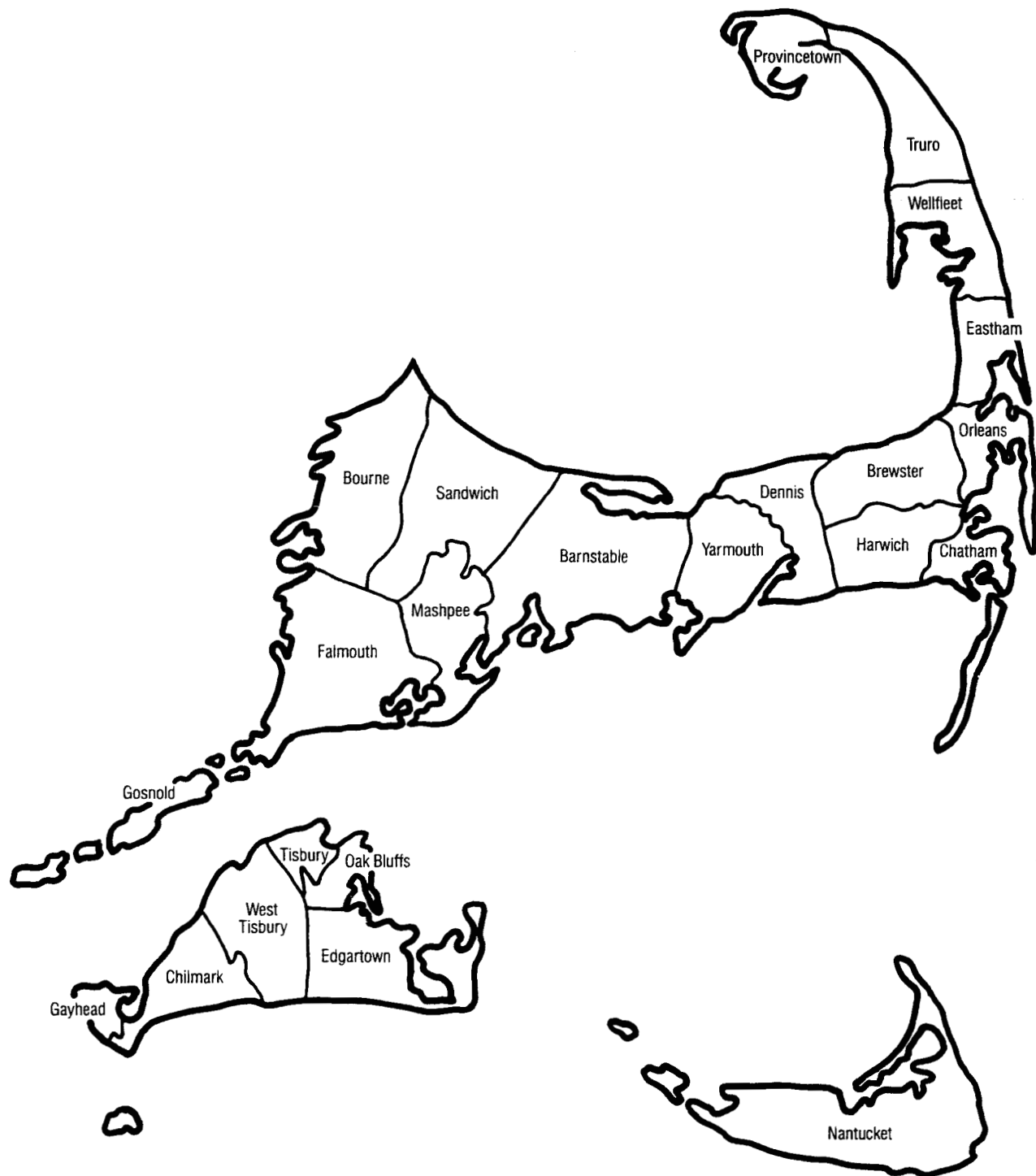


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INTRODUCTION

The purpose of this introductory section is twofold: to explain why this report was written and what led up to it, and to describe the kind of information covered in the report.

To answer the first question, why the report was written, it is necessary to review some of the history of the Massachusetts Historical Commission (MHC). The MHC was established in 1963 by Massachusetts General Laws Chapter 9 Sections 26-27C. This legislation recognized that state government had a responsibility for the preservation of historic and archaeological resources within the Commonwealth. With the passage of the National Historic Preservation Act in 1966, the federal government took a similar position toward protecting historical and archaeological resources that might be threatened by federal actions. This act, and subsequent amendments, also directed each state to appoint a State Historic Preservation Officer (SHPO) who would administer the new regulations on the state level and coordinate local, state, and federal preservation efforts. In Massachusetts, the office of the SHPO is the Massachusetts Historical Commission.

The MHC has developed a number of preservation programs and has given priority to the following functions: compilation of a statewide inventory of above- and below-ground cultural resources, nomination of eligible sites and properties to the National and State Registers of Historic Places, and protection of prehistoric and historic sites and properties through the use of state and federal environmental review programs. In each case, the MHC and its staff are constantly required to make decisions of significance. In other words, what makes a building or site

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historic? Is it historic enough to be listed on the National Register? Is it historic enough to alter the course of a town sewer project, a state road, or construction of a federal interstate highway? Faced with the need to answer these kinds of questions on a daily basis, it soon became apparent that the MHC required a better base of information from which consistent and informed decisions could be made. Decisions on what should be protected and preserved had to be grounded in a firm understanding of what resources were there. In an effort to move toward resource-based decision making, the MHC applied for a grant from the Heritage Conservation Recreation Service (now part of the National Park Service, Department of the Interior) in 1979. The purpose of this grant was to outline a program that would provide the kind of information the MHC required. The result was Cultural Resources in Massachusetts: A Model for Management (MHC 1979).

In adopting Cultural Resources in Massachusetts: A Model for Management (1979), the Massachusetts Historical Commission advocated a social science approach to the assessment and management of the Commonwealth's historic resources. The discipline of geography in particular provided a set of theoretical concepts that would inform the gathering and analysis of information. Four approaches that characterize this field provide large areas of inquiry on which to focus research. In emphasizing sequent occupance (the sequential occupation of an area over time), research provided reconstruction of successive cultures. The prehistoric period was divided into Paleo Indian through Late Woodland cultures while the historic period (1500-1940) was divided into seven subperiods. A focus on local ways of life emphasized solutions to the functional problems within local environments, the towns. At a broader level of analysis, functional organization across a wide area identified concentrated activity (cores), and the interconnections between them (corridors), through surrounding areas (peripheries), in eight regions. Finally, the model suggested an interpretive framework for the analysis of the

resources based on the identification of cores and their peripheries and an examination of their interdependence.

The Model for Management recommended that the MHC undertake a statewide reconnaissance survey in order to create a data base that would allow decisions to be made in a consistent and defensible manner. Far from replacing the inventory work of local historical commissions and other groups, this statewide survey would be a supplement, building on existing information and making it more comprehensive. This survey would include both above-ground resources (buildings and other standing structures) and below-ground resources (archaeological sites), and would treat both in an integrated manner. The state survey project began in the fall of 1979 and has proven an efficient and effective means for providing the information the MHC requires. During the past six years, survey work has been completed for over 280 towns and cities across Massachusetts. This report summarizes the development of the Cape and the Islands study unit, which includes the twenty-three towns in Barnstable, Dukes, and Nantucket counties. It is the fifth study unit report to be completed.

This leads to the second question: What kind of information is included in this report and how is it presented? As noted above, the state survey is based on the efforts of an interdisciplinary team. The prehistoric portion of the survey was conducted by Thomas Mahlstedt. The historic team was composed of four people, each of whom brought a particular skill and knowledge to the project. Claire Dempsey served as the architectural historian, Michael Steinitz as the team's geographer, Peter Stott as economic historian, and Leonard Loparto as the historical archaeologist. James W. Bradley, the Survey Director, was responsible for organizing and directing the completion of this project.

This report marks the culmination of the survey team's work within the Cape and the Islands study unit. During the previous year, the survey team completed

reports and maps for each town and city within the study unit. Each town report summarizes the development of that community from 1500 to 1940. A description of topography and political boundaries, and an historic overview introduce the town. For each period, information on transportation, population, settlement, economic base, and architecture is summarized. These town reports are based on documentary research (both primary and secondary) and reconnaissance level survey of the town. See MHC's State Survey Scope of Work for additional details (MHC 1980c). The town reports are important for two reasons. First, they are the underpinnings of this report. The process that resulted in this document has been an inductive one, from the sources to the town reports to this summary report. Second, the town reports provide much more detail than does this study. The purpose here is to look at towns in the context of their regional neighbors to discern what broad developmental trends have taken place. If one wants greater detail on what occurred within a particular city or town, the town report, available at the MHC, should be consulted.

A few additional comments are necessary to introduce the sections of this report. The first two chapters are designed to preface those that follow. The first, which provides an overview of the study unit's topography, was written by Thomas Mahlstedt and Leonard Loparto. The second chapter reviews the study unit's prehistory. Written by Thomas Mahlstedt, this chapter is based primarily on a review of the literature plus analysis of collections from the study unit.

The third chapter focuses on the processes of settlement and social development. The following topics are discussed: regional events, transportation, population, and settlement. Leonard Loparto was responsible for all sections on the Contact, Plantation, and Colonial periods. Michael Steinitz wrote the Transportation sections and the Settlement sections for the Federal through Early Modern sections, and the Population sections for the Late Industrial and Early Modern

periods. Claire Dempsey wrote the Federal and Early Industrial population sections. Chapter Four, also written by Claire Dempsey, concerns architectural development. The emphasis is on the changing form of building types, and secondarily on their ornamentation or stylistic designation. The fifth chapter, written by Peter Stott, reviews the agricultural and manufacturing basis of the study unit's economy. The economic activities of the study unit are reviewed in terms of their development, relationship to one another, and surviving components. Leonard Loparto contributed significant sections to this chapter on economic activities from the Contact through the Colonial periods, and Claire Dempsey contributed material on related buildings.

The sixth chapter is the report's most comprehensive. For each period, regional patterns of activity are described and cores and peripheries are differentiated. The surviving resources are then located, research questions related to them listed, and subsequent changes to them described. It was written by Michael Steinitz and Leonard Loparto, with contributions by James Bradley and Claire Dempsey. The last chapter, "Management Recommendations," which recommends priorities for identification, evaluation, protection, and policy, was written by the members of the survey team under the direction of James Bradley and with the assistance of the Massachusetts Historical Commission staff.

Several acknowledgements need to be made to other individuals who made important contributions to this study. Leslie Sampou was responsible for production of the text, from typing the initial drafts through printing of the final copy. Margaret Donovan provided both editorial and proofreading assistance. Thanks also go to Joanne Perham for the cover design and graphics, and to Montine Jordan who provided the maps. Finally, the authors would like to thank both the Massachusetts Historical Commission staff and several of the commissioners, particularly Dena

Dincauze, William Fowler, Louis Tucker, and John Worrell, for their comments, criticisms, and suggestions.

As noted above, this document is a result of the Massachusetts Historical Commission's need to have an information base from which preservation decisions can be made in a consistent and defensible way. As a result, this study is designed primarily to serve the needs of the MHC and its staff. It is our hope and expectation, however, that other groups—public and private, amateur and professional—will also find this information useful.

CHAPTER 1

TOPOGRAPHIC OVERVIEW

Thomas Mahlstedt and Leonard Loparto

The Cape Cod and the Islands study unit is comprised of a peninsula located off the southeastern coast of Massachusetts (Barnstable County), and its associated islands, Martha's Vineyard and Nantucket (Dukes and Nantucket counties, respectively). The Cape is shaped like a bent arm with a constricted fist and, unlike the mainland, is made up primarily of sand, not rock. From the mainland the Cape extends about twenty-five miles east and about thirty miles northwest to Race Point, the northernmost tip of the Cape. Cape Cod is about ten miles wide at its widest, but at several locations on the outer Cape, Cape Cod Bay and the Atlantic Ocean are less than two miles apart. Besides Nantucket and Martha's Vineyard, the Cape Cod study unit features other numerous islands off its coast. Most notable among these are the Elizabeth Islands in Buzzards Bay and Monomoy Island, which was formerly part of the mainland and lies off the coast of Chatham. Many smaller islands lie off the coast of the towns of Mashpee, Falmouth, Barnstable, Yarmouth, Harwich, Orleans, and Wellfleet.

The formation of Cape Cod, Martha's Vineyard, and Nantucket began over two million years ago. At that time, Cape Cod and the Islands and a considerable expanse of land to the east and south stood well above sea level, forming the Continental Shelf. Subsequently, the Ice Age (which actually included several

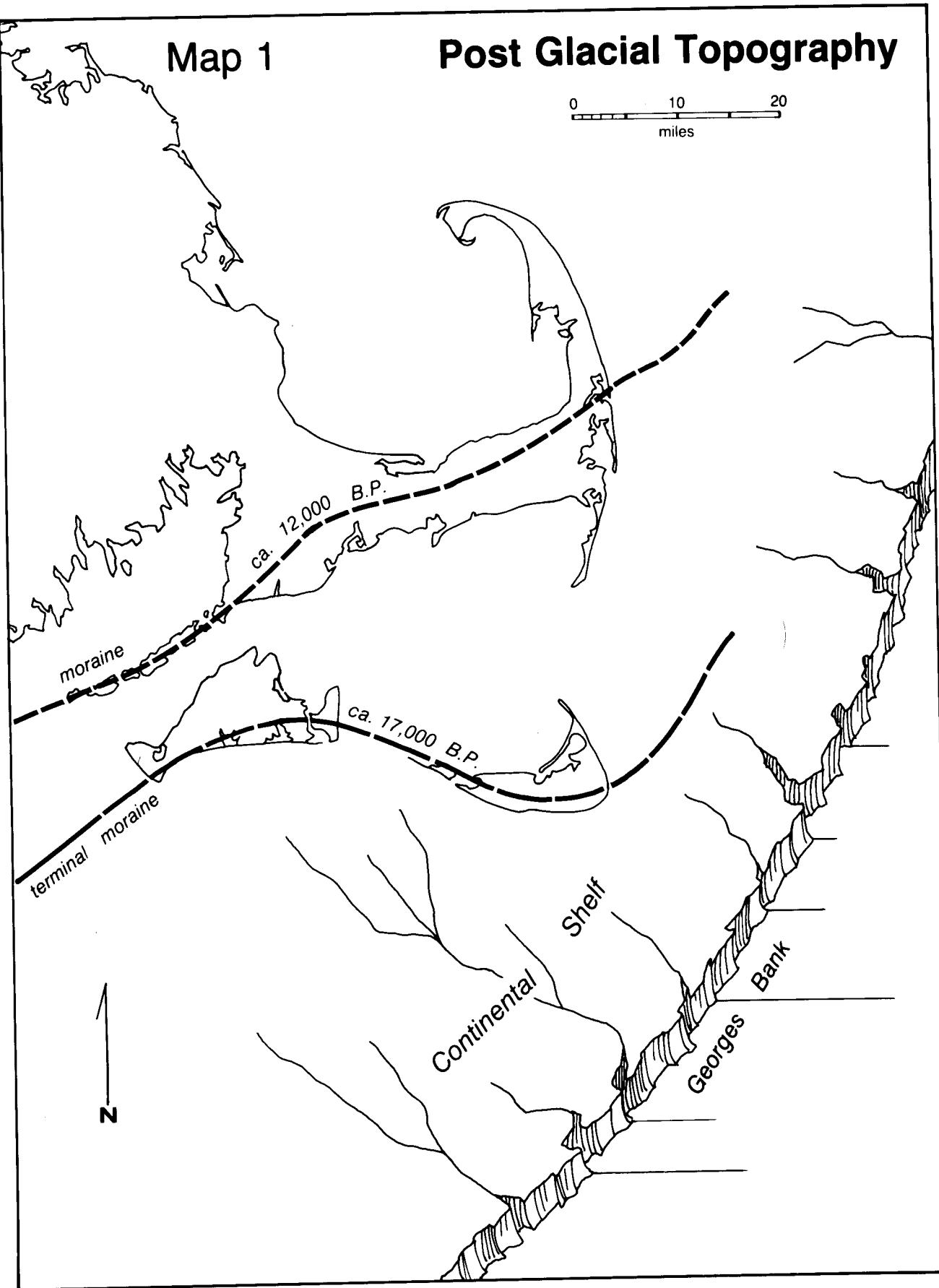
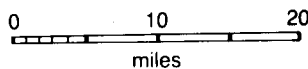
glacial advances known as stages) with intervening interglacial periods were responsible for creating the land masses known today as Cape Cod and the Islands.

It was actually the fourth and last glacial stage, the Wisconsin Stage, which obliterated the effects of the preceding stages and which had the most lasting effect on the region. Ice sheets of the Wisconsin Stage, achieving thicknesses of over one mile in some places, reached their maximum extent just south of Cape Cod along a line running eastward from Long Island, New York, and extending through Martha's Vineyard and Nantucket. However, it was during the following interglacial stage that the Cape and Islands developed their present relief. As the ice retreated it settled along a line that extends from the Elizabeth Islands in Buzzards Bay northerly to Bourne, then angling easterly to Orleans. Three ice bodies, known as ice lobes, made up this last glacial advance: the Buzzards Bay Lobe covered the Buzzards Bay area, the Cape Cod Lobe covered present Cape Cod Bay, and the third, South Channel Lobe, sat over much of the outer Cape where it contacted the Cape Cod Bay Lobe. See Map 1.

The farthest extent of each of these ice bodies was marked by a series of hilly deposits known as terminal moraines, which form as the ice front melts and sediments that it contains are slowly released. Principal among these deposits are the Buzzards Bay Moraine, which covers most of the western portion of the Cape, and the Sandwich Moraine, which covers the northern edge of the Cape. East of Dennis, the Sandwich Moraine was subsequently overlain by outwash deposits as the glaciers began to retreat. Outwash plain deposits are known locally as Buzzards Bay Outwash Deposits, Mashpee Pitted Plain Deposits, Barnstable Outwash Plain Deposits, and Harwich Outwash Plain Deposits. On the outer Cape, the Eastham Plain and Wellfleet Plain deposits, both outwash plains, formed opposite the South Channel Lobe.

Map 1

Post Glacial Topography



The topography of the moraine deposits is hilly and is often referred to as "kettle and knob" topography. Surface elevations reach over 200 feet in the Sandwich and Bourne areas, but typically moraine elevations average 100 or more feet. By contrast, elevations on the outwash plains seldom exceed 100 feet except in Brewster and on the outer Cape, and they are generally level except where other forces such as erosion have been factors. The surfaces of outwash plains can also be dotted with numerous kettle holes and channels, which were formed by melting blocks of ice and outwash streams, creating what is called a pitted plain. Most of the ponds, inlets, coastal bays, and marshes around the Cape and the Islands are filled kettle holes. In general, the land surfaces of the outwash plains slope to the east and south; however, in the area of the Buzzards Bay Moraine and the northern part of the Cape, slopes trend to the west into Buzzards Bay and northerly from the Sandwich Moraine to Cape Cod Bay, respectively.

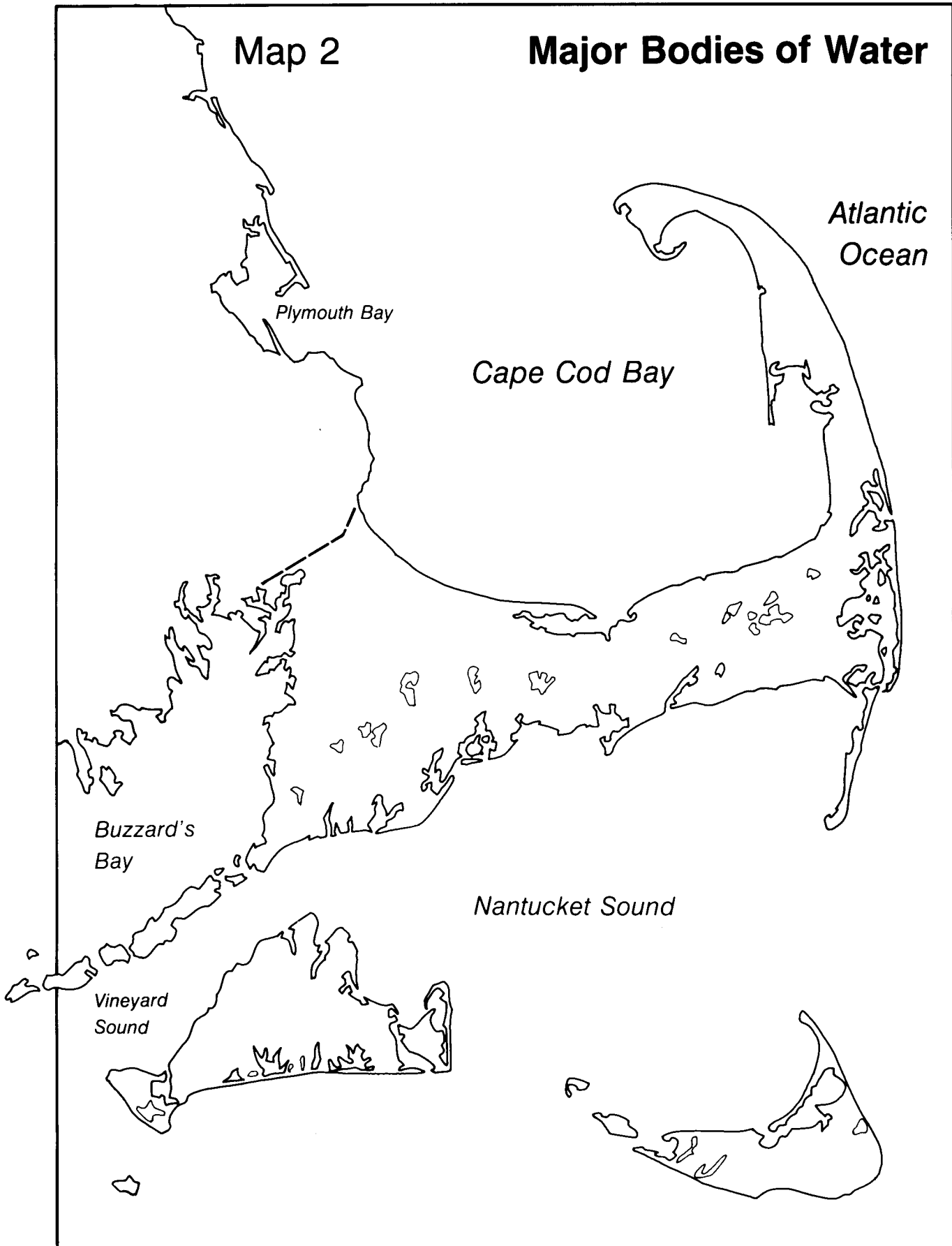
Cape Cod's soils are a direct result of the specific glacial deposits from which they are derived. Soils in moraine deposits, also called till, are usually unlayered and unsorted deposits of boulders and gravel formed by the irregular deposition around and under the glacier itself. They are stony and dry and not well suited for agricultural purposes. Outwash plain soils, on the other hand, are more structured or stratified, having been deposited by running water, outwash, in front of the glacier. They are finer than those of moraines, usually well drained, and are considered excellent for agricultural purposes. The soils of the outwash plain in Orleans and Eastham were particularly important for the farming efforts of these towns' early settlers. Another type of glacially derived soils exists along most of the Cape Cod Bay coastline. These are glacial lake deposits, which exhibit high percentages of clay and silt, and are also well suited for agricultural activities; they were important to the early development of Sandwich, Barnstable, and Yarmouth, originally farming communities. These soils were also apparently favored by

Contact and Plantation period Native American horticulturalists as well. Coastal sand deposits are another major soil type on Cape Cod, and while of little economic value per se, they can nevertheless be spectacular in appearance. Sands spits and sand dunes were formed after the last glacial period, but are constantly changed by the vagaries of the wind, waves, and currents. The Province Lands, Sandy Neck, Nauset Beach, and Monomoy Island are examples of such formations.

One of the more significant postglacial processes in the present configuration of Cape Cod and the Islands has been the continuously rising sea levels. For almost 70,000 years, present-day Cape and Islands were connected to the mainland, comprising during this time the interior highlands of the Continental Shelf. However, as a result of postglacial sea level increases, Martha's Vineyard and Nantucket sounds and Cape Cod Bay were filled, the now familiar bent armlike shape of the Cape took form, and the area was nearly severed from the mainland. See Map 2. The construction of the Cape Cod Canal within the Manomet River Valley in 1914, in fact, cut through the isthmus, essentially making Cape Cod an island. Prior to inundation, the Continental Shelf extended possibly as much as fifty miles south of the existing shoreline on Nantucket Sound and between ten to fifteen miles east of the outer Cape coastline. This low-lying shelf was crisscrossed with freshwater streams and outwash channels, probably not too dissimilar from what is present today. However, constantly rising waters have submerged this shelf, in time creating new estuaries, bays, and inlets. These many topographic features in turn were ultimately drowned until the current coastline punctuated by inlets, coves, bays, and marshes was produced. Waquoit Bay, Lewis Bay, Town Cove, Nauset Marsh, and Pleasant Bay are but a few present coastline features formed in this manner. As discussed in the following chapter, these natural forces are particularly important when considering prehistoric human occupation in the region.

Map 2

Major Bodies of Water



Ocean waves and currents have also been responsible for extensive erosion and deposition in the region. As noted above, the Province Lands, Sandy Neck, Nauset Beach, and Monomoy Island are landforms that have been developed in the past 3,000 to 4,000 years by the forces of erosion and deposition. Ocean erosion of another kind has also left its mark in many parts of the study unit. Cape Cod's coastline has been subjected to constant erosion and has been slowly receding, often leaving dramatic landscapes with steep cliffs known as marine scarps, or sea scarps, which often exceed 100 feet or more. Although they occur in many places in the study unit, marine scarps are most prominent on the outer Cape and on Nantucket and Martha's Vineyard. In some cases, erosion has been so severe that stream valleys have been truncated and left virtually hanging at the edge of a cliff.

Besides flooding the low-lying portions of the coastal plain, rising sea levels have also had a dramatic effect on the region's freshwater resources. The Cape has 353 ponds, which cover approximately 4% of the surface area of the Cape; 209 of these are classified as Great Ponds because they are ten or more acres in area. Most Cape ponds are located south and east of the terminal moraines and on the outwash plains of the outer Cape south of Truro. Despite the quantity of ponds, most of the region's fresh water is in the form of ground water which can usually be found at depths ranging from less than ten to fifty feet below the ground surface. This ground water aquifer underlies the entire Cape, even extending under coastal waters in several areas. This, together with the fact that bedrock may lie over 200 feet below the sea level, permit salt water to exist under the freshwater aquifer. As sea levels rise and ground water levels fall, salt and fresh water often mix. However, increased sea levels can have a concomitant effect on inland freshwater resources as well, such as causing the water levels in kettle hole ponds to rise.

The vegetational patterns present on the Cape and Islands are influenced by a number of factors, including proximity to the ocean, drainage, soil, and the history

of human land use. A mixed pitch pine-oak forest is the most common form of vegetation on the Cape because it favors the acidic podzalic soils. This type of vegetation is pervasive; it can be found in the interior uplands as well as on the coast, where it can even establish itself in sloughs between dunes. Although the two are often mixed, oak and pine also occur as separate floral communities. Approximately 57% of the Cape is covered by the pitch pine-oak community: 10% by pitch pine and 23% by oak and other hardwoods. Understory species in these forests include hairgrass, scrub oak, huckleberry, and blueberry. Other plants common in upland areas include black oak, black locust, red cedar, and white oak. In poorly drained areas freshwater marsh, bog, and shrub vegetation are common. Wooded swamps on the Cape are characterized predominantly by white cedar swamps that also contain red maple. In coastal areas salt marsh and dune vegetation are common. Heath vegetation is also an important vegetational community in several Cape areas. The successional community includes blueberry, huckleberry, bearberry, sheep laurel, scrub oak, shadbush, and other shrubs.

The environment of Cape Cod and the Islands is characterized by a wealth of natural resources. For much of its existence the region has supported rich and varied wild flora and fauna resource bases. As we will see in the following chapters, this abundance has long attracted humans to the region. It is the record of this human settlement, from early prehistoric times to the present, a record that documents continuous adaptation to the constantly changing environment, that is the focus of much of the remainder of this document.

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CHAPTER 2

PREHISTORIC OVERVIEW

Thomas Mahlstedt

History of Research

Digging, while more laborious [than surface collecting], is much more interesting and educative, and by far more rewarding in the number of relics recovered. It has all the fascination of a treasure hunt.

J. G. Peters, 1927

This revelation, referring to collecting prehistoric artifacts in Truro, may well be the creed followed by many Cape Cod collectors, for perhaps nowhere else in the state has collecting been accomplished by so much digging. Perhaps too, nowhere else in Massachusetts has the interest been greater and the writing about local prehistory so voluminous as on the Cape. Literature stemming from the journals of the early explorers such as Champlain, Gosnold, and the first Pilgrim settlers has done much to fuel that interest; so too has the ease with which collecting can be pursued. Actually, the first archaeological discovery was made in 1620 by a Pilgrim foraging party when they encountered a grave which, much to their surprise, contained the remains of a man with "yellow hair," and which has led to much speculation ever since (Gookin 1950: 19-21; Robbins 1968: 63-68). The noted author and naturalist, Henry David Thoreau, while on one of his many Cape visits,

reflected about the first inhabitants of Cape Cod and more than once stooped to pick up something they had long left behind (Thoreau 1984: 97-98).

Professional archaeology on Cape Cod during the 19th century, as in other parts of the country at the time, was conducted primarily by museum staffs in search of quality "Indian relics," with a focus, all too often, on burials. A haunting 1914 photograph shows men, shirtsleeves rolled up, and sunbonneted ladies, parasols in hand, standing waist-deep in a hole with human bones littered about. In 1864 and 1915 unreported burials were excavated on Corn Hill in Truro (Robbins 1968:67, 68). Between 1912 and 1913, Samuel Guernsey and E. A. Hooten, both of Harvard University, conducted the first survey and excavations on Martha's Vineyard. For over fifty years, the R. S. Peabody Foundation, Andover, served Cape Cod archaeology by providing laboratory and curatorial space as well as some of the most prominent archaeologists of the day, such as Douglas Byers, Frederick Johnson, and Ripley Bullen. These men typically ventured to the Cape lending their assistance in salvaging burials and excavating particularly large or complex sites, and trained and encouraged local avocational archaeologists as well. Articles based on work at such places as the Squibnocket and Hornblower sites on Martha's Vineyard (Byers and Johnson 1940), the Hemenway burial and midden, Eastham (Johnson 1942), a burial in Chatham (Johnson 1944), and at Taylor Hill in Wellfleet (Torrey and Bullen 1946) were the building blocks of Cape Cod archaeology.

With the formation of the Massachusetts Archaeological Society (MAS) in 1939, avocational and professional archaeologists had a means to exchange information and share interests. The Bulletin of the Massachusetts Archaeological Society became the principal vehicle by which this information could be passed, and for over thirty years few issues lacked at least one article dealing with archaeology on Cape Cod in one form or another. The Cape Cod chapter of the MAS was established March 5, 1940, and it immediately undertook excavations at a Late Archaic/Early

Woodland shell midden on Nantucket (Brooks 1940, 1941, 1942). Typically, brief articles recorded events associated with individual sites, many of which were graves. Well known sites such as Seth's Swamp, Wellfleet (Torrey 1946), the Holden, Rich, Railroad, Rose, and Ryders Beach sites (Moffett 1946a), Peaked Hill, Truro (Moffett 1946b), a rockshelter in Bourne (Brewer 1947), and the Hillside site in Truro (Moffett 1949) were all first reported in this manner.

By 1946, based on the recognition of a number of stratified sites in eastern Massachusetts, including Seth's Swamp, the Cliff, and Peaked Hill sites from the outer Cape, Bullen began to construct a cultural history for the region. A few years later he proposed a rudimentary cultural sequence for Cape Cod as well as for other parts of southeastern and northeastern Massachusetts (Bullen 1948: 36-40).

During the 1950s, Ross Moffett continued to be the most active collector and writer on the Cape. Although Howard Torrey, who was more active in the 1930s and 1940s, may have amassed a larger collection than Moffett (9,500 artifacts to Moffett's 6,000), Torrey had neither Moffett's compulsion to communicate his knowledge nor his penchant for maintaining site records and labeling artifacts. In fact, much of Torrey's collection was unprovenienced and went unreported. Among Torrey's infrequent publications was a lengthy speculative thesis on the use of Indian Rock in Eastham as a communal abrading stone for the manufacture of ground stone tools (Torrey 1953: 19-67). His publication was ultimately responsible for the boulder's removal by the National Park Service to a place of prominent display on Skiff Hill, Eastham (Lohr 1969).

Moffett's notes and maps, on the other hand, served as the foundation for the MAS's and MHC's Cape Cod records. One of the founders of the artist colony at Provincetown (Anthony, Carty, Towle n.d.), Ross Moffett can be considered the "great communicator of Cape Cod archaeology." He not only published the results of his own work, but also made sure that finds made by other people, such as when a

single barbed harpoon was found in the mudflats off Truro, were also reported (Moffett 1969: 22-24). He wrote a follow-up article on the Holden site after its stratigraphic sequence became evident (Moffett 1951a: 47-52), and a detailed discussion of the Rose site in Truro appeared in American Antiquity when its stratigraphic significance was also later recognized (Moffett 1951b: 98-107). His extensive experience in the region culminated in a general overview of Cape Cod archaeology (Moffett 1957: 1-19). Even today his well maintained collections, records, and maps lend themselves to reanalysis and are still one of the most important sources of information concerning the prehistory of Cape Cod.

One of the few Bulletin articles not written by Moffett or Torrey in the 1950s was a brief but notable report on a Late Woodland burial that was destroyed by development on Fish Hill, Hyannis (Vidal, Shade and Hunt 1951: 8-10). Development also took its toll on Nantucket, where work at the High School disturbed a probable Orient Phase and/or Early Woodland site (Roy 1956: 51). In 1959 excavations at the Norton site on Martha's Vineyard revealed a long occupation sequence from Middle Archaic times through the Late Woodland and Contact periods (Huntington 1959).

In the early 1960s a Coburn complex-type of burial was discovered on Barley Neck, Orleans (Kremp 1961: 33-36), and a grave containing a brass kettle further documented the archaeologically rich section of Truro around Corn Hill (Robbins 1968: 62-68). The isolated find of a ceramic pot from the former Manomet River in Bourne (Brewer 1961: 18-19), and of two similarly collared and decorated pots from a cranberry bog near Sandy Neck (Johnson 1962: 45-46), are among the few reports of any kind from the inner Cape. The prehistory of the Cape and Islands really began to crystallize in 1969 when Ritchie published the results of his work on Martha's Vineyard, in which he proposed a new cultural sequence for southeastern New England and suggested a model for human adaptation to maritime resources (Ritchie 1969b).

Paleo Indian Period (12,000-9,000 B.P. [Before Present])

Prior to the MHC survey of the study unit, there were virtually no known Paleo Indian sites on the mainland of Cape Cod. Eight possible "unfluted" fluted points, recognized in museum collections, were suggestive of Paleo activity, but only one of these could be attributed to an identifiable location, 19-BN-371, in Eastham (Anthony, Carty and Towle n.d.). Diagnostic fluted and unfluted points have also been recognized in related collections studies on Martha's Vineyard (Richardson 1983: 6-7), and a possible waterworn, fluted point may have been recovered from the Norton site (Richardson 1985; Plate 4, no. 90). An Eastern Clovis point has also been identified from the Coskata Woods area of Nantucket (Little: personal communication).

On the Cape, artifacts similar to Paleo points were recently inventoried from two sites which lie in close proximity to one another. A possible fluted point, manufactured on a gray porphyritic felsite, was collected from the Blue Rock site on the Bass River, Yarmouth. This identification is made cautiously for a number of reasons. Felsite is not typically associated with Eastern fluted point technology. Generally, high quality materials such as cherts or jaspers were selected by Paleo Indian toolmakers. So strong, in fact, is this correlation that it has been believed to be virtually without exception. Secondly, the classification of Eastern fluted points is, under the best of conditions, highly subjective when confronted with serious problems of typological control and variation. The use of a relatively poor quality material makes a conclusive identification for the Blue Rock specimen difficult because even the most basic morphological and technological criteria for fluted points are not readily visible. The argument that distinctive regional variants of

Middle Archaic activity on the Island and has suggested the possibility of early maritime adaptations (Bouck, Burt and Richardson 1983; Richardson 1983, 1985)

Between 1976 and 1985 thirty-four Cultural Resource Management (CRM) studies were performed prior to the construction of roads, hospitals, schools, nursing homes, sewers, and parks. Not as many CRM-related studies have been performed here compared with other parts of the state because there have been fewer federal- and state-funded projects in the study unit than elsewhere. A Susquehanna Tradition workshop in Orleans (19-BN-491) (Loparto 1984) is perhaps the most notable site discovered by contract archaeologists. More important, these surveys have insured that no significant archaeological resources have been destroyed by such developments.

Currently, over 600 prehistoric sites are recorded on the mainland of Cape Cod, while 129 are known on Martha's Vineyard and 150 on Nantucket. Although there is little more than locational information for most of these, there is sufficient data to develop a preliminary overview of the prehistory of the Cape Cod Study Unit. The remainder of this chapter synthesizes the disparate forms of archaeological data that exists today. The overview is based primarily on the analysis of private artifact collections, which was performed by the MHC prehistoric survey team during the summer and fall of 1984; it incorporates data from excavated sites and the many publications cited or otherwise alluded to above.

The 1970s was a decade of considerable activity by the Cape Cod Chapter, yet the record of publication for the period is poor. Osteological analysis from the Purcell burial site in West Yarmouth that suggested a violent death for some of the individuals was one of the more interesting articles of the decade (Schambach and Baillet 1974: 18-23). In contrast to the short, artifact-oriented discussions that typified most of the reporting in the 1960s and 1970s, the report on the Mattaquason Purchase site in North Chatham provided a detailed record of the Cape Cod Chapter's excavation (Eteson, Crary and Chase 1978), and a similarly thorough report documented work at the Hayward Portanimicutt site (Eteson 1982).

The first half of the 1980s has been one of concerted professional activity with an emphasis on the initiation of new studies as well as a reassessment of past work. Spearheaded by a monumental survey of the National Seashore by the National Park Service, new directions in field survey, excavation, and analysis have placed the archaeology of the outer Cape among the most extensively studied and best dated in the state (McManamon 1984).

In recent years the Cape Cod Museum of Natural History in Brewster has been providing a unique service to the region by taking an active role in the storage and curation of artifacts, by disseminating information about local prehistory, and salvaging sites from destruction (Dunford 1984).

Several years of dedicated collections analysis and excavation by members of the Nantucket Historical Association (Little 1977, 1978, 1979) and survey and salvage excavations by the University of Massachusetts, Boston (Luedtke 1978, 1980; Turchon 1982; Trinkaus 1982), have led to the establishment of a data base upon which the prehistory of Nantucket is beginning to be clarified. On Martha's Vineyard, an MHC-related study, in conjunction with the excavation and reexcavation of selected sites by the Carnegie Museum of Natural History, has discovered many new sites and provided the first evidence of Paleo Indian and

Paleo fluted points exist (cf. Funk 1983: 19) may be supported by the use of local raw materials in eastern Massachusetts and Cape Cod.

The other possible Paleo Indian point comes from a well known and heavily collected site about three to three and a half miles east of Blue Rock. A long, slender point, similar to Eden or Plano varieties, was collected from the marshes adjacent to the Herring River in Harwich. Plano points, attributed to the end of the Paleo Indian period, are extremely rare in the eastern United States. Only one good example, an isolated find from Hamilton, north of Boston, has previously been inventoried by the MHC survey team (cf. Snow 1980: 164f; Johnson and Mahlstedt 1982: 31).

During Paleo Indian times these two sites were located over thirty miles from the coast, on some of the highest ground on the continental shelf, near what is today the backbone of the Cape. Both were near the headwaters of two of the larger meltwater channels on the Cape which at the time flowed with freshwater. Based on debatable details, the Bull Brook in Ipswich and the Debert site in Nova Scotia, which were in settings similiar to the possible Paleo sites on the Cape, were interpreted as interior hunting camps for peoples who used the then exposed coastal shelf to exploit marine resources (Ogden 1977: 25).

The dearth of Paleo Indian and other early sites from Cape Cod and other coastal areas of New England is generally attributed to a combination of rising sea levels and the isostatic rebound of the land mass which followed the retreat of the Wisconsin ice sheet from New England. These forces resulted in the inundation of vast expanses of previously exposed continental shelf, presumably drowning the sites of many of New England's first hunters. The Plano-like point mentioned above was reportedly retrieved from the spoil of dredgings conducted off Harwich and suggests that early sites do in fact exist on the submerged continental shelf.

The paucity of data allows for little more than speculation about the lifeways of New England's first human settlers. The existing archaeological record suggests that shortly after the reestablishment of plant and animal communities around 13,500 B.P., hunter/gatherers entered New England. If the present identifications are correct, there is now tangible evidence that they traversed Cape Cod too. Paleo Indian hunters who lived in small mobile bands probably had an economic system that involved a seasonal pattern of restricted wandering within a defined territory. The former belief that Paleo Indians were specialized hunters of megafauna like mastodon and mammoth is no longer universally accepted. The seasonal movement of big game still stands as the foundation for several theories on Paleo Indian subsistence strategy, but it has also been suggested that virtually every available resource that they were technologically capable of rendering edible was utilized (cf. Snow 1980: 152; Ritchie and Funk 1973: 7). Another theory envisions a more tactical and calculating hunter/gatherer who practiced a generalist subsistence strategy that utilized most available resources (Dincauze and Curran 1983).

Early Archaic Period (9,000-8,000 B.P.)

The origin of the Paleo Indian culture remains controversial. What ultimately happened to it, and what its relationship was, if any, to its successor is equally debatable. It has been argued that Paleo Indian hunters completely vacated the Northeast, or at the very least dwindled to but a few remnant bands (Ritchie 1969a: 16), and it has been suggested that recolonization of the region occurred only after the climate ameliorated (Dincauze 1974: 44). Others envision more continuity, with the Early Archaic cultures stemming directly from those of the Paleo Indian period, through a process of local adaptation and evolution (Snow 1980: 171).

Although the site frequency of Early Archaic period sites is higher than the preceding period, it too is poorly understood. Defined primarily on the basis of the distinctive bifurcate base point, Early Archaic sites are found thinly scattered over southern New England (Dincauze and Mulholland 1977). Recent collections analysis, however, has identified many more sites from a wider range of habitats than previously recognized (Johnson 1984). It has been suggested that the increased number of Early Archaic sites reflects the utilization of a wider range of food sources than during the Paleo Indian period (Tuck 1974).

At least four Early Archaic sites are currently known on the mainland of Cape Cod, and diagnostic materials have been recognized in collections from at least four sites on Nantucket Island (Little: personal communication). Although five bifurcate base points have been recorded in collections (Richardson 1983:7) there are currently no provenienced Early Archaic sites on Martha's Vineyard (Richardson: personal communication).

On the mid Cape in Harwich, two sites near each other on the Herring River have yielded bifurcate base points to local collectors. One of these sites also produced the Eden-like point mentioned above. On the outer Cape, a bifurcate base point was collected by Howard Torrey at so-called Indian Rock, which is situated on a small peninsula on Salt Pond Bay in Eastham. Less than one and one half miles west of Salt Pond Bay, a local farmer collected a bifurcate point from his asparagus fields (Chase 1983). Another possible outer Cape occurrence is suggested by an unprovenienced specimen in a collection from the town of Chatham (Anthony, Carty and Towle n.d.). On the northeastern side of Nantucket, in the Squam Pond and Coskata region, at least four Early Archaic sites appear to have been discovered by collectors.

The existing site frequencies suggest that the portions of Cape Cod that were originally the interior uplands of the Continental Shelf were sparsely settled during

Early Archaic times between 9,000 and 7,500 years ago. It is likely that the subsistence activities that occurred at the few known Early Archaic sites differed from those of the sites located along the rivers, swamps, marshes, lagoons, and estuaries of the low-lying continental shelf. Additionally, the proximity of these sites to one another loosely supports the theory that by this time the subsistence strategy was based on a regularized, centrally based wandering pattern (Snow 1980: 171). The distribution of Early Archaic sites in other parts of New England has been interpreted as resulting from the movement of groups within territories that were based on river and lake systems, and/or other ecological or physiographic areas (Tuck 1974: 78).

Middle Archaic Period (8,000-6,500 B.P.)

The prehistoric occupation of Cape Cod and the Islands appears to have increased sharply during the Middle Archaic period, approximately 8,000 to 6,500 years ago. The identification of one or more of a suite of diagnostic points (Neville-like, Neville Variant, Stark, Archaic Stemmed) in at least thirty-four different site assemblages on the mainland, twenty-five sites on Martha's Vineyard, and twelve on Nantucket indicates a marked acceleration in activity from the preceding periods. This pattern is exhibited throughout most of New England. The increase in site frequency has generally led to an increased understanding of the Middle Archaic period. On the Cape, however, the Middle Archaic period is known only from private collections; no substantive data are available, as no sites have been systematically investigated.

The only Middle Archaic site currently known on the inner Cape occurred somewhere on the Child's River near the head of Waquoit Bay, Falmouth, but the

low frequency of Middle Archaic sites in this region most certainly reflects collecting bias rather than the nature of population distribution at this time. Sixty-one percent of the known Middle Archaic sites are located on the mid Cape. Sites flanking either side of Maraspin Creek near the mouth of Barnstable Harbor, and at the western end of Sandy Neck in Barnstable, were actually occupied before Sandy Neck and Barnstable Harbor developed (Redfield 1972). In Brewster, sites between Upper and Lower Mill ponds and on Flax Pond indicate habitation around the interior ponds for the first time, and may represent special activities or seasonal occupations that differed from those in other habitats.

Currently, two closely related clusters of Middle Archaic sites on the mid Cape indicates the importance of this area between 8,000 and 6,500 years ago. In Yarmouth and Dennis, ten sites have been identified along the Bass River, where they extend from Nantucket Sound nearly to its headwaters, indicating extensive activity during this period. A few miles east, another cluster of sites, including the outlet of Swan Pond and four sites on the nearby Herring River in Harwich, have been discovered by collectors. The sheer quantity of diagnostic materials from some of these sites is remarkable. From one site alone over sixty Middle Archaic points (primarily Neville-like) have been inventoried. A high percentage of these have delicately serrated edges, a form common throughout the Cape.

Thirteen Middle Archaic sites have been identified on the outer Cape. Today, such sites as the Chase Farm, the Railroad site, and 19-BN-146 are located within estuaries or adjacent tidal flats on the bay side of the Cape. Others are located on rivers that drain into the Cape Cod Bay, such as the Rose site on the Little Pamet River. Seth's Swamp and the Freeman-Paine site are strategically located adjacent to extensive marshes surrounding the confluence of a number of streams not far from Cape Cod Bay. Middle Archaic sites also occur along the shores of some of the larger salt bays on the outer Cape such as around Crows Pond, Salt Pond Bay, and

Drummer Cove. The Pilgrim Heights area of Truro, which at the time overlooked extensive salt marshes and a drifting sand spit that gradually developed into the Provincelands, has evidence of Middle Archaic activity at two locations,.

The lack of Middle Archaic sites along the scarp of the ocean side of the outer Cape is primarily a result of extensive coastal erosion. It has been estimated that the entire eastern shore of the forearm of the Cape has been cut back by as much as two miles over the past 3,000 to 4,000 years (Stahler 1966: 39). The rate of coastal regression has been rapid, leaving stream valleys truncated at the marine scarp, and completely obliterating the original coastal shelf where sites from Paleo Indian and Early and Middle Archaic times may have been located.

The density and distribution of Middle Archaic sites on the Cape and Islands have significant implications for human adaptation and the ability to adjust to changing ecological conditions. Between 8,000 to 6,000 years ago, these sites were located near the headwaters of freshwater streams and outwash channels at a considerable distance from the coast. The Paleo habitats suggest that these sites were selected in order to harvest anadromous fish, whose present spawning patterns are believed to have been established by this time (Dincauze 1974: 45). The distribution of Middle Archaic sites on Martha's Vineyard has also been interpreted as representing hunting and fishing activities (Richardson 1983: 8-9). There are unsubstantiated claims by collectors that some of their Middle Archaic material was retrieved from shell middens. If true, this would support the hypothesis of Middle Archaic coastal resource adaptation.

Late Archaic Period (6,000-3,000 B.P.)

Between 6,000 and 3,000 years ago there was an even greater increase in activity on Cape Cod and the Islands than during the previous period. Several distinct cultural traditions appeared, and human populations became firmly fixed across the landscape. The traditions typically associated with the Late Archaic period, the Laurentian, Susquehanna, and Small Stemmed, as well as the Orient phase, are all reasonably well represented and generally reflect patterns recognized in other parts of southern New England. However, on the Cape, and to a lesser degree other coastal portions of southeastern Massachusetts, there may have been a unique regional cultural manifestation that developed at this time.

Laurentian Tradition

Of the three major Late Archaic traditions, the Laurentian is the most poorly represented on the Cape. On the Cape only twenty sites have Laurentian Tradition artifacts, compared with twenty-six on the Vineyard and nine on Nantucket. Diagnostic artifacts such as Otter Creek, Vosburg, and various forms of Brewerton points are scarce. On the inner Cape, Laurentian materials have been inventoried in collections from a small marsh-side site in Bourne and from the lower Child's River in Falmouth. On the mid Cape, four sites along the Bass River, two sites on interior freshwater ponds in Brewster and a single incidence from the otherwise densely settled Herring River in Harwich, have yielded one or more Laurentian points in their multicomponent assemblages. In the High Head/Pilgrim Spring area of the outer Cape, six sites have Laurentian components. Other major sites in Truro, such as the Railroad and Rose sites, two sites on Salt Pond Bay in Eastham, a site on

Muddy Creek, and the well known Freeman-Paine site in Chatham, also have Laurentian materials. No single-component Laurentian sites have been identified. Typically, Laurentian artifacts are few, occurring only as minor elements in assemblages that generally reflect greater Small Stemmed and Susquehanna Tradition influences. It has been suggested that the low frequency of Laurentian artifacts and sites is due to an inability of the people who used these forms of tools to adjust their traditional interior-oriented hunting patterns to the rich ecological diversity of southern New England (Dincauze 1974:49).

Susquehanna Tradition

On Cape Cod a total of forty-one sites have Susquehanna components, while an additional twenty-one sites have been identified on the Vineyard and thirteen on Nantucket. The appearance of distinct tool forms such as Wayland Notched, Atlantic, and Susquehanna Broad-like points as well as Boats, Coburn, and Mansion Inn Blades has been interpreted as evidence of a slow influx of peoples from the Mid-Atlantic States (Dincauze 1975). Alternatively, it has been suggested that the rather sudden appearance of this distinct tool kit was the consequence of a minor technological innovation by indigenous peoples all along the Atlantic coast (Cook 1976). In fact, little is known about the Susquehanna Tradition in southern New England. The archaeological evidence is derived from collections analysis and a few special-purpose sites that contained crematory pits or other mortuary deposits, and therefore provide only a glimpse of a highly specialized form of ritualistic behavior.

One major Susquehanna burial site, the Coburn site on Barley Neck in Orleans, is known from the excavations of avocational archaeologists (Kremp 1961). This unique site has been attributed to a late manifestation of the Susquehanna Tradition that developed locally from the intrusive Atlantic Phase along with the Watertown Phase and the Call group (Dincauze 1968:89). Collections research suggests that

another Coburn-type burial (19-BN-325) was encountered by collectors years ago in the High Head/Pilgrim Heights area of Truro. Over twenty Coburn blades, reputedly from a burial, were inventoried at the Bronson Museum, Attleboro. Many other burials, such as the Hemenway site in Eastham, the Railroad and Cliff sites in Truro, and the Taylor Hill site in Wellfleet, have Susquehanna components, but they also appear to be related to Small Stemmed, Orient, and Late Woodland cultures. Susquehanna materials were inventoried from twenty-seven sites on the outer Cape alone. These sites are located in virtually every habitat, however, and the fact that other Late Archaic traditions are also represented in many of the assemblages makes the Susquehanna components difficult to distinguish. A recently discovered Susquehanna workshop near the headwaters of Nemskaket Creek in Orleans is the only known site of its type (Loparto 1984).

On the mid Cape, twelve site assemblages which contained Susquehanna materials often also included Middle Archaic and various Woodland affiliations, as well as the other Late Archaic traditions. Sites at the outlet of Upper Mill Pond and Hinckley's Pond in Brewster, and the Bell's Neck Road No. 1 and Hall's Field sites in the archaeologically rich Herring River area of Harwich have yielded diagnostic Susquehanna artifacts, as has an important site on the Swan River and at least four locations along the Bass River. At one of these, Wilbur Park in Yarmouth, a collector found a cache of five perfect, nearly identical Boats Blades. Susquehanna influences on the mid Cape have also been recognized on Sandy Neck, East Bay in Osterville, and an isolated interior find spot at the Sandy Street Cemetery in Barnstable. A Mansion Inn Blade from Washburn Island in Waquoit Bay, Falmouth, is presently the only known example of the Susquehanna Tradition on the inner Cape. Of the thirteen sites with Susquehanna materials on Nantucket, one, an interior site, is reported as a burial. Another, discovered during construction of the High School (Roy 1956), has been associated with the Hawes Complex (Dincauze 1975).

Small Stemmed Tradition

Small Stemmed and Small Triangular points are the diagnostic elements of the Small Stemmed Tradition. They occur in the assemblages of at least 149 sites on the Cape and Islands, making them the most ubiquitous prehistoric component in the study unit, which is a pattern reflected elsewhere in southern New England.

The increased number of sites with Small Stemmed components has been interpreted as evidence of populations that expanded to maximum levels and densities sometime before 3,000 years ago. It has been suggested that the Small Stemmed Tradition was an indigenous development in southern New England, and that its people later lived in peaceful coexistence with those of the intrusive Susquehanna Tradition. Toward the end of the Late Archaic period, these two cultures are believed to have merged, producing the characteristic Orient Phase (Dincauze 1968, 1971, 1974, 1975).

While some of these hypotheses may yet be proved correct, at least some need reassessment. Several recent radiocarbon dates for Small Stemmed points in eastern Massachusetts have been dated to Early Woodland horizons (Huntington 1982; Mahlstedt 1985a). The ramifications that such findings will have on current reconstructions of Late Archaic population size and settlement and subsistence adaptations should be considerable. It is becoming increasingly clear that the diagnostic value of the Small Stemmed point as an index of Late Archaic period activity is questionable without supportive C_{14} dates. The continued use of Small Stemmed points as a diagnostic of the Late Archaic period perpetuates the inflated site frequencies of this period while those of the Early Woodland period become increasingly underrepresented. The emerging pattern from the new set of data suggests that these two periods had populations and settlement systems that were much more stable and similar to one another than was previously suspected.

Presently there is no way to distinguish between Late Archaic and Early Woodland Small Stemmed points in artifact collections so they have been calculated as a Late Archaic component for the purpose of this overview. Therefore, much of what is said here may be applicable, in part at least, to the Early Woodland period also.

Over 50% of the reported or inspected site assemblages on the Cape and Islands contain points of the Small Stemmed Tradition. The site frequency and distribution patterns are similar to those of the other prehistoric periods on the Cape: five sites on the inner Cape, twenty-one on the mid Cape, and fifty-four on the outer Cape. See Table 1. They have been inventoried or reported from forty sites on the Vineyard, and while not quantified in a comparable fashion, are known to have occurred in at least twenty-nine assemblages on Nantucket as well. Sites with components of the Small Stemmed Tradition exist in virtually every conceivable habitat on the Cape and Islands. They occur adjacent to interior freshwater lakes and ponds, at the headwaters, along the reaches, and at the confluences of streams, creeks, and rivers of all sizes. Estuaries, salt marshes, and tidal flats, as well as bluff and scarp locations, were utilized, as were saltwater coves, bays, and inlets of all sizes and configurations. Such locational diversity suggests a highly evolved and well adapted settlement system based on the exploitation of a wide range of natural resources. It has generally been believed that Late Archaic peoples were organized in relatively mobile groups that took advantage of new habitats and the seasonally abundant resources within their territory. However, on Martha's Vineyard it has been suggested that an incipient form of sedentism, made possible by exploiting the abundant shellfish, began during the Late Archaic period (Ritchie 1969b: vii-viii), a contention that has been supported by the results of midden excavations at Fort Hill in Eastham (McManamon 1984: 408).

Although Small Stemmed points and Small Triangular points are the most prevalent point form on the Cape and Islands, they are not nearly as numerous here

Table 1

Temporal Distribution of Prehistoric Sites on Cape Cod and the Islands

Provenience	Inner Cape	Mid Cape	Outer Cape	Martha's Vineyard	Nantucket	Total
Paleo Indian		2(?)		1	1(?)	4
Early Archaic		2	2	2	4	10
Middle Archaic	1	20	13	25	12	71
Late Archaic						
Laurentian	2	6	12	26	9	55
Susquehanna	1	12	28	21	13	75
Small Stemmed	5	21	54	40	29	149
Orient Phase	1	12	32	14	7	66
Early Woodland	1	11	37	18	20	87
Middle Woodland	3	13	41	22	16	95
Late Woodland	4	23	49	40	28	144
Ceramic Only	1	7	13	2	0	23
TOTAL	19	129	281	211	139	779*

*This total includes numerous multicomponent sites and does not include 304 sites for which there is no cultural/temporal data.

as they are in other portions of central and eastern Massachusetts. Typically, the two point types appear together, as they do in other regions, and they are usually manufactured of quartz, with felsite used infrequently. Argillite, a popular material in portions of southeastern Massachusetts, is extremely rare on the Cape. MHC collections analysis indicates that projectile points of the Small Stemmed Tradition do not quantitatively dominate site assemblages on the Cape as they do elsewhere; in fact, on the Cape seldom do they significantly outnumber other point forms. Bullen first commented on the relatively low frequency of Small Stemmed points from the outer Cape (1948:36-48).

Another tool, made almost exclusively of quartz, which may have been related to the Small Stemmed Tradition, has been recognized in collections and from a few excavated sites on the Cape and Islands, in adjacent areas along Buzzards and Narragansett bays, and as far north as Calf Island in Boston Harbor (cf. Luedtke 1980:39). Large, thick, often stubby or chunky stemmed quartz points have been inventoried as untyped points from more than nine sites on the outer Cape, and a nearly perfect specimen was recovered from a garden at Hyannis Harbor (19-BN-531). Similar points have recently been recovered from Late Archaic cultural horizons during controlled excavations on the outer Cape (Borstel: personal communication) as well as from the Frisby-Butler and Hornblower II sites on Martha's Vineyard (Richardson: personal communication). Although they never quantitatively dominate artifact assemblages, their numbers and distinct morphological characteristics suggest that they constitute a previously unrecognized tool form. Three different, though related, forms have been tentatively defined as the Cape Stemmed Tradition (Mahlstedt 1985b). Additionally, the distribution and context of Cape Stemmed Tradition artifacts suggests that it was possibly related to the Small Stemmed Tradition and it may have been employed in place of, or as a supplement to, Small Stemmed and Small Triangular points. It is easy to speculate

that such a distinct technological innovation was a direct adaptive response to the available resources such as large marine mammals, which were so plentiful in the region.

Orient Phase

Artifacts commonly attributed to the Orient Phase at the end of the Late Archaic, such as Fishtail points and steatite bowls, are present at forty-five sites on the Cape, fourteen on the Vineyard, and seventeen on Nantucket. The Orient Phase is not a well understood part of regional prehistory, but is believed to be an indigenous development, a hybrid formed from the merger of the indigenous Small Stemmed and the intrusive Susquehanna traditions approximately 3,000 years ago (Dincauze 1974: 49).

Currently, the only evidence of Orient Phase activity on the Inner Cape comes from the lower Child's River in Falmouth. The twelve sites with Orient Phase material on the mid Cape exhibit considerable habitat variety, including the dunes of Sandy Neck, three interior ponds in Brewster, five locations along the Bass River, and two sites on the Herring River in Harwich. On the outer Cape, Orient materials appear in over 30% of all site assemblages for which there are identifiable components. The only tentatively identifiable single-component Orient site may be one on Crow's Pond in Chatham, where a number of Fishtail points and a steatite bowl were recovered (Fulcher 1974:75). In Truro a cluster of seven sites in the High Head and Pilgrim Heights area, including the Coburn-style burial (19-BN-325), and four sites near Corn Hill on Cape Cod Bay illustrate that Orient Phase activity was concentrated near the end of Cape Cod's land mass. Other outer Cape sites with Orient influences include two sites along Silver Spring Brook, two around Drummer Cove, and at Indian Spring, the Taylor Hill burial, Griffin Island, and the Freeman-Paine site. In Eastham there is evidence for Orient Phase activity at

Hatches Creek, Great Pond, several sites in the vicinity of First Encounter Beach, two on Salt Pond, and from Fort Hill. The Portanimitcutt site in Orleans and Morris Island in Chatham also have Orient affiliations.

On the Cape and Islands, Orient materials are inextricably associated with the Small Stemmed and Susquehanna traditions, as well as the Early Woodland period. Twenty-six sites on the Cape contain a combination of artifacts attributable to the Orient Phase, the Susquehanna and Small Stemmed traditions and the Early Woodland period. Eight sites have Small Stemmed and Orient components only and an equal number have a combination of Orient and Early Woodland artifacts. Similarly high correlations are found on Martha's Vineyard and Nantucket. The Orient Phase is thought to have been technologically transitional between the preceramic Late Archaic and the ceramic Early Woodland periods (Snow 1980: 235). The high concentration of artifacts from these periods on the Cape and Islands further hints at the close relationship.

Early, Middle, and Late Woodland Periods (3,000-450 B.P.)

Excavations on Martha's Vineyard (Ritchie 1969), the salvage of the Indian Neck Ossuary (Bradley et al. 1982), and the studies by the National Park Service on the outer Cape (McManamon 1984) have greatly increased our understanding of the Middle and Late Woodland periods on Cape Cod and the Islands. The Early Woodland period, on the other hand, is less well understood.

The presence of diagnostic Meadowood and Rossville points, and a few radiocarbon dates, provide evidence for Early Woodland activity at forty-nine sites on Cape Cod, eighteen on Martha's Vineyard, and twenty on Nantucket. Because there are inherent problems with ceramic analysis using the MHC classification

system, Vinette I ceramics have not been used here as a diagnostic of the Early Woodland period. As noted above, no attempt has been made to reconcile the discrepancy between Late Archaic and Early Woodland site frequencies caused by the confusion surrounding the diagnostic value of Small Stemmed points. An example from a recently excavated site further illustrates the problem. At a site in Eastham (19-BN-341) the National Park Service secured six radiocarbon dates, which ranged in age from $1,460 \pm 155$ to 890 ± 150 B.P., thereby providing absolute dates for Early, Middle, and Late Woodland occupations. However, based on the presence of Small Stemmed and Small Triangular points, the oldest component was interpreted as Late Archaic (Borstel 1984a:257-62). It is possible that this "Late Archaic" component resulted from the Early Woodland occupation, as the results of several other recent excavations have shown. Clearly the controversy surrounding the Small Stemmed Tradition transcends the many biases of collections analysis; confusion may exist at excavated sites also. A better understanding of these components is crucial for any meaningful discussion about changes in settlement and subsistence patterns during the Early to Middle Woodland and Late Woodland periods. The following review of the Woodland periods is made with this severe limitation in mind.

Currently, no single-component Early Woodland site can conclusively be identified in the study unit. Typically, sites that exhibit Early Woodland materials also suggest other Woodland and/or earlier affiliations. Two sites on the outer Cape, a midden in Wellfleet (19-BN-234) and Indian Rock (19-BN-190) on Salt Pond Bay in Eastham, contain no evidence of post-Early Woodland activity, although they both have earlier associations. The status of 19-BN-515 in Wellfleet is not certain because a nicely made quartzite Meadowood point (a rare material for this form), is the only known artifact from this site. In Brewster, a well known collecting area between two ponds on Stoney Brook was frequented during Middle and Late Archaic

times and again in the Early Woodland, but for some reason not thereafter. Six sites on the Cape have both Early and Middle Woodland associations, while seven have Early and Late Woodland mixtures. The most common situation on the Cape are assemblages that reveal Early, Middle, and Late Woodland activities; there are thirty-nine such cases, with ten on Nantucket and twelve on the Vineyard. As mentioned above, the correlation between various Late Archaic and Early Woodland components is also strong. On the Cape, Early Woodland materials appear in assemblages with Orient phase materials twenty-four times, with those of the Small Stemmed Tradition thirty-six times, and with Laurentian and/or Susquehanna Tradition thirty-five times. Similar associations are revealed on the islands.

A total of fifty-seven Middle Woodland sites have been identified on the Cape on the basis of the presence of Greene-like, Woodland Lanceolate, Woodland Stemmed, Woodland Corner Notched, and Large Pentagonal points in artifact collections and radiocarbon dates from a few excavated sites. An additional twenty-two sites can also be identified on the Vineyard and sixteen on Nantucket.

Two sites in the study unit can tentatively be called single-component Middle Woodland sites. Five Woodland Stemmed points were the only diagnostics in a small assemblage of twenty artifacts from a site on Follins Pond in Dennis (19-BN-549). The other site is on Chequesset Neck at the mouth of the Herring River in Wellfleet Harbor. Two sites on the outer Cape (19-BN-92 and 19-BN-282) also contain Late Archaic Orient Phase materials but no other Woodland artifacts. Generally, sites with Middle Woodland components also exhibit other Woodland periods. For instance, ten sites in the study unit have Early Woodland and Middle Woodland associations, while twenty sites have Middle and Late Woodland components combined, and, as stated above, sixty-one sites in the study unit contain evidence of multiple reuse of a site during all three Woodland periods. The majority of these sites also appear to have been utilized during the Late Archaic and Middle Archaic

periods and represent sites of particular significance through much of Cape Cod's prehistory.

The manufacture of ceramics appears in New England during the Early Woodland, if not slightly before. Finished goods and raw materials not derived from local crafts or sources, such as Adena-like points, characteristic elbow and tubular pipes made of clay and stone, as well as quantities of Pennsylvania Jasper and various New York cherts, illustrate some degree of distant contact, particularly to the west and south. Generally, the Early and Middle Woodland periods are believed to have been times when external contacts were important. However, the relatively low frequency of exotic material, even of hornfels, which was an important Middle Woodland material available in the Blue Hills south of Boston, suggests that the insular nature of the Cape and Islands may have influenced how the people who lived there interacted with those from the outside.

There was, in fact, little need to seek outside sources for raw materials or other resources. The bulk of the raw material utilized throughout the Cape and Islands was quartz, quartzite, and various types of felsite. These were all retrievable from local beaches, river channels, and exposures in the drift. Artifacts made from material similar to Kineo felsite and Ramah chert from central Maine and Labrador, respectively, may also have been available in drift, although long-distance contacts with peoples from the north, if only through intermediaries, cannot be completely ruled out. Local procurement of stone for tool manufacture was the pattern suggested by studies on the outer Cape (Borstel 1984: 279-330), and was probably the strategy followed Cape-wide through most, if not all, of prehistory.

The Late Woodland period, which occurred approximately 1,300 to 400 years ago, appears to have been the florescence of prehistoric occupation on the Cape. The presence of Large Triangles in the assemblages of at least seventy-six sites on the mainland, forty on the Vineyard, and twenty-eight on Nantucket is the highest

site frequency for any period in the study unit. Late Woodland Madison triangles are exceedingly rare, if present at all in the study unit. On the Cape itself, the pattern of site distribution and frequency is similar to the preceding periods with forty-nine Late Woodland sites on the outer Cape, twenty-three on the mid Cape, and only four on the inner Cape. See Table 2. Particularly impressive is the frequency of Late Woodland sites in the study unit (144) when compared to that of the Small Stemmed Tradition (149), which usually dominates most local and regional sequences. Keeping in mind that an unknown number of sites presently attributed to the Late Archaic on the basis of their Small Stemmed components were in fact Early Woodland, and add to that an unknown percentage of sites for which there is only a general Woodland affiliation (twenty-one), one is left with the impression that the prehistoric population of Cape Cod may have been at its greatest level during the Late Woodland period.

The repertoire of site locations includes virtually every available habitat, interior as well as coastal locations, and there is some evidence for increased seasonal specialization and special-function sites. The majority of Late Woodland sites appear also to have been utilized previously. All but two of the currently known Late Woodland sites are multicomponent. The identification of Great Awk, sea mammals, shellfish, and terrestrial mammals from the salvaged midden deposit of the John Henry site in Brewster has been interpreted as evidence of a small late fall/early spring Late Woodland site (Dunford 1984: 11). In 1949, four flexed skeletons were salvaged during earth-removing operations on Fish Hill, which overlooks the Inner Harbor of Hyannis. The accompanying globular collared pot appears to be a Late Woodland variety (Vidal, Shade and Hunt 1951:8-10 ; Snow 1980: 333, Fig. 8.10). Over the years, collectors have also discovered what appears to have been other Late Woodland burials at Kildee Hill in Harwich, one near the Railroad site in Truro, and several on Sandy Neck. It is probable that a high

Table 2

Frequency Distribution of Known Sites by Temporal Affiliation on Cape Cod and the Islands

Temporal Affiliation	Number	Percent of Total
Paleo Indian	4	.01
Early Archaic	10	.01
Middle Archaic	71	.09
Late Archaic		
Laurentian	55	.07
Susquehanna	75	.10
Small Stemmed	149	.19
Orient Phase	66	.08
Early Woodland	87	.11
Middle Woodland	95	.12
Late Woodland	144	.18
Woodland (general)	23	.03
TOTAL	779	100

percentage of the known burials on the Cape (twenty-four) and on Nantucket (over forty) were Late Woodland occurrences, but the manner in which they were removed or reported hinders efforts to distinguish them from the other components that were usually also present at the sites. At least one Late Woodland burial, the flexed skeleton of a forty-year-old male, has been reported from Nantucket (Turchon 1982; Trinkaus 1982). The most unusual form of burial yet discovered on Cape Cod is the Indian Neck Ossuary of Wellfleet, which contained two major interments. The first was a cremation that contained nine individuals. The disarticulated and partially articulated remains of forty-seven individuals were then placed on top of the still smoldering cremation. The result was a single mass burial pit that has been dated to the beginning of the Late Woodland period (Bradley et al. 1982).

By approximately 1000 A.D., warming climatic conditions may have become particularly advantageous to the cultigens being grown by the aboriginal horticulturalists in southern New England. It is traditionally believed that horticulture was the stimulus for changes in subsistence and settlement patterns, population growth, and social organization. In the Great Lakes area, at least, it has been suggested that an increasing reliance on domesticated plants stimulated the development of nucleated villages (Noble 1975). The role that horticulture played in the lives of the peoples of the various Woodland cultures of the Cape and Islands has yet to be demonstrated. Carbonized kernels of corn have been radiocarbon dated from the Hornblower II site on the Vineyard (Ritchie 1969b: 32) and the Ram Pasture site, Nantucket (Stockley 1965), and eight-rowed Northern Flint corn has also been identified at three sites in the Salt Pond and Nauset Marsh area of the outer Cape (19-BN-288, -323, -390) (Fitzgerald 1984: 53). Despite the evidence for domesticated plants, no village associations have been identified for these occurrences. The best evidence for sedentism in the study unit actually comes from

two rather unsuspected sources. On the outer Cape, it is suggested that the rate of sedentism increased through time because studies show that the size and density of shell middens increased progressively from the Early Woodland to the the Late Woodland periods (McManamon 1984: 409). It appears that the exploitation of shellfish shifted from the summer until the winter so the inhabitants could take advantage of gardening opportunities (Fitzgerald 1984: 78). In addition, ossuary burials, like the Indian Neck Ossuary, have been associated with village life and sedentism in the Middle Atlantic states and western New York (Phelps 1980; White 1976).

Research Topics

Although the existing data for the Cape Cod and the Islands is more substantial than for many other areas of the state, it is uneven in quality. Because of the serious threats the cultural resources of the study unit face in the near future, research into a number of topics are urgently needed. Listed below are but a few of the topics for additional research; others will be conditioned by one's research interests and the management needs of various local and state agencies.

1. Recent suggestions by Richardson that Middle Archaic peoples were exploiting marine resources on Martha's Vineyard could be more thoroughly addressed/assessed by controlled excavations at a site known to have been occupied during this time, such as in the Bass or Herring river areas on the mid Cape.
2. Geomorphological and paleoenvironmental studies, looking specifically at rates of saltwater inundation and the effects of these changes to microhabitats through time, are needed throughout the Cape. Questions relating to environmental change and human adaptation need to be more fully integrated into these studies.

3. A survey of inner and portions of the mid Cape is urgently needed. This area is the least well known archaeologically, but it is faced with the greatest threat from development. Collector activity has in the past not been as extensive here, but the Goulding and Jones collections clearly indicate the sensitivity and potential of the region.

4. The possible recurrent occupation of sites for as many as 12,000 years in an environment that had its resource base change from one associated with freshwater to saltwater suggests human resilience and makes Cape Cod a veritable laboratory for the study of human adaptation.

5. Shell middens are numerous on Cape Cod, and because of their unique preservation qualities, entire sets of data commonly not available at nonmidden sites have survived. The systematic excavation of prehistoric shell middens can potentially recover bone and wooden tools, as well as fragments of basketry and cloth. Additionally, dietary information, often very difficult to obtain at other types of sites, as well as possible evidence for the seasonal use of a site/resource, can often be retrieved from shell middens.

6. In contrast to Eastern and Central Massachusetts, nonlocal exotic raw materials were rarely used for the manufacture of stone tools during the Early and Middle Woodland periods on Cape Cod and the Islands. The use of local outwash deposits has already been documented on the outer Cape but is a topic that needs to be explored more thoroughly in regards to the lithic industry of the region in general. Further research into the temporal preferences of raw material utilization could help illuminate the importance of long-distance contacts to the inhabitants of the Cape and Islands.

7. There is a need for continued research on the status, temporal affiliation, and nature of the three varieties of quartz points—Cape Broad Stem, Cape Expanding Stem, and Cape Contracting Stem—which were first recognized and defined during the MHC survey. What relationship, if any, do these forms have to Small Stemmed points and other Late Archaic and Early Woodland tools?

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CHAPTER 3

SETTLEMENT AND SOCIAL DEVELOPMENT

Leonard Loparto and Michael Steinitz

Introduction

In this chapter an overview has been provided of the significant events and processes that have shaped the regional landscape of the Cape and Islands study unit over the historic period. The specific sequence and pattern of human activity as it has unfolded in the region is described, and the historic processes that have resulted in the range and distribution of the cultural resources that survive on the Cape and the Islands today is analyzed. For the purposes of this report, the historic era in the study unit (1500-1940) has been subdivided into seven periods. These periods are familiar from earlier regional reports and from town reports: Contact (1500-1620), Plantation (1620-1692), Colonial (1692-1775), Federal (1775-1830), Early Industrial (1830-1870), Late Industrial (1870-1915), and Early Modern (1915-1940). Each of these has been organized into four sections: Regional Events, Transportation, Population, and Settlement.

Regional Events provides a summary of the major social, economic, and political trends that affected the study unit during the period. Transportation delineates the significant networks and corridors of movement of people, materials,

and ideas through the region. Population describes patterns of growth and ethnicity, social organization in families and institutions, and social movements that reflect changing values. Settlement outlines the changing patterns of human occupancy of the region, and the distribution and internal organization of population clusters of varying sizes. These include dispersed rural settlements, hamlets, villages, and cities as they occur in the study unit.

The general bibliography at the end of the chapter provides a partial listing of major works relevant to the understanding of the processes described in the study unit. The sources consulted in this chapter fall into three categories: The first consists of the files of the Massachusetts Historical Commission, including the computerized inventory of archaeological sites, the town inventories of cultural resources, and National Register nomination files. These are supplemented by primary sources on the town and region, including maps and aggregate censuses of population, which report irregularly on a limited number of topics. Town and county histories make up the last source of information. These were written primarily late in the 19th century, and are characterized by a variety of biases. All of these underreport data for the 20th century. Field visits were used to evaluate and supplement information gathered from these sources.

Contact Period (1500–1620)

Regional Events

Cape Cod was extensively settled by Native Americans prior to and during the Contact period. While most of the ethnic or sociopolitical groupings of Native Americans recognized by Europeans late in this period were probably present on the Cape for some time, it is unclear when they were actually established. Cape natives were part of the Pokanoket cultural-political group that covered much of southeastern Massachusetts. Natives practiced a semisedentary hunting and gathering lifestyle supplemented by horticulture.

It is likely that Europeans and Native Americans encountered one another throughout much of the Contact period. European fishermen may have fished the Cape waters early in the 16th century and interacted with the native population, especially in the outer Cape area. By the second quarter of the 16th century, several had explored the New England coastline. Among these were Verrazzano (1524), who sailed up the Atlantic coast as far north as Maine, and Estevan Gomez (1524–25).

By the early 17th century, numerous English, French, and Dutch vessels were exploring the Cape Cod and southern New England coastline. In 1602, Bartholomew Gosnold made the first documented landfall in the study unit, stopping at several points along the Cape and Islands, and attempted a settlement on Cuttyhunk Island. Other mariners included Martin Pring (1603), Samuel Champlain (1605–6), Henry Hudson (1609), Edward Harlow (1611), John Smith (1614), and Thomas Dermer (1619). A hostile atmosphere often existed between local Native Americans and European explorers, primarily due to the frequent kidnapping of natives by Europeans.

The arrival of the Pilgrims in 1620 provided a different kind of European presence, one interested in settlement first, and trade second. While the Pilgrims chose to settle in Plymouth, Provincetown was the first landfall, and several areas on the outer Cape were explored. There were no permanent European settlements present on the Cape during this period. However, a Dutch trading post may have existed in the Aptuckxet area of Bourne by the end of the period.

Transportation

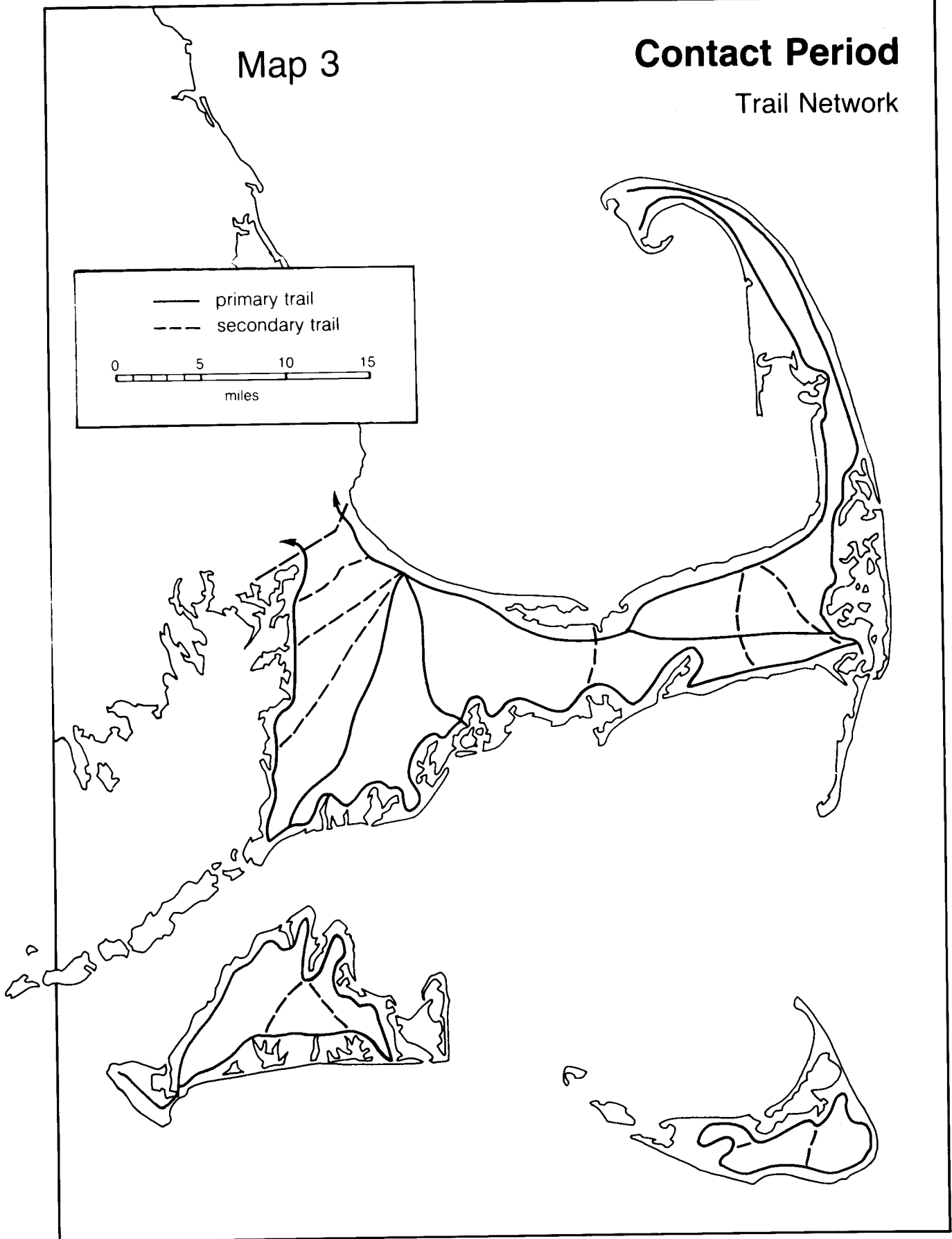
Travel throughout Cape Cod, Martha's Vineyard, and Nantucket during the Contact period was based on established routes over both land and water. Land routes followed a general pattern of coastal trails connected by inland paths. See Map 3. On the outer Cape, at least two main Native American trails were present. Both trails probably ran along the coastline from Truro and Provincetown southerly to the Orleans area, where they joined. The easterly trail was located on high outwash plains and in many places was likely on or near the bluffs overlooking the Atlantic Ocean. This trail probably skirted the Nauset Marsh and Town Cove, and ran as far south as Pleasant Bay. The second, or the western bayside trail, probably originated in the vicinity of Provincetown Harbor or Pilgrim Lake, once known as East Harbor. The trail then extended southerly through Truro, around Wellfleet Harbor, then through Eastham to the Orleans area. This trail likely skirted the eastern limits of several coastal marshes along the bay shoreline. Forging places were probably also present at convenient locations on tidal streams and rivers throughout the area. Both major trails in the outer Cape area were likely connected by secondary trails leading to inland freshwater ponds as well as to hunting, fishing, and agricultural areas.

In Orleans, separate routes ran south toward the Chatham area and to the west along the Cape Cod Bay, eventually leading to Plymouth. The southern trail likely

Map 3

Contact Period

Trail Network



followed the general course of Route 28 through South Orleans along the western shoreline of Pleasant Bay to the Chatham area. Numerous secondary trails were likely present along this route leading to various coastal and inland locations. The second trail, which ran from Orleans west along the Cape Cod Bay shoreline, was probably the major regional trail for the mid-Cape area. This trail likely extended from the Town Cove or Namskaket area of Orleans westward along the Cape Cod Bay coastline through the Stoney Brook area of Brewster, Dennis, and along the southern extreme of Barnstable Harbor in the Yarmouth, Barnstable, and Sandwich areas (Mattacheese). The trail then passed through the Shawme and Scusset areas of Sandwich, and off the Cape northerly to the Plymouth area.

A southerly trail also existed, extending from the outer Cape area of Chatham westward to the Bourne and Falmouth vicinity. This trail likely followed patterns recognized for other coastal trails, skirting coastal bays and estuaries, and fording tidal rivers and streams where possible. Bass River formed an obstacle for east-west coastal travel in southern mid-Cape areas until the Colonial period, when ferries were established. At this point, the coastal trail along Nantucket Sound may have swung north to the Kelly's Bay and Follin's Pond area where fording was possible. In Falmouth a separate trail or continuation of the southern coastal trail probably existed, extending northerly along the shoreline to the head of Buzzards Bay.

Additional trails also existed connecting the Cape Cod Bay shoreline with those along Nantucket and Vineyard Sound shores. These trails appear to have connected the Dennis and Yarmouth area with Harwich and Chatham, and the Yarmouth Port and Barnstable Harbor area with Lewis Bay, Cotuit Bay, and Popponesset Bay areas. Trails also probably existed connecting the Shawme area of Sandwich with coastal areas in Falmouth, Mashpee, and Barnstable.

Water routes were also used during the Contact period. Canoes were apparently employed for travel in most Cape areas, particularly around enclosed bays and estuaries. Island-hopping was also probably common, particularly in the Elizabeth Islands and from the mainland to Martha's Vineyard and Nantucket. Riverine travel, although limited, may have been important in the vicinity of the Bass River and in the general area of the Monument and Scusset rivers, now the site of the Cape Cod Canal.

Trails on Nantucket and Martha's Vineyard probably followed patterns similar to those on the mainland. Coastal trails skirted tidal bays and estuaries, while interior trails connected different island areas. Trails on Martha's Vineyard may have been more numerous and complex than those on Nantucket as the former island is larger, more ecologically diverse, and originally contained more tribal groupings. For example, interior trails probably existed from the Lagoon Pond/Vineyard Haven areas to numerous coastal ponds in the south and the Gay Head and Chappaquiddick Island areas. In Chilmark a native trail was reported to have existed in the area of the Old South Road, extending in an east-west direction on the north side of Chilmark Pond. This trail reportedly connected the Takemmy and Nasho-wakemmuck tribal areas. Coastal water travel also likely existed around Martha's Vineyard as well as Nantucket. Canoe travel to the mainland was also important.

Population

The southeastern area of Massachusetts, including Cape Cod, Martha's Vineyard, and Nantucket, was occupied by the Pokanokets, a political and cultural division of the Massachusett-speaking Algonquian people who lived in what is now southern New England. During the 17th century, the Pokanokets, also known as Wampanoags, had a main village (Sowams) on the eastern shore of Narragansett Bay (Barrington, Rhode Island) and appear to have exercised a certain degree of political

authority over the tribal groupings on the Cape and Islands. It is unclear, however, whether native groups on the Cape and Islands had any political ties with the Pokanoket during the Contact period.

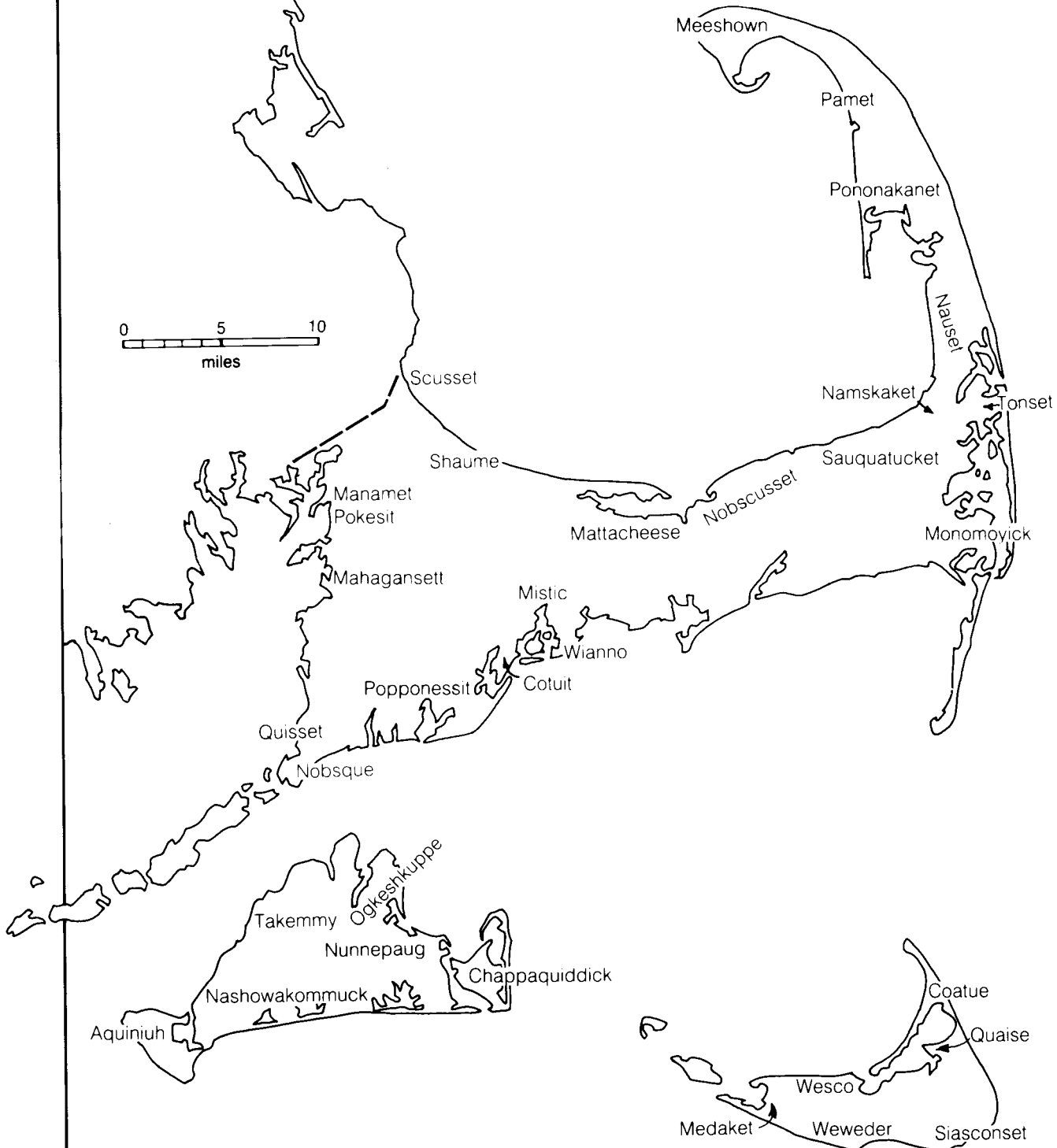
In fact, it remains difficult to define tribal groups within the study unit with any precision. At present, the largest and most influential groups appear to have been those on the outer Cape and the mid Cape. On the outer Cape, the Nauset natives in the Eastham/Orleans area may have been the most powerful tribal group. Other native groups on the outer Cape included the Pamet natives in the Truro area and the Monomoyicks in the Chatham area. In the mid-Cape area the Mattacheeset and/or Cummaquid natives in the Sandwich/Barnstable/Yarmouth locales appear to have been the more powerful. Natives were also present in the inner Cape, although their identity is less well defined. On Nantucket, at least four major sachemships appear to have been present during the late Contact period. Martha's Vineyard was also probably ruled by four major sachems. These sachemships included Chappaquiddick, Nunnepaug (Edgartown), Takemmy (West Tisbury/Chilmark), and Aquiniuh, or Gay Head. (Banks 1911: 39-41). See Map 4.

Little reliable information is available on Native American populations during the Contact period. However, ethnohistoric sources clearly indicate that the study unit remained well populated until the end of the period. Mooney (1928: 4) estimated the population on Martha's Vineyard (ca. 1600) at 1,500 individuals. Another estimate places the native population at 3,000 individuals in 1642 (MHSC ser. 2, 3:92). These estimates are complicated by the plague of 1616-17, which may have drastically altered population size. A Contact period population of between 1,500 and 3,000 people seems likely prior to the 1617-19 epidemics.

On Nantucket the information is little better. Evidence of extensive Late Woodland settlement suggests that a substantial population may have been present. Starbuck (1924) notes that during the subsequent Plantation period (ca. 1675), 500 to

Map 4

Contact Period Native Place Names



600 males were present. Assuming a four-person family for each male native, there may have been approximately 2,400 natives on the island at that time. If Starbuck's estimates are correct, the island's native population remained relatively stable from the Contact to Plantation period. Other estimates suggest a smaller native population. Mooney (1928: 4) lists 1,500 natives on the island before the 1617-19 epidemics. Actual estimates are probably closer to this lower figure.

Native American populations on the Cape Cod mainland are more difficult to determine than those on the islands. Ethnohistoric sources clearly indicate that at least the outer Cape area was extensively settled. Native Americans and their settlements were noted along most of the outer Cape, from Provincetown to Chatham, between 1602 to 1620. The best population estimates are for the outer Cape, specifically for the Nauset subgroup. Mooney (1928: 4) lists 1,200 Nauset natives prior to the 1617-19 epidemics. One factor that complicates estimates for "Nauset" populations is the difficulty in determining exactly what groups are represented by the term. The name may refer to all natives north of the present Orleans/Brewster area. On the other hand, the term may also represent natives to the south (Monomoyicks) or to the west (Sauguatickets, Nobscussets).

Hard information regarding native populations in the inner and mid Cape areas is not available; however, significant native populations were undoubtedly present in these areas during this period. Early 17th-century ethnohistorical accounts verify native populations in the Sandy Neck area of Sandwich, Barnstable, and Yarmouth, as well as populations in the Buzzards Bay and Falmouth areas. Native populations were also likely present along the Nantucket Sound shoreline.

Settlement

To date, eleven Contact period sites are known in the study unit. See Table 3. Nearly half of these sites (five) are burials. The remaining six sites are refuse

Table 3

Contact Period Sites in the Cape and Islands Study Unit

MHC Site Number	Site Name	Town
19-BN-147	Corn Hill Site	Truro
19-BN-144	Railroad Site	Truro
19-BN-387	Indian Neck Ossuary	Wellfleet
19-BN-193	Hemenway Site	Eastham
19-BN-214	Peck Site	Orleans
19-BN-215	Namequoit Point Site	Orleans
19-BN-275	Hayward's Portanimicutt Site	Orleans
19-BN-21	Muddy Creek Site	Harwich
19-BN-12	Mattaquason Purchase Site	Chatham
19-BN-81	Sandy Neck Site	Barnstable
19-BN-608	Buttermilk Bay Site	Bourne
19-NT-88	PCM-Madaket Site	Nantucket

deposits from which European materials have been recovered. The majority of these sites are located in the outer Cape area and are situated on or near tidal estuaries. Unfortunately, little is known about the size or internal structure of these sites. In contrast to the meager archaeological evidence for settlement, Gosnold and later explorers mentioned native settlements, even villages, on the Cape mainland and the islands.

In some instances these native settlements were described, such as in Champlain's accounts of palisades, cornfields, and wigwams. None of these have ever been archaeologically verified, however. Several explanations for this discrepancy are possible. Early ethnohistorical accounts may be incorrect or exaggerated while, on the other hand, archaeological research to date may simply be insufficient.

Late Woodland period sites provide an indicator of possible Contact period site distributions. While Late Woodland period sites occur across the Cape, 65% are located on the outer Cape area, 30% on the mid Cape, and 5% in the inner Cape area. Of the known Contact period sites, the majority are also located on the outer Cape, while very few Contact period sites are known from the mid Cape or inner Cape. While this pattern may be affected by factors of underreporting, it does suggest that native settlement was greatest on the outer Cape. It is, in fact, possible that many of the sites considered Late Woodland are actually from the Contact period. The recognition of Contact period sites is currently a methodological problem in New England archaeology. The presence of European trade goods is the most common indicator currently used to identify sites from this period. Since trade goods were not present in large quantities, and since these goods may have been curated by natives through time, many sites may be identified as Late Woodland when they are really from the Contact period.

Plantation Period (1620-1692)

Regional Events

While a sizeable Native American population remained throughout this period, there was a severe decline and displacement as a result of disease and European settlement. Political and commercial interaction between natives and whites accelerated quickly with the establishment of European trading stations such as Aptuxet, a Dutch trading area in Bourne. By 1627, the English had established a trading post at the same location. During the period, native culture was slowly transformed, first by European materials, then by more subtle aspects of colonial culture. Missionary activities were an important part of this process, and by the end of the period a large portion of the remaining population had become Christianized.

Permanent European settlement at the Cape did not occur until 1637, when Sandwich was established. Settlements in Barnstable (1638), Yarmouth (1639), and Eastham (1644) followed shortly thereafter. On June 2, 1685, Barnstable County was established. New York transferred political jurisdiction of Martha's Vineyard and Nantucket to Massachusetts in 1692. King Philip's War appears to have had little direct impact on the study unit. The Mashpee area was, however, used as an internment area for native people during the uprising.

Transportation

Land transportation for both Native Americans and Europeans continued to be based on the native trail system. As the Cape was more intensely settled, many native trails were upgraded to cartpaths or roadways. A few new roads were also established, such as Main Street (now Route 6A) in Sandwich after 1637.

This roadway later developed as the main route off the Cape to Plymouth. With the settlement of Barnstable and Yarmouth, this road was also extended eastward, linking the new towns with Sandwich. Other secondary roadways or paths were established from this main corridor to coastal necks along Cape Cod Bay.

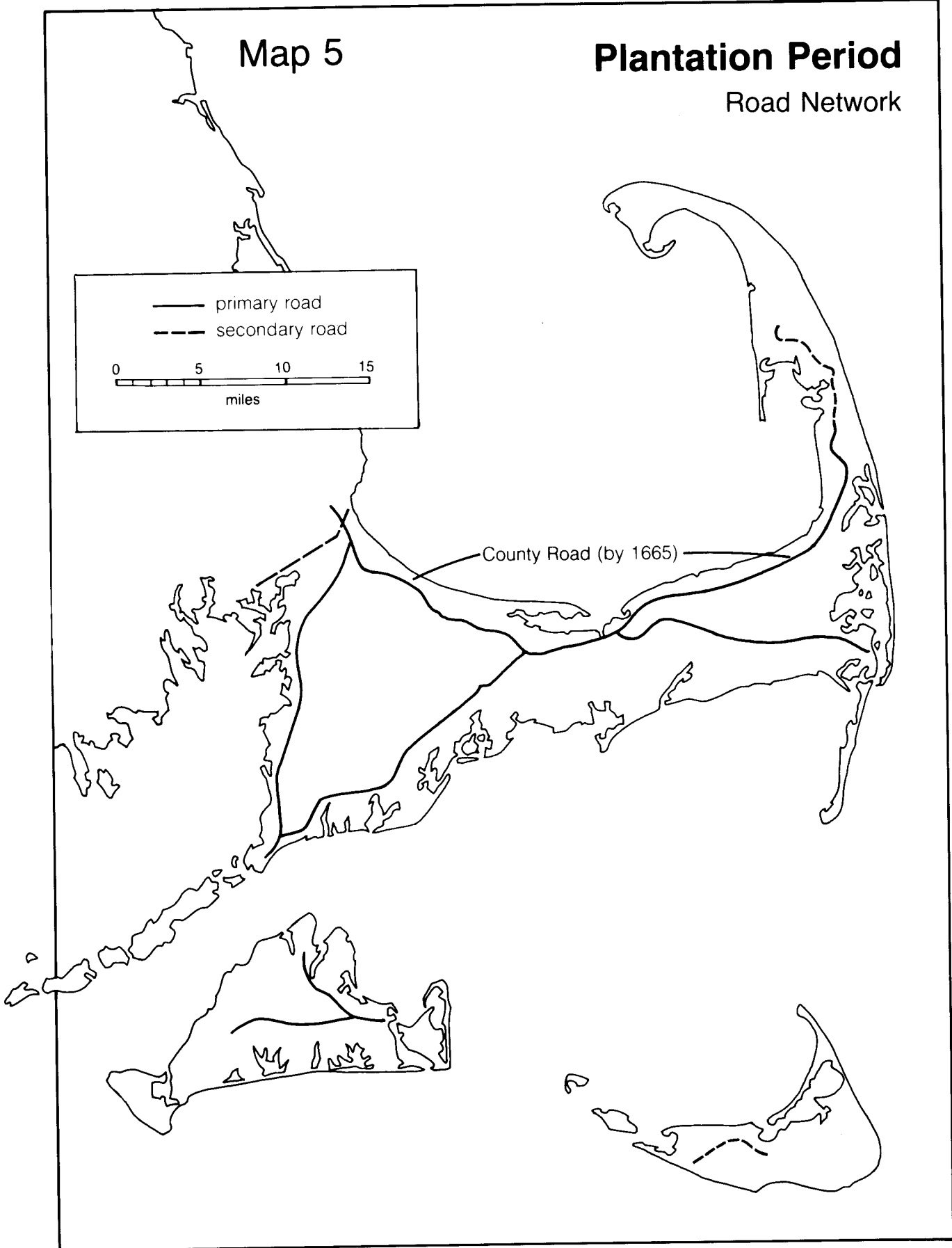
On the outer Cape, settlement was more dispersed, resulting in a less clearly defined network of paths and roads. In the Eastham area, new roads were built in the vicinity of the Town Cove and Nauset Bay. By 1665, the Old Yarmouth/Eastham Road (County Road) was laid out, establishing a continuous land route between Plymouth and Eastham. Roads were also built to connect the Cape Cod Bay towns with new settlements along the Cape's southern coast. Not only did these roads provide an avenue for commerce between settlements on both shores, they also served as an alternative to the hazardous maritime route around the outer Cape. Early roadways of this type ran from Falmouth to Sandwich and Barnstable, as well as from Chatham and Harwich to Yarmouth. See Map 5.

On the Islands, native trails remained the major routes of transportation, although several new roads were established. On Martha's Vineyard, the first roadways were probably built in the vicinity of the Great Harbor, or Edgartown, shortly after settlement in 1641-42. The Mill Path, the first cross-island road, was laid out to connect the settlement at Great Harbor with a mill in Takemmy. This road is said to have followed the native trail between Nunnepog and Takemmy, skirting the heads of inlets on the south shore. Another late Plantation period route, the Holmes Hole Road, was established as a cartpath shortly after the settlement of West Tisbury in 1670. It likely ran from West Tisbury through Middleton to Lambert's Cove, then across the Chickemmoos region to the existing road west of the head of Tashmoo (Banks 1911:460-61). Scotchman's Bridge Road in West Tisbury may have also been laid out with the original land division of 1666. On Nantucket, a

Map 5

Plantation Period

Road Network



similar pattern occurred, although the construction of new carpaths was restricted to the northern portion of the island where settlement was concentrated.

Water-based transportation was also extremely important during the Plantation period. Due to the extensive tidal flats, especially along the Cape Cod Bay shore, shallops and other types of shallow draft boats were especially popular. Larger vessels such as sloops and ketches were used for the water routes around the outer Cape; however, unpredictable weather, tricky currents, and extensive shoals made this passage extremely hazardous. In spite of this, water travel increased as settlement grew along the Sound shore and on the Islands. By the third quarter of the 17th century, regularly traveled water routes connected the towns on the Cape and Islands not only with Plymouth but also with Salem, Boston, Providence, and New York. Much of this traffic consisted of coasting vessels that transported agricultural products, livestock, and fish from Cape towns to market centers.

Population

Although the introduction of European diseases resulted in substantial population loss, a sizeable native population remained in the study unit throughout the Plantation period. Surviving native groups were also subjected to considerable displacement as European settlements were established and expanded. While it remains unclear how disease and displacement affected the structure of native society, the general tendency appears to have been in the direction of strengthened tribal identities and the formation of loosely affiliated confederacies.

Identifiable native populations appear to have survived in both of the major core areas--Mattacheese (Barnstable) on the mid Cape, and Nauset (Eastham) on the outer Cape. Virtually no specific population figures are available for these groups. In part, this is because native people were hard to count due to their low population density and pattern of seasonal movement. In addition, until Christian missionaries

arrived, colonial settlers had little interest in recording how many natives lived within their towns. The activities of missionaries also helped create a third focal point for the Cape's native population, the Mashpee reservation, which was established in 1660. Richard Bourne's 1672 census listed 237 natives in the town; the majority of these were probably Christian Indians. During King Philip's War, other native groups were relocated to Mashpee, although the number of people impounded there is unknown.

The native populations on both Martha's Vineyard and Nantucket appear to have been less severely affected by European settlement than those on the Cape. Estimates of around 1,500 individuals were given for both Martha's Vineyard and Nantucket prior to King Philip's War, although other sources place the islands' population considerably higher. On the other hand, Daniel Gookin listed 300 families on both Martha's Vineyard and Nantucket in 1674 (1970:102). This estimate may indicate as many as 1,200 individuals, assuming four persons per family. It does appear that Native American families were significantly smaller than European ones during the Plantation Period.

In contrast to the widely dispersed native population, Europeans tended to remain clustered within particular settlement areas. The four primary centers of population were Sandwich, Barnstable, Yarmouth, and Nauset (now Eastham/Orleans). Sandwich, established in 1637, was the first permanent European settlement on the Cape. Initially settled by families from Lynn, Duxbury, and Plymouth, Sandwich had the largest population on the Cape, approximately fifty families, or 250 individuals, by 1650. This figure may have doubled by the end of the period. Barnstable was slightly smaller. It is reported to have had forty-one families in 1640 and as many as eighty-nine families by 1670. While no early figures are available for Yarmouth (the town's records burned in 1677), its population was probably similar to that of Barnstable. The Nauset Plantation was not as populous

as the other three towns. Settled primarily by Plymouth residents, Nauset had twenty-three families in 1656. The town's growth during the remainder of the period was slow. In addition to the four established towns, there were several other small, unincorporated settlements. Among these were Falmouth, Harwich, Chatham, Wellfleet, and Brewster. Populations in these communities were probably less than 100 people by the end of the period.

European occupation of the Islands also proceeded slowly. The initial settlement on Martha's Vineyard was at Great Harbor (Edgartown) in 1641. By 1653, the population had grown by at least sixteen families, and by 1676 had reached twenty-seven families (or approximately 135 individuals). Although land in the interior of the Vineyard was granted as early as 1642, no Europeans actually resided there until after 1670. Between 1670 and 1680, approximately 120 individuals settled in Middletown (now West Tisbury). A small group from New Hampshire also established a settlement at Holmes Hole (Vineyard Haven). Initial settlement on Nantucket was also small, less than twenty-five people in 1659. By 1676, however, Nantucket's European population had grown to at least 150 people, although some estimates range as high as 250 (Starbuck 1924).

While European population may have grown more slowly on the Cape and Islands than elsewhere in Massachusetts, it also remained more consistently heterogeneous. Settlers came from a wide range of backgrounds, producing a mixed and eclectic population. There was also considerable sectarian diversity. While Congregationalists dominated the population, many towns such as Sandwich, Falmouth, and Nantucket had a sizeable number of Quakers. One result of this diversity was a dilution of the traditional religious and political authority that characterized other Massachusetts towns.

Settlement

For the first half of the 17th century it is likely that the form of native settlement changed little from what had existed during the Contact, and even pre-Contact, period. Settlements were composed of a loose aggregation of dwellings (wigwams), and food processing and storage facilities. There is no evidence that these sites were palisaded. Most sites were small, less than an acre, and were occupied on a seasonal basis. The greatest impact on native settlement was in those areas where new European communities displaced their aboriginal predecessors—for example, around Barnstable Harbor and Nauset Bay. In those areas where European colonization was lighter, such as along the south shore of Cape and Buzzards Bay, the traditional pattern of native settlement was less altered.

After mid century, however, this pattern was changed in more substantial ways. As colonial settlement expanded, native people were increasingly pressed to resettle on reservation lands or to organize themselves in "praying towns." Reservations were formally designed tracts of land on which natives were resettled. "Praying towns" were more amorphous designations, primarily designed to foster native acceptance of both Christianity and European ways of life without relocating them. Both were frequently established in areas of traditional native settlement.

Three major reservations were located on the Cape during this period. The largest reservation, Mashpee, was fifty square miles. Established in 1660, Mashpee was self-governing after 1665. A second reservation was established at the outlet of Herring Pond, which placed it partially in Sandwich (now Bourne) and partially in Plymouth. The third reservation, known as the Potanunquut and established about 1660, was located in the Nauset area.

In 1674, the missionary Richard Bourne reported that native people from eighteen different locales on the Cape had been organized in seven congregations of Praying Indians (Gookin 1970:89-92). These congregations are summarized in Table 4. Each of these locales represented small enclaves of native settlements. By 1692, many of these settlements had ceased to exist.

Native settlement on Martha's Vineyard and Nantucket followed a pattern similar to that on the mainland. By the mid-17th century, many of the natives on Martha's Vineyard and, to a lesser degree, on Nantucket were Christianized, due to the missionary efforts of Thomas Mayhew. On Martha's Vineyard native settlements were organized into four major territories at the start of the Plantation period. By 1674, Gookin reported that there were six distinct praying towns on the Vineyard (Gookin 1970:100). Two of these were later formalized as reservations while the remaining "praying towns" appear to have dissolved by 1692. On Nantucket, Gookin reported the presence of one church that met in three different places to worship.

Within a few years of its founding, the new colony at Plymouth began to expand, searching both for trading locations and new areas to settle. The Cape was the first focus of this attention. Following the Dutch example, the English were quick to construct a trading station on the shore of the Monument River near Buzzards Bay. Although it was neither permanent nor a community, Aptuxet (1627) was the first English settlement on the Cape. Other small, transient trading and exploratory camps may have existed along the shore of Cape Cod Bay.

It was not until 1637, with the establishment of Sandwich in the Shawme area, that permanent English settlement occurred. Sandwich was quickly followed by two other towns, Barnstable (1638) and Yarmouth (1639), each located farther east on Cape Cod Bay. See Map 6. This corridor remained the primary concentration of English settlement on the Cape throughout the period.

Table 4
 Seven Praying Indian Congregations on Cape Cod in 1674
 (after Gookin 1970, pp. 89-93)

Congregation	Name	Location
One:	Meeshawn Punonakanit	Head of the Cape in Provincetown or Truro Billingsgate, South Wellfleet
Two:	Potanunguut Nauset	South Wellfleet Eastham
Three:	Manamoyik	Chatham
Four:	Sawkattucket Nobsquassit Matakees Weequakut	Harwich North Dennis Yarmouth Probably Chequaquet Lake area, Barnstable)
Five:	Mashpee Santuit Pawpoesit Coatuit Wakoquet	(Or Marshpaug) Around Santuit Pond, Mashpee Within, or near, Mashpee Near Osterville, Barnstable Wasquoit Bay, Falmouth
Six:	Codtanmut Ashimuit Weesquobs	Mashpee (Near Mashpee/Falmouth line) Great Neck, Mashpee
Seven:	Pispogutt Wawayoutat Solones	Wareham Buzzards Bay, Wareham (Or Succonusetts) Falmouth

Map 6

Plantation Period Political Boundaries (1692)

reservations

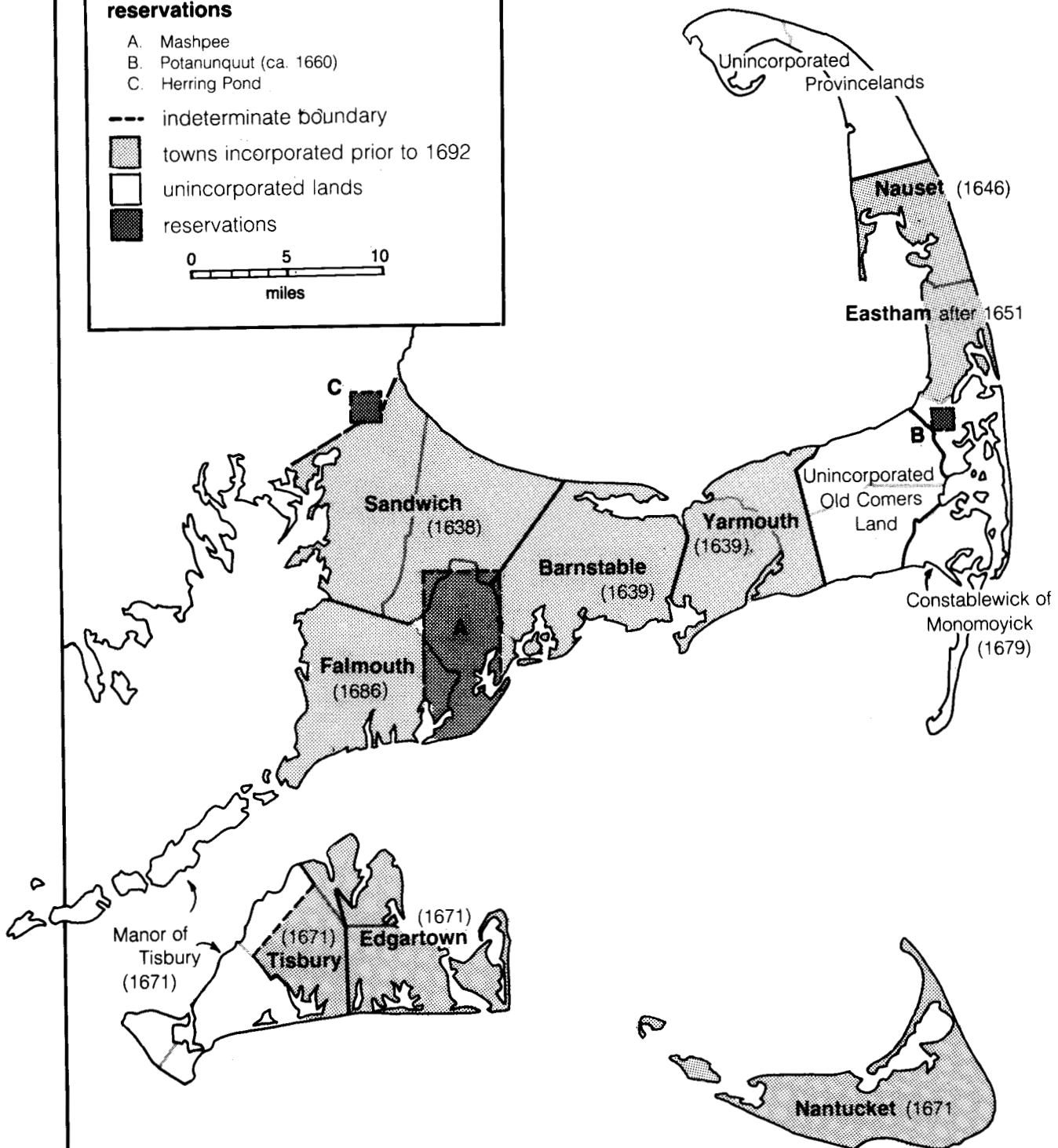
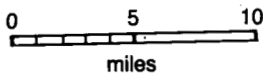
- A. Mashpee
- B. Potanunquut (ca. 1660)
- C. Herring Pond

--- indeterminate boundary

towns incorporated prior to 1692

unincorporated lands

reservations



European settlement also occurred at an early date on the outer Cape. In 1643 a Plymouth committee was formed to determine the feasibility of removing the church and seat of government from Plymouth to "Nawsett" (Deyo 1890:720). Although the committee found that Nauset was too small and too far removed from the remainder of the colony to be the center of government, they did agree to support a new plantation. The original Nauset Grant included all lands from Pleasant Bay to Truro, an area about fifteen miles long. The initial settlement, however, was restricted to the land north and west of Town Cove (now Orleans and Eastham). Established as a town in 1646, Nawsett was renamed Eastham in 1651.

All four of these "first generation" Cape towns appear to have had moderate, steady growth throughout the period. At present, however, little is understood about the process of land division within these communities. In a similar vein, the structure of settlement within these towns also remains unclear. At present, it appears that Sandwich, Barnstable, and Yarmouth had more concentrated settlement with small four to ten acre house lots, whereas Eastham was characterized by larger, more dispersed farmsteads of 100 acres or more.

By the end of the Plantation period, one additional town had been established on the Cape, Falmouth (1686). In addition, several other areas of unincorporated settlement had emerged. Harwich, Chatham, Brewster, and Wellfleet were the most notable of these small emerging communities. European settlement in peripheral areas was scattered and often seasonal.

The process of town settlement and incorporation on Nantucket and Martha's Vineyard differed from that on the Cape. Nantucket was included in the original Plymouth Colony grant of 1621. Subsequent grants by King Charles I in 1635 and 1639 resulted in conflicting claims for the island. In 1641, Thomas Mayhew and his son purchased Nantucket as well as Martha's Vineyard. Nantucket had no permanent European settlement at this time. In 1659 the Mayhews sold Nantucket to a

partnership of ten investors; this was enlarged to twenty members in 1660 (Starbuck 1924:13-17). Throughout the period, Nantucket's local government was run by the twenty-member proprietorship. This created considerable unrest on the island since not all members had equal shares in or rights under this system of government. In 1671 the island was incorporated as the town of Nantucket under the jurisdiction of New York. The town's name was changed to Sherburne in 1673. In 1692, an act of Parliament transferred Nantucket from New York to Massachusetts, placing the island under complete control of the Commonwealth and ending the local feud between full- and half-share members.

Settlement on Martha's Vineyard followed two different patterns. One was similar to that which may have been used on the Cape. In both Edgartown and Tisbury, for example, town lands were divided among shareholders, or grantees. A share system was employed in which forty acres equaled one share and twenty acres a half-share. Although homelots were limited to forty acres each, they ranged from between ten to forty acres with ten-acre lots the most common. Undivided land was retained by the town and held for common use. Individual land holdings varied considerably as land could be purchased for speculation as well as residence. In addition, each new division of common lands created new holdings for the shareholders.

While town development in Edgartown and Tisbury appears to have paralleled that on the mainland, Chilmark was unique. Chilmark was actually created as the Manor of Tisbury in 1671 and named after Tisbury Manor in Wiltshire, England. The Manor, created by the Duke of York, originally included Chilmark, a part of Tisbury, and the Elizabeth Islands. Thomas Mayhew and his grandson Matthew were appointed joint lords of the Manor. All inhabitants were considered tenants of the Manor and were subject to the jurisdiction of the Mayhews in all political and legal matters.

Colonial Period (1692-1775)

Regional Events

By 1692 all active native resistance had ceased in southeast New England, and most towns had overcome the financial and human losses incurred during King Philip's War. Despite a continued decline in numbers and loss of land, cohesive native populations survived on several reservations, notably Mashpee and on Martha's Vineyard.

Both colonial population and settlement grew steadily throughout the period. The transfer of Martha's Vineyard, the Elizabeth Islands, and Nantucket from New York to Massachusetts in 1692 resulted in the formation of two new counties, Dukes and Nantucket, in 1695. Town formation was a major activity during the period. Most of the older towns divided into parishes, and several new towns were established from the remaining unincorporated lands. The primary focus of colonial settlement continued to be along Cape Cod Bay stretching from Sandwich to Eastham. However, with the rise of a maritime economy based on fishing, whaling, and coastal trading, colonial settlement expanded rapidly in other parts of the study unit. Most dramatic was Nantucket, which became the most populous and prosperous town in the region by the end of the period. The effects of a maritime economy were also evident in the growth of towns around such major harbors as Wellfleet, Chatham, Edgartown, and Falmouth.

The Great Awakening of the 1740s appears to have had less impact on the Cape and Islands than elsewhere in Massachusetts. In part, this reflected the general attitude of tolerance for religious dissent which characterized the Cape and Islands, and the diminished importance of the established church's role within the region.

A similar sense of independence and distrust of centralized authority also may have accounted for the region's low level of participation in the political turmoil that characterized much of Massachusetts in the decade preceeding 1775.

Transportation

As settlement grew on Cape Cod and the Islands, a more complex network of water and land routes developed connecting towns to one another and to communities outside the region. Within the region, water routes remained extremely important and were often favored over those on land. With the rise of coastal trading and other maritime activities, there was a significant increase in water traffic between ports in the study unit and other major coastal centers such as Salem, Boston, Newport, and New York. Locally, land travel improved with the completion of the County Road during the first half of the 18th century. This route served as an important alternative, especially in winter when water travel around the Cape was hazardous.

During the 17th century, water routes had been used primarily for local transportation and commerce. By the early 18th century, however, several factors combined to boost maritime activities to new prominence. Colonists began to exploit marine resources such as fish and whales more actively. By 1750, both fishing and offshore whaling had become major economic activities for many of the study unit's towns. (See the related section on fishing and whaling in Chapter 5.) The Cape's location between the timber and fishing grounds to the north and markets in the more populous middle colonies to the south made it a logical staging area for intercolonial trade. Finally, with its abundance of good harbors, the Cape and Islands provided its residents with easy access to the sea and its economic potential.

By the end of the period, three major ports had developed and served as bases for both local and interregional shipping. These were Nantucket (Great Harbor), Edgartown, and Barnstable. Several secondary harbors also supported fleets of fishing or coastal trading vessels. Among these were Provincetown, Wellfleet, Chatham, Falmouth, and Holmes Hole (now Vineyard Haven) on Martha's Vineyard. In addition to these active ports, many tidal creeks also served as centers of maritime activity, from boat building to drying fish. Examples included Chase Garden Creek (Yarmouth), Namskaket Creek and Rock Harbor Creek (Eastham), the Pamet River (Truro), and the Herring River (Harwich).

While many of the vessels that hailed from these harbors were bound for distant ports or whaling grounds, much of the water traffic served regional or local needs. Aside from the increase in volume, the major characteristic of water transportation during the Colonial period was its growing regularity. Scheduled sloops, or packets, plied a series of well defined routes from Cape Cod Bay to Plymouth and Boston, around the outer Cape to Nantucket and the Vineyard, and along the South Sea coast through Vineyard Sound to Narragansett Bay and Long Island Sound. Another sign of the growing regularity in water travel was the establishment of ferry service, such as the Falmouth to Holmes Hole ferry, which began in 1729.

Land transportation developed at a much slower rate. In contrast to the relative ease and efficiency of water travel, the sandy conditions that characterized much of the Cape made land travel slow and difficult. The major roads remained much the same as during the Plantation period, although some upgrading and widening did occur. Most important was the County Road (now Route 6). Often called the King's Highway on the outer Cape, the County Road was extended as far as Truro by 1720 and to Provincetown by 1727. The other two major roads were the Old Barnstable Road, which ran from Falmouth to Barnstable, and Queen Anne's Road, also called the Old Monomoy Road, which connected Yarmouth

with Chatham. See Map 7. By the end of the period, the network of secondary roads had expanded to cover most of the Cape. Of particular importance was a branch of the Old Barnstable Road completed in 1747 which connected Marstons Mills to the villages on Lewis Bay. The Bass River still served as a barrier to completing this road all the way to Chatham.

Population

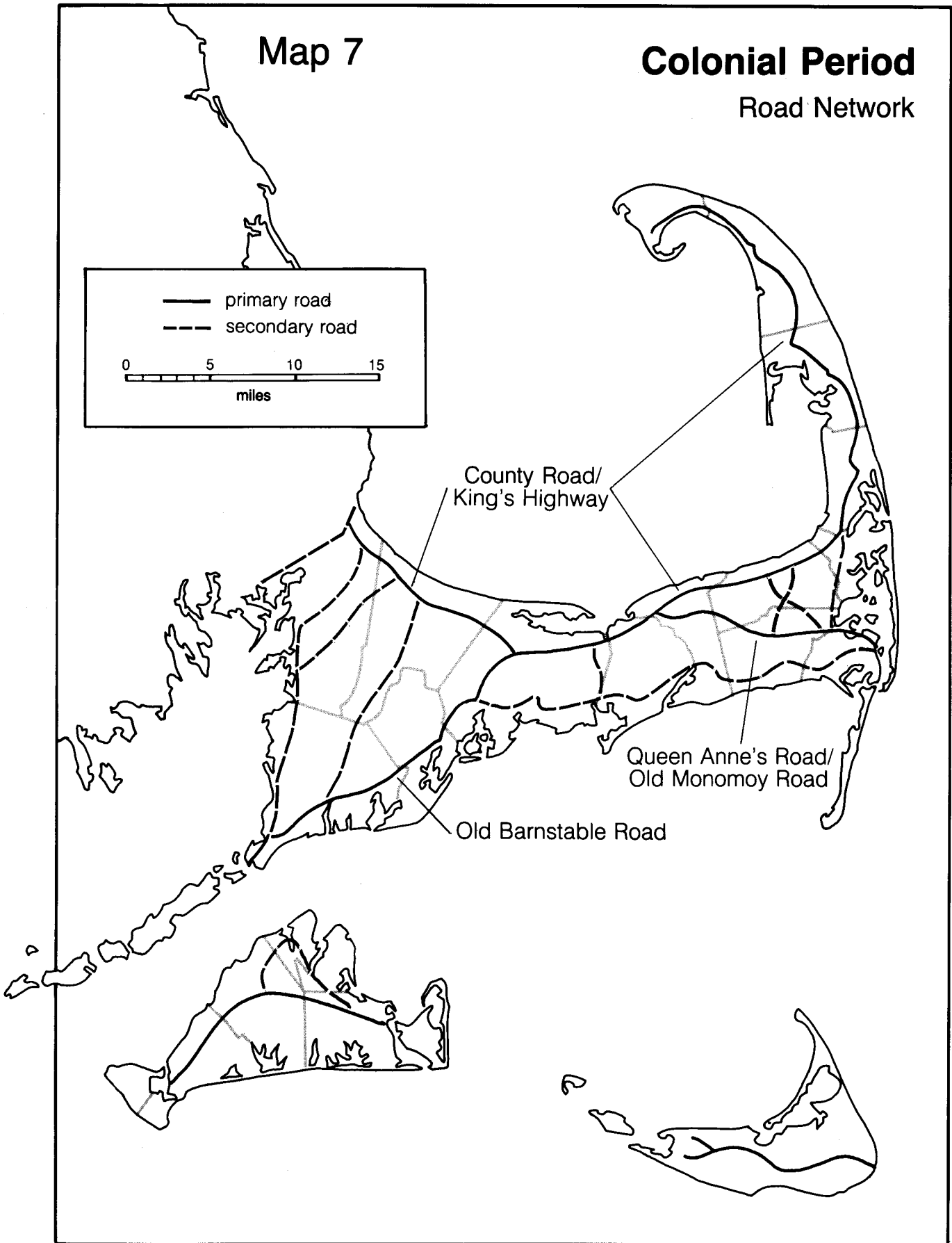
During the Colonial period native population continued to decline, while the colonial population grew steadily larger and spread more broadly across the study unit. Among the factors that promoted this growth were the availability of unsettled land and the economic opportunities offered by fishing, whaling, and maritime commerce. Due to its geographically isolated location, the Cape and Islands also functioned as a peripheral area where religious dissidents were accepted more readily than elsewhere in Massachusetts. As a result of these factors, the population within the study unit was diverse and eclectic, one often characterized by an independence that was often indifferent to, or antagonistic toward, established authority.

Under the combined pressure of a growing colonial population and the devastating effects of European diseases, the remaining native population continued to decrease in both numbers and cohesion. On Martha's Vineyard, for example, the number of native inhabitants dropped from approximately 1,500 in 1674 to 313 in 1764 (MHSC ser. 2, 3:92). It is worth pointing out that this massive loss in population occurred in the portion of the study unit where, with three reservations and considerable buffering from the neighboring colonials, native population should have been the most stable. A similar situation existed on Nantucket until 1763 when an epidemic, apparently smallpox, virtually swept away the remaining native inhabitants (Ibid. 3: 36). Conditions on the Cape were somewhat better, especially

Map 7

Colonial Period

Road Network



at Mashpee, which retained the largest and most organized native population on the mainland—230 individuals, according to the 1765 provincial census. While reservations sheltered the most cohesive remnants of the native population, some native people continued to live outside of them. Generally, these small, isolated groups lived in peripheral areas and survived through intermarriage, often with freed black slaves. While an overall estimate of native population is difficult due to its scattered and fragmented condition, there appear to have been somewhere in the range of 1,200 to 1,500 natives on the Cape and Islands by the end of the period.

In contrast to the shrinking native population, the number of colonial inhabitants in the study unit grew steadily. The first available census information dates from 1765; figures are also available for 1776. Although these figures were gathered only a decade apart, they provide strong evidence for how rapidly colonial population was expanding during the mid-18th century. See Table 5. Both Barnstable and Nantucket Counties grew at a rate of 25 %. Barnstable County was more populous: 12,471 people in 1765, 15,546 in 1776. Nantucket's population grew from 3,526 in 1765 to 4,412 in 1776. Dukes County (Martha's Vineyard and the Elizabeth Islands) grew at a much slower rate of 4 %, from 2,719 in 1765 to 2,822 in 1776. In general, the largest and most rapidly growing towns were those that had been incorporated during the Plantation period and were the traditional centers of colonial population. These were Barnstable, Yarmouth, Sandwich, and Eastham. While agriculture remained an important component of the economy in these towns, all four also had good harbors and were actively involved in coastal trading, fishing, or whaling. Although established early in the Colonial period, Harwich also followed this pattern. Nantucket's spectacular growth, however, was a direct reflection of the importance of the region's emerging maritime economy. The moderate-sized towns were those that remained primarily agricultural, such as Truro, Tisbury, and Chilmark, and those with secondary port facilities, such as Edgartown, Wellfleet,

Table 5

Population of Incorporated Towns in 1776

<u>Large Towns</u>		<u>Small Towns</u>	
Nantucket	4412	Provincetown	205
Barnstable	2300*	Mashpee	82
Yarmouth	2227		
Sandwich	1912		
Eastham	1899		
Harwich	1865		
<u>Moderate-sized Towns</u>			
Falmouth	1355		
Wellfleet	1235		
Truro	1227		
Tisbury	1033		
Edgartown	1020		
Chatham	929		
Chilmark	769		

*Not available. Estimate based on 1765 and 1790 figures.

Chatham, and Falmouth. Population growth within the region was a consequence of both a high birthrate and immigration. While this included some immigrants from Great Britain, the majority of the newcomers were from elsewhere in New England, particularly Plymouth County (Plymouth, Duxbury, and Situate) and the towns around Massachusetts Bay. There was also considerable population movement and resettlement within the study unit. For example, many people who came to Barnstable later moved to Harwich, Falmouth, or even the Vineyard. The potential for acquiring land, the economic opportunities and independence offered by fishing or coastal trading, and the general atmosphere of tolerance for dissenting religious views were all major factors in attracting new settlers to the region. While the vast majority of the population was of white Anglo-Saxon stock, blacks accounted for approximately 2% of the 1765 census. It is unclear what percentage of this small black population was freed and how many of the 329 individuals reported were slaves.

Family ties appear to have been particularly important within the study unit. Families were large, averaging between six and seven individuals by the end of the period, and in general, a majority of each succeeding generation elected to remain in the town where they were born or in close proximity to it. As a result, family ties were frequently reinforced by economic ties. The most common form of this arrangement focused on pooling labor and expertise, especially for farming. With the rise of maritime commerce, however, family networks often became the basis for trading networks. While this pattern was common throughout Massachusetts, it was particularly strong on the Cape and Islands and was a reflection of the diminished importance of major institutions such as the church (Cole 1978).

Another measure of the dilution of central authority within the study unit was the degree to which religious dissent was not only tolerated but accepted. While towns did build meetinghouses, hire and support ministers, and follow the other dictates required by Massachusetts law, they often did so in unorthodox ways. For

example, while ministers were generally chosen by a town for life, it was not unusual on the Cape for a town to hire, and then release, a series of ministers because of differences of opinion with the congregation. Among dissenting religious groups, the Society of Friends, or Quakers, were the strongest. Given the permissive atmosphere on the Cape and Islands, as well as the strengthening of economic relationships between towns in nearby Rhode Island and those within the study unit, the Quaker population was well established by the end of the period. The largest Quaker communities were on Nantucket and in Sandwich; Falmouth, Yarmouth, Barnstable and Harwich also had a sizeable Quaker populations. Late in the Colonial period, Harwich also developed a strong Baptist congregation.

Settlement

Colonial settlement grew steadily during the remaining decade of the 17th century and first three quarters of the 18th century. As population increased, several of the larger Plantation period towns subdivided into parishes; a few of these were incorporated as separate towns by the end of the period. Also, by 1775 nearly all the remaining unincorporated land had been incorporated into towns or districts.

In contrast to the growth of colonial settlement, native land holdings continued to shrink as population dwindled. While many native people still lived in colonial towns, usually scattered through the peripheral areas, native settlements were increasingly concentrated on reservation lands. The term "reservation" was used rather loosely during the 18th century to describe areas where native people retained their land whether it was under the authority of a town, the Commonwealth, a missionary organization or, in a few cases, by tradition. Whatever their legal basis, reservations served as centers for promoting the virtues of both Christianity and colonial culture. As a result, most reservations had a meetinghouse and often a school in addition to whatever native settlement was present.

Mashpee remained the largest and most important reservation, although the details of its internal organization and settlement pattern are poorly understood. Given limited self-governing powers in 1665, Mashpee was incorporated as a district nearly a century later, in 1763. Herring Pond also survived the Colonial period, but no formal attempt at self-government was made at this reservation. Potanunquut was disbanded in 1712 and the land divided between Eastham and Harwich. While encroachment upon, and ultimately seizure of, native land was a growing problem, especially after 1750, new reserves were occasionally established. Yarmouth, for example, designated a tract of land for native people in 1715. Known as "Indian town," this small reservation survived until 1778.

Three reservations existed on Martha's Vineyard. Gay Head, which had been unofficially recognized as tribal land during the Plantation period, was formally made a reservation in 1711 under the auspices of the Society for the Propagation of the Gospel, an Episcopal missionary organization. Christiantown, located in Tisbury (now West Tisbury), was also under the nominal sponsorship of the S.P.G. Originally part of the Toikiming "praying town," Christiantown had a meetinghouse by 1695 and an Indian school by 1714. Chappaquiddick, located on the island of the same name, does not appear to have been formally designated as a reservation. In spite of this, a sizeable native community occupied a reserve of considerable acreage throughout the period. While no formal reservations were established on Nantucket, native settlement was concentrated in four general areas: Wannisquam (Squam), Squatesit (Quaise/Polpis area), Occawa (near Gibb's swamp), and Miacomet (Little 1981). Each of these settlement areas had a Christian meetinghouse or was in close proximity to one. In 1763, smallpox decimated Nantucket's remaining native population. It has been suggested that following this epidemic, many of the remaining native buildings were moved to Sherburne (Nantucket), Siaconset, and Sasachach for use by the island's colonial residents.

With the exception of native reservations, virtually all the land in the study unit had been incorporated into towns by 1775. See Map 8. On the Cape, large-scale land division and town formation were characterized by two processes. One was the division of the large Plantation period towns into parishes, the first step in the process of "hiving off" to form a new town. The most common reason for formation of parishes was to permit the construction of meetinghouses closer to the centers of populations. The pattern of settlement on the Cape—small, geographically isolated villages with little population in between as well as difficult conditions for travelling—appears to have encouraged the formation of parishes.

By the end of the period, four of the five Plantation period towns had subdivided. Both Barnstable and Yarmouth split into East and West parishes in 1717 and 1721, respectively. Eastham established two parishes in its outlying areas, Billingsgate (later Wellfleet) in 1722 and South parish (later Orleans) a year later. Sandwich formed its second parish, Pocasset, in 1772. Even Harwich, the last large town to be incorporated on the Cape during the 17th century (1694), divided into North and South parishes in 1747.

Surprisingly, very few of these parishes continued the process of "hiving off" and became towns in their own right during the Colonial period. Billingsgate parish became the district of Wellfleet in 1763 and an independent town in 1775. The majority of the towns formed during the Colonial period were established directly from unincorporated lands. These included: Harwich (1694), formed from the Old Comers land between Eastham and Yarmouth; Chatham (1712), incorporated from private land grants; and both Truro (1709) and Provincetown (1727), established from the Provincelands.

Although colonial settlement grew steadily throughout the period, it remained thinly and unevenly distributed across the study unit. On the Cape, the major

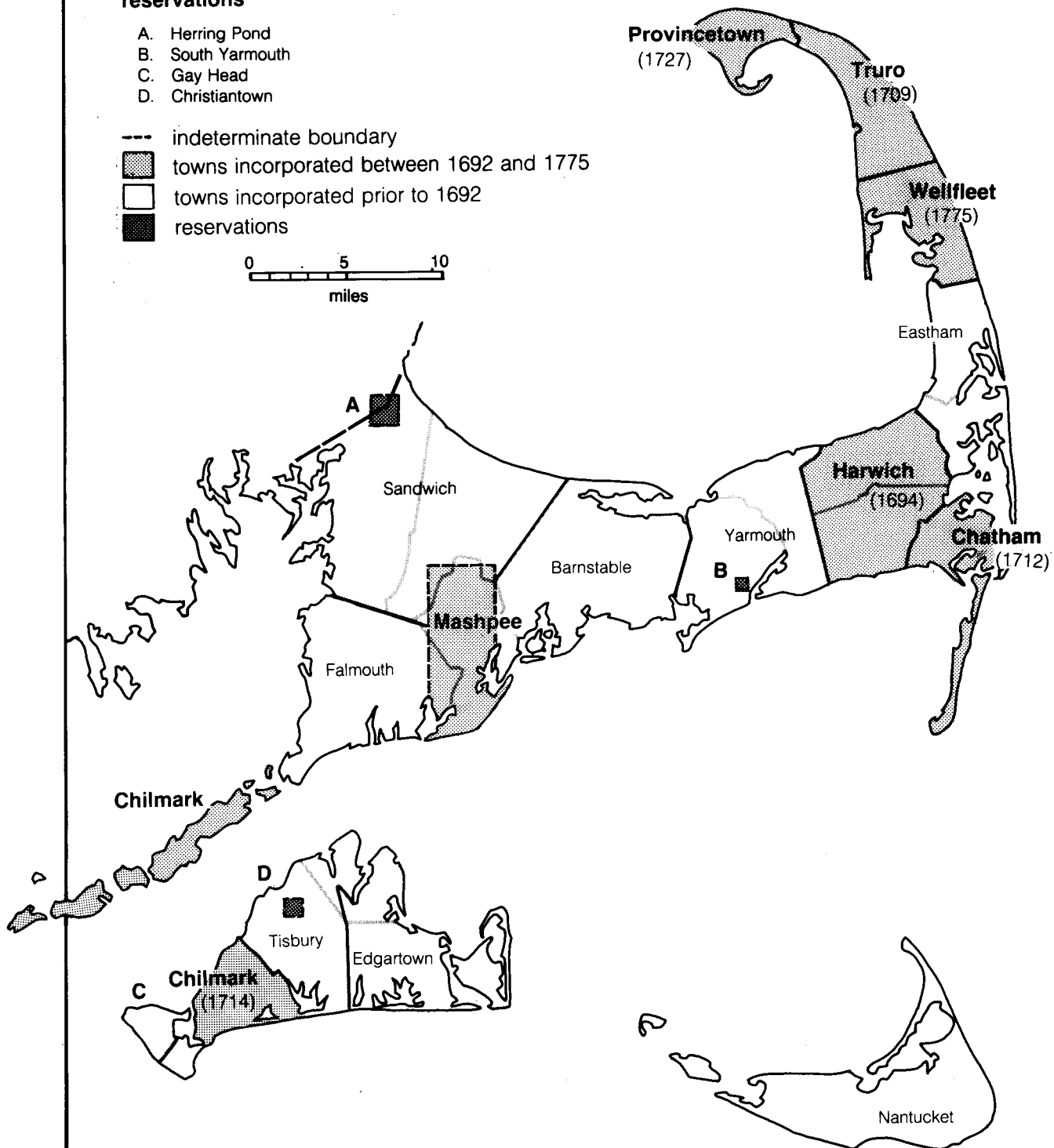
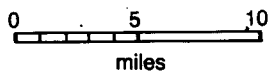
Map 8

Colonial Period Political Boundaries (1775)

reservations

- A. Herring Pond
- B. South Yarmouth
- C. Gay Head
- D. Christiantown

- indeterminate boundary
- ▨ towns incorporated between 1692 and 1775
- towns incorporated prior to 1692
- reservations



concentrations were located in a corridor along the Cape Cod Bay shore and County Road. A scattering of other settlements dotted the coast of the outer Cape and Nantucket Sound. With the exception of a few milling complexes, there were no concentrations of settlement in the interior portions of the Cape.

Settlement within the towns also followed a dispersed pattern, with one or more nodes of settlement located around a meetinghouse, harbor, crossroads, or mill. In the larger towns, several of these secondary villages were often formed in addition to the town center. Barnstable, for example, had seven distinct villages by 1717: Barnstable Village, West Barnstable, Goodspeed's Mill (Marstons Mills), Cotuit, Chequaquet (Centerville), Cockachoiset (Osterville), and Hyannis.

Without exception, town centers were located on the coast and were on or near a good harbor. While several of the larger town centers--Barnstable, Yarmouth, Sandwich, and Eastham--had initially developed in towns that were agriculturally based, it was the growth of maritime activities that shaped them during the 18th century. The increased importance of commerce and fishing stimulated construction of wharves and other waterfront facilities. Economic prosperity also resulted in more institutional and commercial building. Barnstable, the Shiretown, had the most developed village on the Cape, with the county courthouse and jail supplementing the town's own institutional buildings.

In spite of their growth, however, town centers tended to be linear rather than nucleated in form. Settlement was usually strung out around the harbor and along the roads that led to it with only a modest commercial and institutional core at the center. House lots in town generally ranged from six to twelve acres, while those farther out were larger, from fifty to 100 acres. By the end of the period, most towns had divided their remaining common land.

Settlement on Martha's Vineyard resembled that on the Cape. Both Edgartown and Tisbury continued to divide common lands among the shareholders and their

assignees throughout the period. The major change on the Vineyard occurred in 1695, when Thomas Mayhew changed the conditions for land ownership in the Manor of Tisbury to conform with those in the island's other towns. As a result, a series of land divisions among shareholders took place, and a new town, Chilmark, was incorporated in 1714.

On Nantucket, Colonial settlement continued to grow in two locations between Capaun and Hummock Ponds, the original settlement focus, and along Nantucket Harbor (Great Harbor). The closing of Cappamet Harbor mouth in 1717 forced removal of the original settlement focus east to Great Harbor in 1720, where a new maritime-oriented village quickly developed. Here owners were permitted to choose their own house lots, which ranged from a full lot of sixty rods square to ones of substantially smaller proportions. All lands not assigned as house lots were considered common lands often referred to as cow or sheep commons. These lands, when divided, were proportioned among the town's original twenty-seven proprietors. As the number of proprietors grew through inheritance and sale, an organization known as "the Proprietors of the Common and Undivided Lands of Nantucket" was formed.

Federal Period (1775-1830)

Regional Events

The exposed situation of the Cape and Islands, with their extensive coasts and indefensible harbors, meant that localities were subject to depredations by the British fleet during the Revolution. The British blockade brought commerce and fishing to a standstill as vessels were burned and crews impressed. Raids were conducted on Nantucket and Martha's Vineyard to procure sheep, cattle, and provisions, as well as to confiscate arms. In addition to British threats of landings, communities were burdened with the costs of supporting the colonial cause. Demands for men and supplies were generally met, although instances of noncooperation, profiteering, and loyalism were numerous.

Despite the adverse effects of this war, the Federal period saw sustained economic growth and prosperity in most of the region's communities. Manufacturing, although of minor extent, was attempted at most available waterpower sites. More significant were maritime-oriented industries related to shipfitting and fish processing. Saltmaking in particular became an important activity. With the resurgence of maritime activity, coastal traffic increased, and navigational improvements, such as lighthouses, were made by the federal government. See Map 9. Regional opposition to the Embargo Act and the War of 1812 ran high, and the region was hard-hit by the British blockade. Nantucket's whaling fleet was captured, and the island was forced to take a position of neutrality in the conflict.

With the period's economic development came a restructuring of social relationships. The increased wealth that came with a growing commercial orientation and new opportunities for employment in fishing and other maritime

Map 9

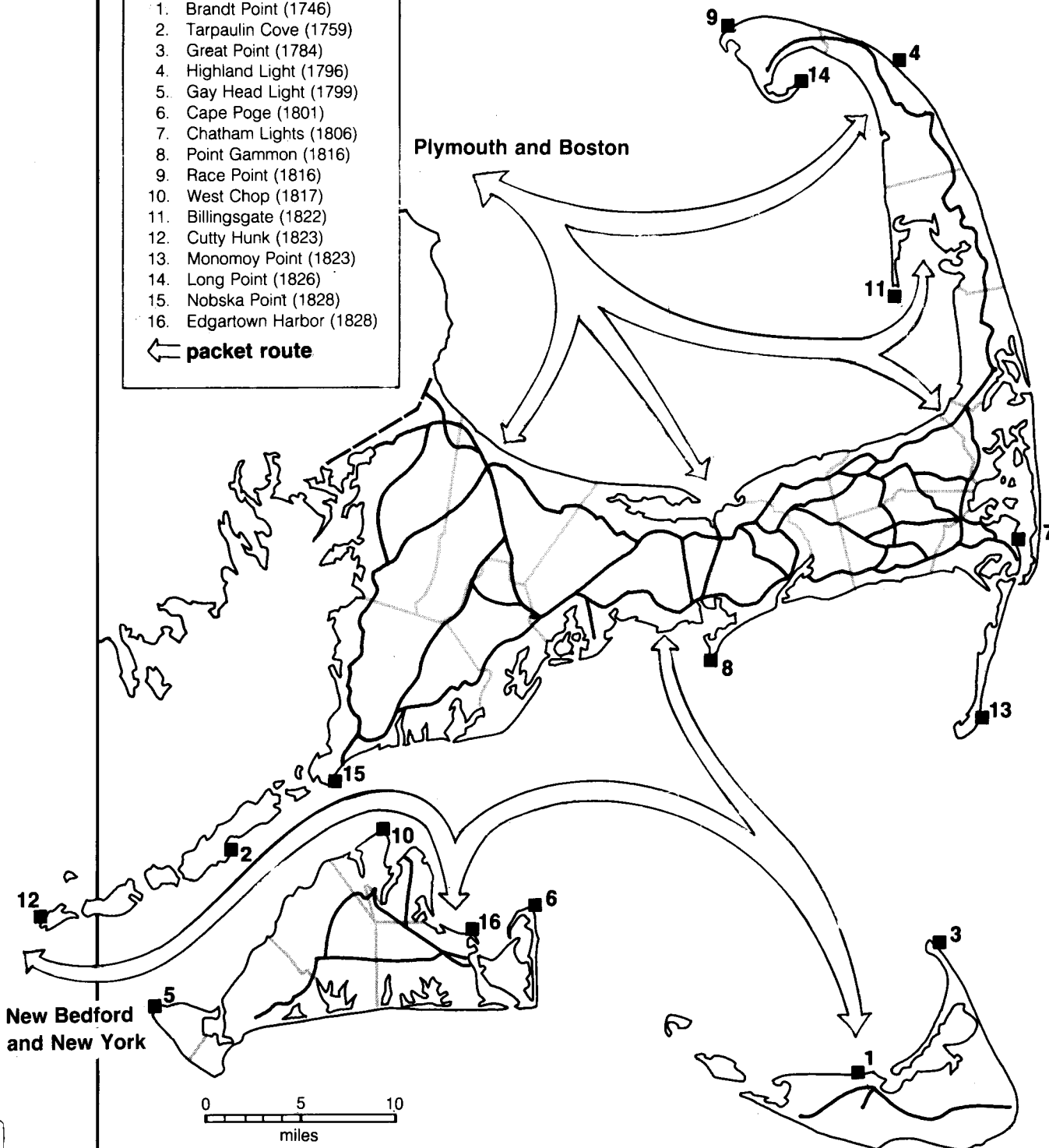
Federal Period

Roads, Packet Routes and Lighthouses

■ lighthouses

1. Brandt Point (1746)
2. Tarpaulin Cove (1759)
3. Great Point (1784)
4. Highland Light (1796)
5. Gay Head Light (1799)
6. Cape Poge (1801)
7. Chatham Lights (1806)
8. Point Gammon (1816)
9. Race Point (1816)
10. West Chop (1817)
11. Billingsgate (1822)
12. Cutty Hunk (1823)
13. Monomoy Point (1823)
14. Long Point (1826)
15. Nobska Point (1828)
16. Edgartown Harbor (1828)

← packet route



activities resulted in a greater economic differentiation in the expanding population. Population increase and the centralization of trade and fishing led to the appearance of many villages, some of considerable extent, almost all of which were oriented toward the coast. There, successful merchants and seamen formed a regional elite that defined its status through a variety of exclusive voluntary associations and new educational institutions. The widespread success of itinerant Methodism and the continued strength of Friends and Congregationalists helped expand the range of competing value systems. The position of the region's Native Americans continued to deteriorate, as they lost autonomous control over the Mashpee reservation, and as their numbers declined generally.

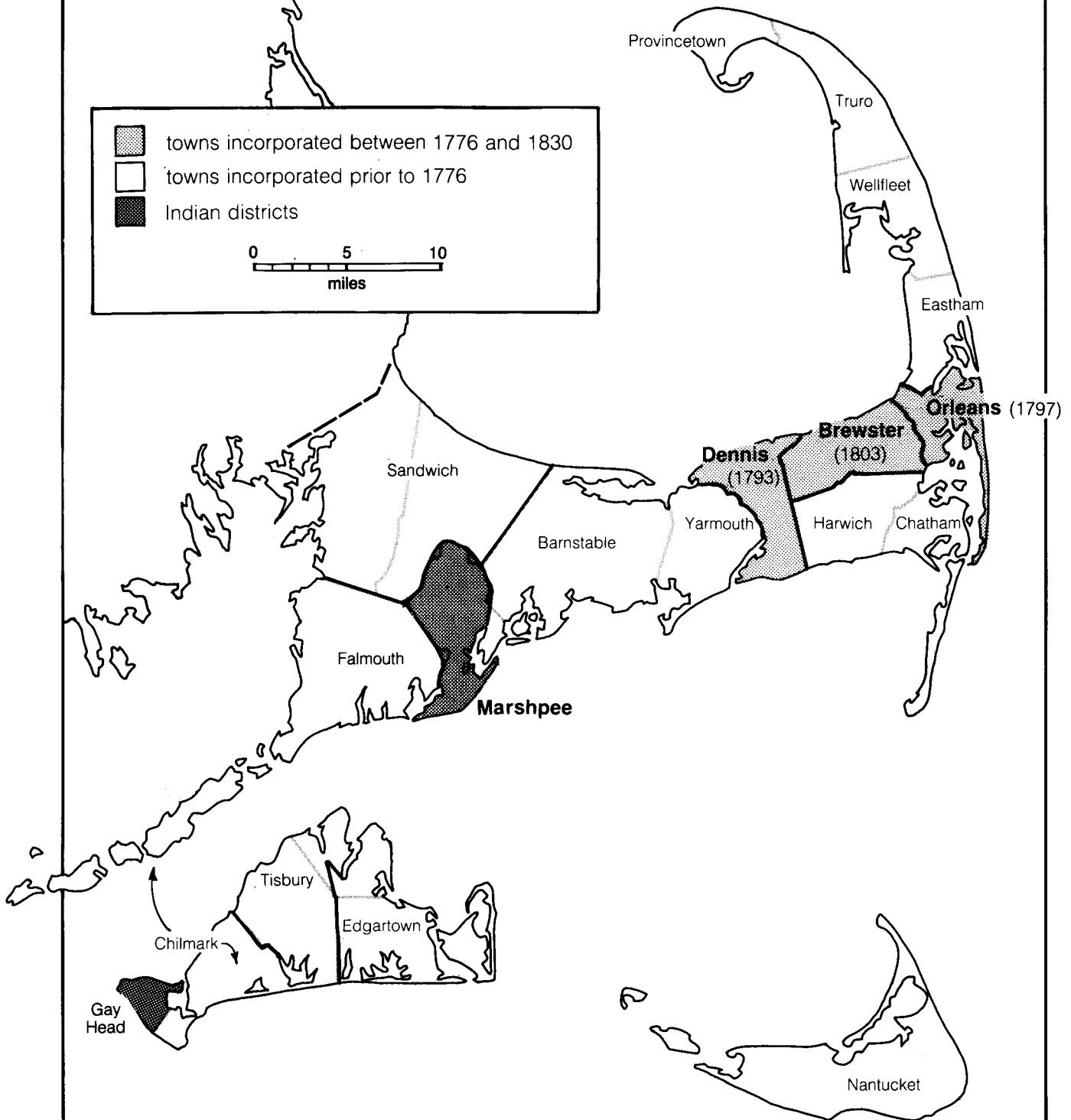
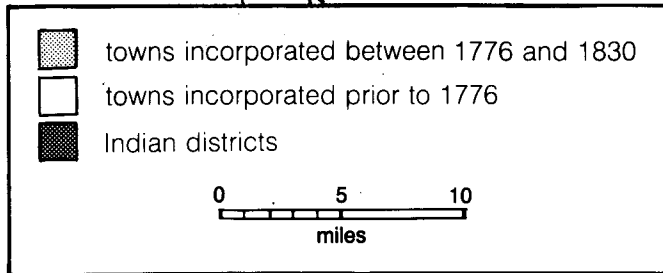
In spite of continued growth and much change in the region, few shifts in political boundaries were accomplished. See Map 10. The district of Wellfleet was made a town by the general act of 1775. Three incorporations took place at the turn of the 19th century, and represent the elevation of long standing precincts to town status. Second, or East Parish, Yarmouth became the town of Dennis in 1794, South Parish Eastham became Orleans in 1797, and First, or North Parish, Harwich became Brewster in 1803. The district status of the native reservation at Mashpee was renewed until 1788, when autonomy was revoked, and the area was made a plantation, controlled by an appointed board of overseers.

Transportation

Maritime transport continued to be the most important means of movement through the study unit during the Federal period. Regional activity continued to intensify on Cape Cod Bay and Buzzards Bay, and between the mainland and the offshore islands. Interregional traffic increased along the primary coastal shipping corridor through Vineyard Sound and Nantucket Sound. Overland travel on the Colonial period highways continued to serve local and regional needs, but the

Map 10

Federal Period Political Boundaries



sandy regional soils often made passage difficult. No turnpikes were built in the study unit during the period.

Shipping continued on Cape Cod Bay between the region and Boston, and regular packet service was established from Sandwich, Barnstable, Yarmouth, Rock Harbor in Orleans, Wellfleet, and Truro. The large harbors at Barnstable, Wellfleet, and Provincetown all gained importance during the period. While wharves were also built at smaller harbors in the communities that lined the bay shore, by period's end a number of these were experiencing problems with filling. On Buzzards Bay, the smaller harbors of Sandwich (now Bourne) and Falmouth also remained active. Significant new harbor development took place on the south shore, where Hyannis grew as the most important port, and federal funding for harbor improvements here was approved in 1826. To the east, a second active harbor focus developed at Bass River, with period wharf construction at both South Yarmouth and West Dennis, and Chatham Harbor gained importance on the outer Cape. West of Hyannis, secondary harbors grew at Osterville in Barnstable, Falmouth, and Woods Hole. On Martha's Vineyard, Edgartown on Great Harbor remained the primary port. Holmes Hole Harbor became an important stopping point for coastal shipping, and Holmes Hole Village (now Vineyard Haven in Tisbury) became a subport of entry during the period. Across the harbor, facilities also developed at Eastville. Packet service between Edgartown and New Bedford was established in 1800 and was extended to Nantucket in 1807. Nantucket Harbor itself was the primary port in the study unit during the period. Its pier and wharf facilities, oriented toward the whale fishery, were the most extensive in the region.

With increased coastal traffic came a recognition of the need for navigational aids. Authorization of federal aid for lighthouse construction was passed in 1789. By period's end, fifteen lighthouses had been built in the region, adding to the two Colonial period beacons on Naushon and Nantucket islands. Of the total of

seventeen, nine were located on Cape Cod, four on Martha's Vineyard, two on Nantucket, and two on the Elizabeth Islands. On Cape Cod Bay, lights were located at the entrances to the major harbors at Provincetown, Wellfleet, and Barnstable. Lighthouses at Race Point, Truro Highlands, Chatham, and Monomoy Point directed traffic through the dangerous waters off the Cape's outer arm. In the west, the passage through Vineyard Sound was aided by lights at Cuttyhunk, Gay Head, Tarpaulin Cove, Nobsque Point, and West Chop. Nantucket Sound routes were served by Point Gammon, Cape Poge, and Great Point beacons.

Given the growth in shipping and the trend toward navigational improvements, it is not surprising that the period saw renewed efforts to initiate the construction of a Cape Cod shipping canal to avoid the dangerous waters off Cape Cod. Proposals and outbreaks of canal fever persisted in Boston and on the Cape through the late 18th and early 19th centuries. At the beginning of the Revolution, a route was surveyed along the Back River-Monument River corridor in Sandwich (now Bourne). In Eastham, a short canal trench was actually dug in 1804 between Town Cove and Boat Meadow, establishing a shallow and narrow connector between Cape Cod Bay and the Atlantic. The Eastham and Orleans Canal Proprietors were organized in 1817, but the project of enlarging this waterway was soon abandoned. Interest in the Monument River route was renewed after 1812 during the British blockade, and surveys of the Monument River route were undertaken again in 1818 and in 1824 (by the federal government). This set off another round of canal fever on the Cape, and the next year Dennis formed a committee to investigate the possibility of connecting Flax Pond on the upper Bass River drainage to Cape Cod Bay. Despite the speculation and activity, however, the Eastham and Orleans route was the only canal created during the period.

Improvements were made in overland transport during the period, but the primary Colonial period highway corridors remained the most important routes.

Major roadways continued to parallel the shore and pass through the local town centers. The old County Road along the Cape Cod Bay shore to Provincetown continued to be the main regional road. A County Road extended south along the Buzzards Bay shore to Falmouth. Traffic along the south shore corridor increased during the period, and ferry and bridge service were established across Bass River. Interior routes connected the north and south shores on the inner and mid Cape, and local roadways were established to wharf and lighthouse facilities on the shore.

Population

The most significant factor to influence the growth and composition of population in the study unit during the Federal period was the rapid expansion of maritime commerce. While the area was dependent on the sea during the Colonial period, specialization increased dramatically as more residents abandoned difficult farming for more profitable employment as fishermen and coastal traders. At the same time, maritime industries, related services, and the processing of fish and imports, further increased employment opportunities in port towns. The availability of these occupations and the presence of Native Americans attracted nonwhites to these communities, and produced a racial pluralism nearly unique outside of Boston. So, too, Cape Cod's peripheral location within the Commonwealth allowed the continuing presence and efflorescence of dissenting religious groups. The overriding characteristic of the region remained its diversity as occupation, class, race, and religion crosscut towns into innumerable smaller communities.

During the Federal period the population of the region continued to grow at a moderate rate. As a whole, the region added to its population by 72% during the fifty-five-year period and expanded from 22,780 in 1776 to 39,233 in 1830. Although the growth was steady, adding over 2,000 individuals during each decade, the decades of the 1800s and 1820s brought more rapid growth, adding twice that

number. Variations in the rate are also observable across the region: Cape Cod as a unit grew by 83 %, Nantucket by 63 %, and Martha's Vineyard by 25 %. Analysis on a town-by-town basis is more revealing. Provincetown's enormous expansion (734 %) is unique in the region, as is Chilmark's decline (-10 %), illustrating the vagaries of life in maritime communities. The towns with the highest normal growth include Chatham (129 %), Yarmouth/Dennis (105 %), and Harwich/Brewster (100 %). Moderate growth was the most common experience: Falmouth (88 %), Sandwich (76 %), Wellfleet (65 %), Barnstable (greater than 52 %), Edgartown (48 %), Eastham/Orleans (45 %), as well as Nantucket. Slow growth was the pattern in Tisbury (27 %) and Truro (26 %).

Changing economic factors contribute to an understanding of the patterns of growth in the region. Employment characteristics for 1820 enumerate workers in agriculture, manufacturing, and commerce (including all maritime activities). In the region as a whole, commerce employed by far the largest portion of those reporting their occupation, 4,515 of the 7,817 reported, or 58 %. Agriculture followed with 24 %, and manufacturing with 18 %. Across the region great variation occurred, and the relative proportions of each employment type provides a summary of opportunities in the towns. Towns with diverse and expanding economic opportunities in manufacturing and commerce grew rapidly, while those with more traditional systems continuing to rely heavily on agriculture slowed. The region's fastest growing towns were the mid- and outer Cape towns where the local harbor attracted coasting trade and fishing activities, and commercial employment was even higher than the proportion for the region as a whole. This area includes the port towns of Provincetown, Chatham, Harwich, Orleans, Dennis, Yarmouth, and Wellfleet. Their neighbors Truro, Eastham, and Brewster suffered due to inadequate harbor facilities. Towns with moderate rates of growth combined commerce with other productive systems. These included inner Cape towns Yarmouth and Dennis,

which included moderate numbers in agriculture and manufacturing. Barnstable and Falmouth were unusual in the region with nearly equal numbers employed in each category, possessing harbors as well as productive farmland and a range of artisan activities. Nantucket continued to combine maritime activities with support services and by-product manufacture, while Sandwich exhibited the familiar inland pattern of agriculture and artisan activities maturing during the period. In this region dependence on agriculture slowed expansion in Edgartown, Tisbury, Chilmark, and Mashpee.

This brought some change in the hierarchy of population size within the region. See Table 6. By period's end the region's most populous towns were those which successfully combined a number of opportunities: Nantucket, Barnstable, and Sandwich. The next group of towns, primarily between 2,000 and 2,500 in size, are those that experienced rapid growth with maritime activities. The smallest towns relied heavily on agriculture, or exclusively on maritime pursuits.

Table 6

Population of Incorporated Towns in 1830

<u>Large Towns</u>		<u>Small Towns</u>	
Nantucket	7202	Orleans	1789
Barnstable	3974	Provincetown	1710
Sandwich	3361	Truro	1547
		Edgartown	1509
		Brewster	1418
		Tisbury	1317
		Eastham	970
		Chilmark	691
<u>Moderate-sized Towns</u>			
Falmouth	2548		
Harwich	2453		
Dennis	2317		
Yarmouth	2251		
Chatham	2130		
Wellfleet	2046		

With growth and change, the region remained uniquely heterogeneous in its racial composition. Clusters of Native Americans remained on reservations in the present towns of Gay Head and Mashpee, but those at Yarmouth and Christiantown in Tisbury were dismantled in 1786 and 1828, respectively. There were reservations at Chappaquiddick and Orleans, considered during this period as plantations, and their citizens as wards; the district of Mashpee was made a plantation in 1788. With Emancipation, the number of free blacks increased, as ex-slaves were attracted to the maritime occupations available in the area, and to the region's existing native communities, where intermarriage was common. Census reporting of this portion of the population was erratic due to this intermarriage, ward status, and common underreporting and incorrect reporting of blacks. In 1820, the U. S. Census reported the highest "free colored" population on Nantucket, numbering 247. This community formed its own school in 1823. Other of the region's towns reporting include Edgartown with 83 "free colored"; Falmouth with 42; Barnstable, 39; Mashpee, 29; and Sandwich, 26. Ten years later, high figures were reported for Nantucket (279), Barnstable (56), Yarmouth (33), Sandwich (27), Falmouth (26), and Edgartown (13). During this period, the region's white population remained ethnically similar, although larger ports attracted some foreigners by 1830. The establishment of the Sandwich Glass Company was accompanied by recruiting of skilled foreign glassworkers, who numbered 40 that year. Roman Catholic masses were celebrated for them, and a church, St. Peter's, was established in 1829.

The region maintained the exceptional diversity of its religious denominations. The Congregationalists, Friends, and Baptists increased in numbers during the period. In keeping with the pattern established in the Colonial period, the region's parish churches remained primarily orthodox. Expansion during the economic revival of the 1790s brought the addition of new Congregational meetinghouses. Second houses were constructed in the Second Parish of Yarmouth in 1794, in

Dennis in 1795 (society 1815), in Holmes Hole (Tisbury) in 1796, and in Falmouth, 1796 (church 1821). Parish divisions between the orthodox and evangelical Trinitarians and the Arminian Unitarians were comparatively rare, and were restricted to the region's prosperous towns. The minister appointed for Edgartown in 1780 was an Arminian, as was Barnstable's, appointed in 1819; a tightening of membership requirements brought the withdrawal of liberals from the Nantucket church in 1809. The evangelicals of the Sandwich church withdrew in 1813, and the remaining members aligned with Unitarians in 1825; a similar split took place in Dennis fifteen years later.

Friends continued to worship in preparative meetings in Sandwich, South Yarmouth, West Falmouth, and Nantucket, the latter forming a second society in 1792. Quarterly Meetings were held in Falmouth from 1779 to 1792, and then in Nantucket until 1850. The old Baptist society in Harwich expanded to outnumber Congregationalists there. New societies were formed at Pocasset (Bourne 1796-1806) and on Bass River (Yarmouth 1809). Revivals in the 1820s produced new societies at Brewster, Barnstable village, Chatham, Falmouth, and Orleans. Holmes Hole (Tisbury) was the focus for Vineyard Baptists, who controlled the proprietors' meetinghouse. The Baptists continued to have influence among Native Americans at Mashpee and Gay Head. In this open atmosphere it is not surprising that the Universalists found followers, first in Provincetown (1820), and later in Hyannis, Orleans, Chatham, Brewster, and Nantucket.

The most significant development in the religious life of the region, however, was the early acceptance and subsequent rapid spread of Methodism. After the Revolution, Methodist leaders began their attempts to spread their doctrines to New England for the first time. Jesse Lee was sent to itinerate through the region and visited many towns, beginning in 1790. Less formal evangelism had been successful on Martha's Vineyard from 1787-1795, when an ex-slave from Virginia introduced

the denomination. Formal organization began in Provincetown (1795), Sandwich (1797), Martha's Vineyard (1799), and Nantucket (1800). The notable system of local classes and itinerant ministers continued through the region's circuits, and societies were formed at Truro (two), Wellfleet, Eastham, Chatham, Harwich, Yarmouth, Barnstable, and Falmouth. Smaller towns and unincorporated areas formed classes at Holmes Hole, West Tisbury, and Chilmark. During the 1820s the region's remaining towns were visited by members of the Reformed Methodist church, which rejected episcopal organization. Societies were formed at Cataumet (Bourne), Dennis, Brewster, and Orleans. Methodists augmented the tradition of Sunday and midweek services with extended summertime camp meetings. In this region, these occurred in South Wellfleet as early as 1819, and again in 1824 and 1825; in 1819-1823 and 1826 at Truro; and in 1827 at Tisbury; and in 1828 at Monument Neck and Eastham. By period's end the effectiveness of the itinerant system and the appeal of the doctrines in the region were reflected in the presence of a society in every town and in the membership reported to the Annual Conference in 1830. Nantucket's society was the largest with 300 members, followed by Barnstable with 277, and Martha's Vineyard with 203; each of the remaining five societies reported over 100 members.

Even in the context of these exceptional developments, the region did follow larger period trends in the face of increasing socioeconomic differentiation and cultural change. Here, as elsewhere in the Commonwealth, the Masons were a popular association of community leaders, with lodges formed as early as 1783 at Holmes Hole on Martha's Vineyard, as well as at Provincetown (1795), Wellfleet (1796), Falmouth (1798), Barnstable (1801), Dennis, Nantucket (both 1802), and Edgartown (1820). Academies were formed to further the education of the children of the elite, in 1800 on Nantucket, in 1804 at Sandwich, in 1809 at Yarmouth, and in 1825 at Edgartown. The region's public school system focused on the dispersed

district school system; few included even grammar schools, and even Nantucket failed to provide free common schools until forced to in 1827.

While a small number of individuals grew more independent, influential, and wealthy as merchants and ships' captains, others increased their dependence by accepting wage and share labor in factories, on ships, and as fishermen. For these the significant unit for ownership shifted from real property to tools, boats, shop, or store, and the regional settlement pattern changed accordingly.

Settlement

Despite the adverse effects of the American Revolution and the War of 1812, growth from maritime commerce and the fishing economy led to significant settlement expansion during the period. Population growth and greater wealth resulted in a restructuring of the regional landscape from one characterized by relatively dispersed agricultural and maritime activities to one more clearly organized around a multitude of harbor-oriented villages and hamlets. While local growth most often occurred at new coastal centers rather than at established administrative sites, a number of 18th-century meetinghouse centers did expand as civic and commercial villages, particularly where these centers were located in proximity to harbor facilities and on primary highway corridors. By period's end, shifts in economic development and population growth had led to a regional hierarchy of central places within the study unit, ranging from primary ports, through local administrative and maritime centers, to a multitude of emerging secondary commercial and fishing villages and hamlets. Small manufacturing settlements appeared for the first time at available waterpower sites. While some dispersed agricultural expansion continued at inland locations, most new development took place near the coast. On Cape Cod, growth took place on the Buzzards Bay and Cape Cod Bay coasts, but by period's end the focus of

new regional development had shifted to the southern Nantucket Sound shores. On the islands, growth continued to focus at the established harbor villages.

The general density of settlement was highest in the small, expanding maritime towns of the outer Cape, particularly Provincetown, where population density at period's end was over 200 per square mile, as well as at Chatham, Orleans, and Wellfleet (all over 100 per square mile). Density was also high in the small mid-Cape towns where Nantucket Sound growth occurred, including Harwich, Dennis, and Yarmouth. Overall density on Nantucket, the most populous town in the region, with the only urban-scale port, also remained high. Density of settlement was moderate (below seventy-five per square mile) in the small Cape Cod towns with less intensive maritime development (Truro, Eastham, Brewster), and in the larger Cape towns with extensive coastal settlement but large, sparsely occupied interior tracts (Barnstable, Falmouth). Population density remained low (below fifty per square mile) in the largest Cape town, Sandwich, with its expansive, thinly inhabited inland area, and at the Native American district at Mashpee. Overall, density was also very low on Martha's Vineyard, where Edgartown and Tisbury had over forty persons per square mile, but Chilmark (under twenty) had the lowest density in the study unit.

Within this pattern of regional concentration, a variety of settlement types occurred. The whaling center at Nantucket Village remained the largest settlement focus in the study unit through the period. By 1830, settlement extended a half mile inland from the shore and about an equal distance north and south of Main Street. Maritime activity concentrated at the five wharves on Nantucket Harbor, and warehouses, marine industries, whale oil works, and candle factories were located in this area and south along Washington Street. The Market Square commercial district developed on Main Street west of Straight Wharf, bounded on the east by the Rotch Market (1775) and on the west by the Masonic Hall (1802) and the Pacific

National Bank (1818). A new civic focus was established farther west on Main Street at Milk Street, with the relocation of the Town House (1783) and later addition of the Vestal Street Jail (1805). In the late 18th century, three new meetinghouses were built at the edge of the central village area, but the three additional churches constructed after 1800 were all located within a block of Market Square. Streets adjacent to the civic and commercial areas developed high-income residential concentrations, including Main, Centre-Orange, Milk, Federal, and India. More modest housing was built along several north-south streets parallel to the harbor. By period's end a small black community had developed at the southern periphery of the village.

While Edgartown on Martha's Vineyard did not approach the size of Nantucket, the pattern of settlement here followed that of the whaling center. While a strong linear component developed along the Great Harbor shore, growth extended inland along the two main roads leading from the major wharves, including both new residences and an institutional cluster of new Baptist, Methodist, and Congregational churches, an academy, and the county courthouse and jail.

A third major harbor village developed at Provincetown, where less than two dozen dwellings had been located at the beginning of the period. As at Nantucket and Edgartown, stores, shops, and dwellings spread along the harbor shore, as did saltworks, smokehouses, and a candle- and oilworks to serve the local fishing and whaling industry. A central focus developed at the Customs House and Masonic Hall. New meetinghouses were built farther inland, but the steep local topography and the accessibility of extensive harbor frontage combined to produce a linear development along Commercial Street, in contrast to the inland growth pattern of the island port villages.

An intensive linear development also characterized the region's other major village on the Cape Cod Bay shore, in the Barnstable-Yarmouth area. By period's

end, continuous settlement extended along the County Road corridor from Pond Village in Barnstable through the East Parish county seat and Yarmouth Port to the Yarmouth meetinghouse. Within this extended village, the Barnstable Courthouse area remained the primary focus, while secondary development concentrated in the Pond Village and Yarmouth Port areas. By period's end, growth also extended north along the roads leading to the Barnstable Harbor wharves and saltworks.

A number of meetinghouse centers grew into substantial villages as civic, religious, commercial, and residential buildings began to cluster in the vicinity. In the southwest part of Cape Cod, a linear village developed at Falmouth Center, extending east from the new 1796 meetinghouse location. In the northwest, a more radial village developed at Sandwich around Shawme Lake. Another linear center village developed at Nobscussett in Dennis. Smaller center villages developed at Harwich, Brewster, and Tisbury. In other towns, village development focused near but not at the established meetinghouse site. At Chatham, local development took place at the harbor to the east of the established 18th-century center, and a new meetinghouse was finally relocated eastward in 1830. At Wellfleet, village development took place along Duck Creek to the west of the meetinghouse site. At Orleans, only a small cluster of buildings developed, at the meetinghouse site, and isolated meetinghouses persisted at Truro and Eastham.

Outside the meetinghouse center areas, secondary settlement concentrations developed at many harbor locations. In many mid-Cape towns in particular, there was a dramatic shift of new settlement activity to the Nantucket Sound shore. The largest of these new centers on Cape Cod during the period was Hyannis, on Barnstable's south shore, where a linear village of over forty dwellings and two meetinghouses was present. Other Barnstable villages developed to the west at Osterville and Cotuit. To the east, maritime settlements also developed at South Yarmouth and South Dennis on Bass River. By period's end, four meetinghouses

were located in the Bass River area. Farther east, new development focused in the West Harwich and Harwich Port areas. Sesuit (East Dennis) developed as a saltmaking and ship building focus on Cape Cod Bay. Small maritime centers also dotted the Buzzards Bay shore in Sandwich (now Bourne) and Falmouth south to Woods Hole. On the outer Cape harbor hamlets developed in Truro and at Rock Harbor in Orleans. On Martha's Vineyard a substantial harbor village developed in Tisbury at Holmes Hole (later Vineyard Haven) in the north, and by period's end this settlement had surpassed inland Tisbury Center as the town's most sizeable local place, with its own parish meetinghouse.

Secondary manufacturing settlements, while not widespread, did occur. Small industrial centers developed at waterpower sites at Marstons Mills in Barnstable, North Harwich, West Brewster, North Sandwich (now Bournedale), and Pocasset (now in Bourne). The most substantial industrial development occurred north of Sandwich Village. Here, at Jarves Village, the Boston and Sandwich Glass Company built a factory in 1825. A group of company-constructed worker houses was located nearby, and in 1829 the Irish employees erected St. Peter's Roman Catholic Church.

Outside these various centers of activity settlement remained dispersed. Individual farmsteads or small clusters of dwellings were scattered on both interior and shore-oriented sites. Fishing-oriented hamlets developed at Billingsgate Island in Wellfleet and Long Point in Provincetown. Seasonal settlement concentrations did occur at a number of isolated sites. Fishing stages were in use at Nomans Land Island off Martha's Vineyard and at Siasconset on Nantucket, and by period's end the cool summer breezes at the latter location were reputedly attracting Nantucket Village residents in search of a resort. Extensive areas of the shore were taken up by saltworks, and the region's windmills were dispersed on hilltops located both near the villages and in the countryside. Isolated parish and nonconformist meetinghouses continued to be built and used during the period. Temporary

Methodist summer camp meetings were also initiated during the period at various times on sites at South Wellfleet, Bound Brook Island (Wellfleet), North Eastham, and West Chop on Martha's Vineyard. The sparsely populated towns of Chilmark and Eastham showed little or no tendency toward centralized growth; nor did the remaining Native American settlements at Mashpee, Gay Head, and Chappaquiddick Island.

Early Industrial Period (1830-1870)

Regional Events

The middle of the 19th century saw the peak in the region's maritime economy, as many communities attained a level of prosperity and development that they would not experience again until the mid-19th century. During the first two decades of the period, many towns continued the growth of the late Federal period coastal trade, and related land-based industries such as shipfitting, saltmaking, and oil processing. See Map 11. Widespread economic success led to the continued growth of many small settlements along the coast, as well as the expansion of the region's major port at Nantucket. However, the last two decades of the period saw an equally pervasive economic decline. The collapse of the whaling industry, the downturn in the amount of regionally-based coastal trade, and changes in fishing technology that favored larger ports, and a smaller, skilled workforce, all resulted in a major reduction in employment opportunities. A considerable emigration of the native-born population resulted.

Despite extensive settlement growth, no major reorientation of political boundaries took place, although three towns were incorporated in the last decade of the period. In 1864, the Elizabeth Islands gained independence from the town of Chilmark on Martha's Vineyard and became the town of Gosnold. Town status was also achieved by the region's two remaining Native American reservations. Mashpee's district status was restored in 1832, and the reservation at Gay Head on Martha's Vineyard was made a district in 1862. In 1870, both districts were incorporated as towns. See Map 12.

Map 11

Early Industrial Period

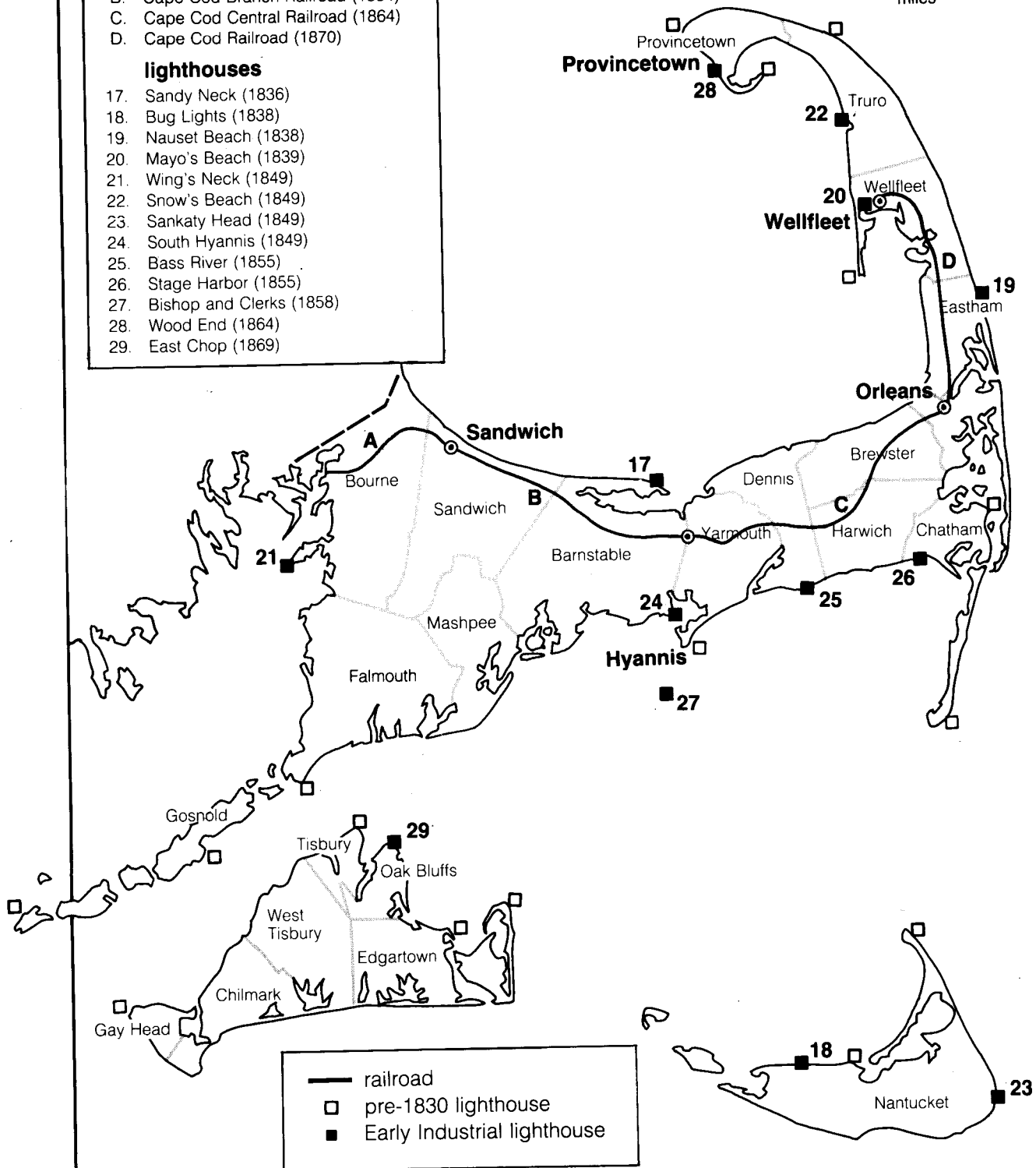
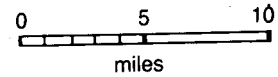
Railroads and Lighthouses

railroads

- A. Cape Cod Branch Railroad (1848)
- B. Cape Cod Branch Railroad (1854)
- C. Cape Cod Central Railroad (1864)
- D. Cape Cod Railroad (1870)

lighthouses

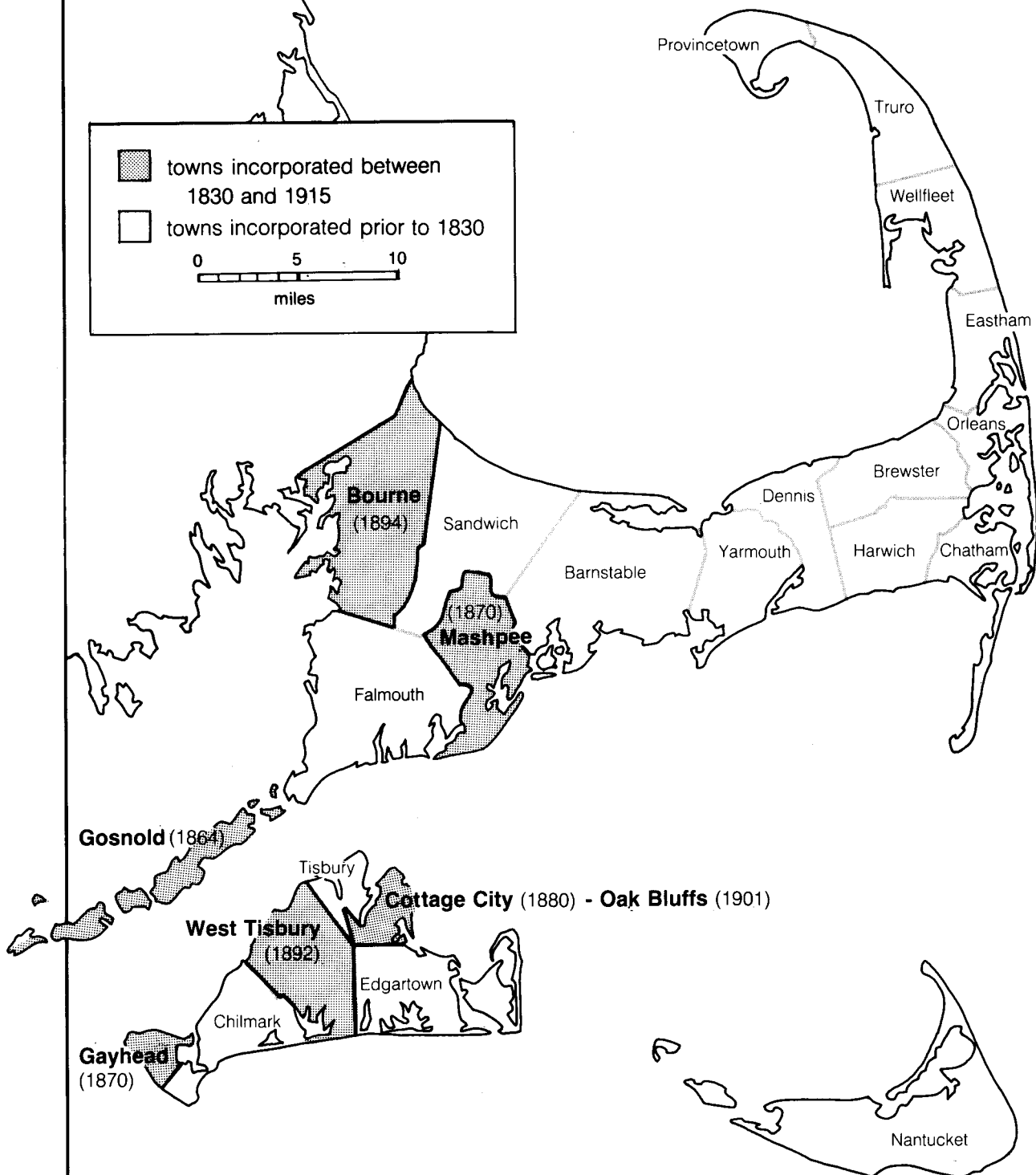
- 17. Sandy Neck (1836)
- 18. Bug Lights (1838)
- 19. Nauset Beach (1838)
- 20. Mayo's Beach (1839)
- 21. Wing's Neck (1849)
- 22. Snow's Beach (1849)
- 23. Sankaty Head (1849)
- 24. South Hyannis (1849)
- 25. Bass River (1855)
- 26. Stage Harbor (1855)
- 27. Bishop and Clerks (1858)
- 28. Wood End (1864)
- 29. East Chop (1869)



Map 12

Industrial Period

Political Boundaries



Transportation

Maritime traffic remained the primary means of regional transport through most of the period, as regular packet service was extended and steam power came into general use. New wharf construction and harbor improvements were undertaken in many locations. Silting of smaller harbors and growing requirements for deep-water ports led to consolidation of shipping activities. After rail connections to the Cape were established in 1848, the importance of packets declined, particularly from Cape Cod Bay ports. The gradual extension of train service east to the Cape's outer arm made high-speed overland movement available as an alternative to an increasing number of localities.

On the Cape, expansion of packet runs continued to the mid-19th century. In addition to towns served by 1830, new routes were established from Boston to Brewster, Chatham, and Provincetown. On the south shore, Bass River packets made regular trips to New York by the 1860s, and from Chatham boats made runs to New York, New Bedford, and Nantucket. Regular steamboat service connected directly from New Bedford to Nantucket, which also saw occasional service from the daily New Bedford to Edgartown run. After 1854, Nantucket had regular service from the mainland railroad terminus at Hyannis. On Martha's Vineyard, service from New Bedford and other mainland points connected to Eastville for the Wesleyan Grove camp meetings from the 1850s until 1867, when an Oak Bluffs wharf was built.

Significant harbor improvements were made on the outer Cape at Provincetown and Wellfleet during the period with the construction of new wharves. Pamet River Harbor in Truro was improved in the 1830s, but by the 1860s it had filled with sand. On the south shore, wharves were constructed at Woods Hole, Hyannis, Bass River, Harwich Port, and Chatham. Holmes Hole, Edgartown, and Nantucket harbors

continued to be important ports on the islands, although Nantucket suffered from the silting of its harbor entrance.

Overland transport improvements came with the extension of the Cape Cod Branch Railroad from the Boston and Middleborough line in Plymouth County twenty-seven miles to Sandwich in 1848. Sandwich Center remained the line's terminus for six years until 1854, when it was extended eighteen miles to Hyannis, making that location the most important port on the south coast. In 1865 the Cape Cod Central Railroad opened service east from Yarmouth over eighteen miles to Orleans. The line was extended an additional fourteen miles north to Wellfleet, where the railroad causeway cut off harbor traffic to the upper wharves at Duck Creek. In all, eight of the region's towns had rail service by period's end.

Population

Population growth slowed during this period. At the regional level, between 1830 and 1870, the population increased by 1,103 from 39,233 to 40,336, a rate of only .3%. Significantly, however, this pattern arises from a mid-period watershed when, in 1850, the region's population reached a high of 48,268. The area which attained its peak earliest was Nantucket, which reached 9,012 in 1840, followed by Dukes County, which reached 4,540 in 1850, and Barnstable which reached 35,990 in 1860. Similar variations can be seen from an examination at the town level. Only Provincetown expanded throughout the period. All other towns for which reliable information is available entered a period of population decline. In Eastham this decline began in 1830 after the town reached a high of 970. In 1840 Orleans reached its peak at 1,974, and Nantucket at 9,012. The year 1850 saw highs in Chilmark (702), Truro (2,051), Wellfleet (2,411), and Falmouth (2,621). In 1855, Tisbury/West Tisbury (1,827), Sandwich/Bourne (4,496), and Brewster (1,525) reached high figures. By 1860, Edgartown/Oak Bluffs (2,118), Barnstable (5,129), Yarmouth (2,752),

Chatham (2,710), and Dennis (3,662) began a decline. Harwich peaked (3,540) in 1865. Only in Falmouth, Barnstable, and Edgartown/Oak Bluffs did later expansions bring population growth exceeding these period highs in 1895, 1925, and 1895, respectively. All of the remaining towns entered a period of population decline from which they would not recover until after World War II, and in some towns, (Chilmark, Truro, Wellfleet, and Nantucket) populations have yet to reach these historic highs. See Table 7.

Table 7
Population of Incorporated Towns in 1870

<u>Large Towns</u>		<u>Small Towns</u>	
Barnstable	4793	Tisbury	1536
Nantucket	4123	Edgartown	1516
Provincetown	3865	Orleans	1323
Sandwich	3694	Truro	1269
Dennis	3269	Brewster	1259
Harwich	3080	Eastham	668
<u>Moderate-sized Towns</u>		Chilmark	476
Yarmouth	2423	Mashpee	348
Chatham	2411	Gay Head	160
Falmouth	2237	Gosnold	99
Wellfleet	2135		

Growth of population, therefore, varied widely within the region. Martha's Vineyard increased at the regional rate while the Cape increased by 14.9%, and Nantucket lost an astounding 42.8%. Still greater variation occurred locally. Towns suffering population loss include Chilmark (-32.2%), Eastham (-31.2%), Orleans (-26.9%), Wellfleet (-18%), Falmouth (-12.2%), and Brewster (-11.3%). Most of the

remaining towns grew only moderately, including Edgartown/Oak Bluffs (.5%), Tisbury/West Tisbury (16.6%), Yarmouth (7.6%), Sandwich/Bourne (9.9%), Chatham (13.2%), Truro (16.6%), Barnstable (20.6%), Harwich (25.6%), and Dennis (41.1%). Dramatic growth at Provincetown continued to outpace all other communities, reaching 126%. These varying rates and watersheds brought shifts in size hierarchy within the region. Employment statistics for 1840 illustrate the dominance of maritime employment in the region during the second quarter of the 19th century, and variations within the region point up patterns that would have significant later consequences. In the region as a whole, maritime pursuits ("navigation" and "commerce" categories) continued to predominate, maintaining a proportion of 59% of the total reporting. Communities with exceptionally high figures for navigation employment include Provincetown (78%), Truro (79.4%), Wellfleet (76.3%), Orleans (63.9%), Chatham (71.1%), Harwich (73.3%), Dennis (74.1%), and Yarmouth (69.6%). On Nantucket, maritime employment equaled 64.7% in navigation and 9.1% in commerce. Manufacturing activities, here including processing characteristic of an entrepot, accounted for 21.1%, while agriculture employed only 4.7%. The island's economy paralleled the region as a whole, but with even greater dependence on the sea, and on the mainland for food and manufactured items.

Agriculture employed only 20% of the region's population, and a few towns employed more than this proportion. The region's most agricultural community was Chilmark (72%), and indeed Martha's Vineyard as a whole included many farms (56%). On Cape Cod, agriculture was particularly important in Mashpee (57%), Sandwich (40%), Falmouth (36%), Barnstable (32%), Brewster (31%), and Eastham (30%). At the same time, ecological restrictions precluded this pursuit in Provincetown, and kept figures exceptionally low in Truro (10%) and Wellfleet (8%). Manufacturing, too, remained secondary in the region, at 16%, and only six

communities had higher totals: Sandwich (27%), Falmouth (26%), Nantucket and Edgartown (21%), Barnstable (20%), and Brewster (17%). With the exception of Nantucket, these communities maintained more balanced economies, combining maritime activities with agriculture and manufacturing.

Figures on employment for the end of the period reflect the impact of population decline and suggest some contributing economic factors. Figures calculated for the region as a whole in 1865 remain similar to those of 1840: Maritime employment (fishing and navigation) remained highest at 67.4%, followed by agriculture at 20.2%, and manufacturing at 12.3%. Intraregional variation increased considerably, however. The most dramatic transformation took place on Nantucket with the demise of the whale fisheries. In addition to a substantial drop in population, the island suffered substantial underemployment. Only 806 male and female employments are reported among 1,259 families, including 260 females manufacturing hosiery and straw goods. The remaining 546 reported include 45.2% in fishing and navigation (a drop of 28.6 from 1840), 44.9% in agriculture (a rise of 40.2 as residents were forced to raise their own food), and 9.9% in manufacturing (a drop of 11.2). On Martha's Vineyard, too, a shift in employment took place as maritime pursuits fell to 29.5% (a drop of 9.5%), including 180 whalers, 120 in fishing, and 27 in navigation. Manufacturing fell to 6.1%, with only sixty-two men (dropping 8.2%), while agriculture rose to 61.8% (a rise of 19.7%), and employing 629 men.

On the Cape, this period saw the concentration of employment types in certain select towns. The glassworks at Sandwich provided the single largest source of employment in the region, 590 jobs, and 52% of Cape residents employed in manufacturing were engaged there. All other towns employed only an average of forty men in manufacturing. Navigation, or trade and coasting, was similarly concentrated. Barnstable and Dennis employed 995, or 61.6% of Cape traders, and

only Brewster, Harwich, and Provincetown employed significant numbers this way. Fishing was also highly concentrated, and five towns employed 92.9% of the area fishermen. The largest fishing port by far was Provincetown, counting 1,858 fishermen, followed by Wellfleet (769), Dennis (722), Chatham (540), and Harwich (437). Comparison of these figures with the number of families resident in the town indicates that these harbors attracted fishermen from neighboring communities. Specialization also influenced the location of agricultural activities. Soil exhaustion and population loss meant a significant drop in the numbers of farmers, both proportionally (21.6% to 13.7%) as well as in absolute numbers (1,972 to 1,174). Only Barnstable and Sandwich reported over 200 farmers; only Brewster, Dennis, and Falmouth between 100 and 150; Eastham, Orleans, and Yarmouth between 50 and 100; Chatham, Harwich, and Wellfleet under 25; and none were reported for Provincetown and Truro. While during the Federal period a mix of economic opportunities would ensure a community's growth, by the middle of the 19th century only specialized towns retained citizens and attracted new ones.

Foreign immigration into the region remained small throughout the period. The traditional employments for this group, manual labor and factory work, were not available in quantity here. By 1855, the first year for which reliable information is available, the region included only 4.7% of its population as foreign-born. This group was concentrated in two of the region's towns, Provincetown (12.3%) and Sandwich (13.6%), and only two other towns had foreign populations over the regional proportion, Nantucket (5.4%) and Chilmark (6.2%). Ten years later, population decline and emigration caused a slight drop from 4.7% to 4.4%. The distribution within the region remained remarkably stable with the exception of the towns with high proportions of the foreign-born, as the figure for Sandwich fell to 9.6%, and in Provincetown it rose to 17.1%.

This small group was quite diverse in composition. As in most of the Commonwealth, the Irish formed the largest group, equaling 56.6% of the foreign-born. They were most numerous in all but four of the region's towns, and concentrated in exceptional numbers, over 500, in Sandwich. British Americans made up the next largest group, accounting for 12.1% of the foreign-born. They were present in small numbers in nearly all towns, and were the most numerous group in Wellfleet and Provincetown, where they numbered 144. The Portuguese group, also 12.1%, formed a distinctive regional pattern. Although they did not dominate in any town, there were 149 in Nantucket and 77 in Provincetown. Finally, the English equaled 10.4%, present too in nearly all towns in small numbers. Ten years later shifts in the proportion and location of these groups had taken place. The Irish had diminished in importance, to 42.9%, while the number of towns in which they dominated dropped from thirteen to ten. The Portuguese became the next most numerous group, rising significantly to 18.6%; they were the most numerous group in Provincetown, where they totaled 237. The number of Canadians rose proportionally to 16.9%, and were also focused in Provincetown. The English-born increased slightly to 12.3% and continued to be evenly distributed throughout the region.

While reporting on many population statistics improved during this period, figures for the nonwhite population remain erratic. The largest stable community remained Mashpee, where the population remained at about 300 to 350 throughout the period. The citizens here were variously reported as "colored," "Indian," and black in the majority, and the town was a distinctly multiracial community. The Gay Head community, reporting for the first time in 1870, equaled only 160. The region's largest black community was located on Nantucket, and reached over 500 in 1840. In addition to forming their own school, this group established an African Baptist church (1831) and a short-lived African Methodist church (1835). In all other

towns the group was too small a minority to establish separate institutions, each town numbering under 100 in 1865.

The most active religious denomination remained the Methodists. Second societies were formed in West Falmouth, East Falmouth, Sandwich, and Nantucket; new, independent societies were established at North Truro (part of the Union), South Wellfleet, Chatham, South Yarmouth, and Chilmark. Schisms and mergers related to church government continued to plague many towns, including Bourne, Dennis, Harwich, Orleans, and Provincetown. The most significant period pattern was the formalization and wide popularity of camp meetings. These continued at Monument Neck (Bourne) and Millenium Grove (Eastham), but were soon overshadowed by the meetings at Wesleyan Grove (Oak Bluffs). The meeting was originally organized for Martha's Vineyard Methodists exclusively, but soon attracted attendees from the Cape and Massachusetts generally. At first, visitors came to the meetings as religious societies and stayed in tents segregated by gender. The meetings began as weekend retreats whose primary events included the Sacrament (Eucharist), Love Feast (testimonials), and Parting (processional and farewell handshake). The popularity of the meeting was enormous, meetings were lengthened, and the curious joined the devout to total 12,000 at Sunday services in 1858. Society tents multiplied rapidly, and soon families took independent tents, and later cottages. In 1868, the meeting included 600 tent and cottage lots leased. Formal preaching took place three times a day with exhorting and prayer throughout the day. The meetings were ecumenical in spirit, attracting many from Protestant denominations as well as Roman Catholics.

During the years of expansion new religious societies were formed in the region. In the new villages a Congregational church was often established, as at North Falmouth, Waquoit, South Wellfleet, Harwich Port, and the Union Society at North Truro. Baptists continued to find converts, and societies were formed at

West Tisbury (1832), Pocasset (Bourne, 1838), as well as among the Native Americans at Mashpee (1830) and Gay Head (1832). Universalist societies were more short-lived, at Truro, Orleans, Yarmouth, Tisbury, and Sandwich, where a Seaman's Chapel was the focus of their activities. Later in the period, the Episcopalians formed churches, on Nantucket (1838), in Woods Hole (1852), in Sandwich (1854), and Tisbury (1862). Roman Catholic services began on Nantucket in 1849, in Provincetown in 1851, and in Harwich in 1865. The Friends community suffered divisions during this period similar to those of other Protestant denominations. Early in the period came the Hicksite schism, bringing the withdrawal of a minority that questioned atonement and the divinity of Jesus. On Nantucket this split occurred in 1831. Later came a second division between the evangelical Gurneyites and the orthodox Wilburites. In contrast to the rest of New England, the Wilburites were the majority on Nantucket, and the groups split in 1845.

The combination of population loss and the success of new religious groups brought an early dissolution of older religious societies. Congregationalist churches faltered at Eastham, Tisbury, and Chilmark, the number of Baptists diminished at Chatham, a union of three churches was formed at Dennis, the Nantucket Friends community was substantially reduced, and at South Wellfleet even the Methodists declined. Perhaps most indicative of regional decline was the pattern of development in the school systems. The district school system held on tenaciously in many towns, the total number of schools was in many instances dramatically reduced, and high school formation was a rare occurrence. By contrast, the region's largest communities, Falmouth, Barnstable, Yarmouth, Provincetown, Edgartown, and Nantucket, expanded and elaborated their social networks with libraries, private academies, and Masonic Lodges. The significant regional pattern, however, was a shrinking of these same institutions, in anticipation of a pattern that

would characterize the Commonwealth's peripheral communities through the remainder of the historic period.

Settlement

During the forty years between 1830 and 1870, the pattern of settlement in communities in the Cape and Islands study unit began to diverge more dramatically as growth peaked and abruptly ended in many towns. As a result, the distinctions between those few places that continued to expand and those in decline became more evident in the landscape. The first two decades of the Early Industrial period saw a continuation of the process of harbor village formation and growth that was initiated in the early 19th century. As the period began, continued growth in commerce and the fisheries led to further expansion of the established shore-oriented centers, as well as a remarkable development of newer secondary villages, particularly along Cape Cod's south shore. The mid-19th century, however, marked an end to growth in many of the region's communities, and the last twenty years of the period saw a slowdown of settlement development throughout the region. Several factors contributed to the contraction of settlement growth. Almost all localities were affected by the downturn in the region's maritime economy. The smaller, less established centers were particularly hard hit. At the same time, expansion of the largest regional port at Nantucket ended with the collapse of the whaling industry. Changes in transportation technology brought about further consolidation of settlement. The growing requirements for deep-water ports meant that maritime-related development concentrated in fewer locations. While the railroad stimulated growth as it made its way across the Cape after 1848, that growth was localized at relatively few points. By 1870, the settlement hierarchy primarily reflected the widespread growth of the 1830s and 1840s. Most of the region's major ports, local maritime centers, and

secondary fishing and commercial villages grew little over the last two decades of the period.

The result of these processes was a relatively complex pattern of settlement intensity. By period's end the general density of settlement in the region was highest in the small maritime towns of the mid Cape and outer Cape. Provincetown's population density in 1870 was by far the region's highest, approaching 500 persons per square mile. Density was also very high (150 per square mile) at Dennis, Chatham, and Harwich, and high (100 per square mile) at Wellfleet, Yarmouth, and Orleans. The densities of the region's most populous towns, Barnstable and Nantucket, were slightly lower at about eighty persons per square mile. Three smaller Cape towns with less intensive maritime development - Truro (61), Brewster (36), and Eastham (47) - retained moderate to low population densities. Also in this category were two larger Cape towns with extensive, thinly-occupied interior areas: Falmouth (50) and Sandwich (44). Mashpee's population density of under fifteen per square mile was the lowest on the mainland. Density also remained low on Martha's Vineyard. Edgartown and Tisbury had below fifty persons per square mile, while Chilmark (23) and Gay Head (26) remained sparsely populated. Gosnold's eight persons per square mile was the lowest figure in the study unit.

Within this regional pattern of concentrations, several types of settlement persisted. Despite the loss of more than half of its 1840 population by period's end, Nantucket Village remained the largest and most complex settlement feature in the region, the most urban of the study unit's many ports. Growth had continued through the 1830s and 1840s. Clustered along the waterfront area were maritime workshops and warehouses, including candle factories, oil sheds, ropewalks, sail sheds, rum distilleries, and cooper's shops. To the west of the waterfront, the Market Square commercial district continued to expand, and stylish institutional

buildings were added in the vicinity. Residential development radiated in all directions, but the greatest growth was toward the south on Pleasant, Orange, and Union Streets. With the construction of a cluster of landmark, high-style residences, Main and Pleasant Streets to the west became the main focus of conspicuous consumption. In 1846, the central area was devastated by a major fire that destroyed 300 structures, or a fifth of the town, including virtually all of the commercial district. Reconstruction quickly followed, as brick and frame commercial blocks, churches, dwellings, and other buildings appeared. With the collapse of the town's whaling economy, however, little post-1850 development occurred.

West of Nantucket on Martha's Vineyard, two other port villages had patterns of settlement form similar to Nantucket, although on a much smaller scale. Both Edgartown Village and Holmes Hole in Tisbury followed Nantucket's pattern of linear extension of wharves, shops, and warehouses along the harbor. Both also developed central business and institutional areas away from the shore, and saw the further extension inland of new residential development. At Edgartown Village the commercial focus developed at the Water Street-Main Street intersection where the Customs House and bank were located, and a monumental Methodist church (1843) and new Court House (1859) were added to the Main Street institutional concentration. Over 100 dwellings were located at Holmes Hole (now Vineyard Haven in Tisbury) by 1839. A small commercial district developed along Main Street, and several new churches were built in the village. To the west, a residential grid developed on Spring, Center, Church, and William Streets.

On Cape Cod major settlement growth took place at Provincetown Harbor, stimulated by continued expansion of the fishing industry. While larger than Edgartown and Holmes Hole, steep topography and sandy soils constrained inland expansion of the village, and development expanded along the Provincetown's harbor

shore. By period's end a linear village, tightly packed with residences, warehouses, shops, stores, and maritime industries extended for two miles along Commercial Street. Thirty wharves extended into the harbor, and a commercial district developed between Union Wharf and Steamboat Wharf. New churches were built along the Commercial Street axis, but the town house (1851) was located inland at the summit of High Pole Hill. New village expansion occurred on a smaller scale at Hyannis on the Cape's southern shore. The main focus of development was at the 1854 railroad terminus at the harbor. A commercial and institutional center developed inland where the railroad crossed Main Street, and residential districts emerged to the north and south. The remaining major settlement focus on the Cape was located on Cape Cod Bay at the Barnstable-Yarmouth border. Intensification of the linear village extending from Pond Village in Barnstable to the Yarmouth meetinghouse took place through the mid-19th century, and a new Courthouse (1831), Academy (1835), and Customs House (1855) were added at the county seat.

Below these primary regional centers, a number of smaller local centers saw continued growth during at least the first half of the period. Most were oriented toward harbor sites, as were the larger settlements, but the scale, intensity, and complexity of these villages were at a much lower level. At period's end, the most developed of these smaller centers was the bayside settlement focus on the outer Cape at Wellfleet Harbor, where wharf and packing facilities concentrated on the west bank of Duck Creek. A business district emerged along Commercial Street west of the wharves with banks, insurance agents, and shipfitting industries. To the north, local churches located at a new civic center on Main Street. Among the larger local villages, Sandwich Center was an exception to the trend of maritime-related growth. Here, development was stimulated by railroad connections after 1848 and further expansion of the glass industry. A commercial center developed west of the meetinghouse, and new civic and religious

structures were added. Smaller meetinghouse villages with no close link to harbor development continued to grow at Dennis and Brewster, where residential, civic, and religious structures were added through the end of the period. Even more exceptional, in the interior of Martha's Vineyard, agriculture-oriented Tisbury Village (West Tisbury) saw some growth, with the addition of Dukes County Academy, new church edifices, an Agricultural Hall (1859) and fairgrounds, and several residences.

The majority of the region's smaller villages were based on the fishing or shipping economy. Wharves were built, small residential clusters developed along the main coastal roads, and by mid century churches had been erected in many of these secondary centers. Secondary maritime-oriented villages continued to appear and grow all along the south shore from Woods Hole east to Chatham. The largest of these were Cotuit Port, Osterville, and Centerville in Barnstable, and Dennisport-West Harwich to the east. Along the Bass River shore, South Yarmouth, South Dennis, and West Dennis all grew as maritime-oriented villages. East of Bass River, wharf facilities were developed at Harwich Port. Chatham Village continued to expand as the civic center developed at the Head of Oyster Pond. In the west, Falmouth Village also expanded through the 1850s, and new civic and religious structures were added. Less intensive development took place along the Buzzards Bay coast. Secondary bayside harbor villages persisted at Truro Village, Rock Harbor in Orleans, East Dennis, and West Sandwich.

Besides the growth and decline of commercial and fishing villages, an additional transformation in the regional landscape was seen in the appearance of resort centers. While a few Cape towns had hotel facilities for tourists, the first major seasonal resort settlement developed in the northeastern part of Martha's Vineyard on East Chop with the annual gathering of the Methodist Martha's Vineyard Camp Meeting Association. The group's first meeting here took place in 1835,

and by 1840 a site was established at Wesleyan Grove. In 1848, fifty tents were raised for the meeting. Ten years later the summer session at Wesleyan Grove had grown to a Canvas City of 320 tents. By the late 1850s, Carpenter Gothic cottages were being erected at the campground, and in 1859 an administration building was erected. In 1870, a large canvas tabernacle was raised at Trinity Park. Meanwhile, Eastville grew as the landing point for summer visitors and as the focus of seasonal local services for visitors. The success of Wesleyan Grove soon attracted speculative, secular resort development, and in 1866 the Oak Bluffs Land and Wharf Company was formed to undertake promotion of lands adjacent to the camp meeting area. Although Oak Bluffs represented a major seasonal resort in the study unit, other locations attracted summer recreational activity. On the Cape, Methodist camp meetings were held at Millenium Grove in Eastham through 1863, when it was relocated to an inland site in Yarmouth along the railroad corridor. By period's end, resort hotels had been opened on Nantucket in the center village and at Siasconset. On the Elizabeth Islands, sport fishing clubs were established on Naushon and Cuttyhunk islands.

Late Industrial Period (1870-1915)

Regional Events

The last three towns incorporated in the study unit were created during this period. See Map 12. On Martha's Vineyard the Methodist campground and summer resort settlement at Cottage City separated from Edgartown in 1880 after an extended controversy over local tax assessment practices. The corporate name was changed from Cottage City to Oak Bluffs in 1907. On Cape Cod, resort development on Buzzards Bay and industrial growth at Sagamore led to separation of the western part of the large town of Sandwich as Bourne in 1884. The last new local corporate entity created in the study unit appeared on Martha's Vineyard in 1892. The town of Tisbury split after over a decade of agitation for separation by the inland agricultural population, which did not wish to pay for urban-level services for the growing Holmes Hole focus, and the interior area took on the name of West Tisbury.

The post-Civil War period saw the continued decline of the region's maritime economy. By the late 19th century, the region's peripheral relation to the trends of urban-industrial growth of other parts of the northeastern United States was clear. Shrinking employment opportunities, emigration, and population decline were all signs of the region's removal from the focus of economic development. Farmers and fishermen continued to provide food for growing urban markets outside the region. With the extension of railroad lines through most of the mainland area, the influence of metropolitan centers took the form of a seasonal influx of resort seekers and tourists, and the resort trade brought renewed growth and prosperity to several

communities. As in other parts of the state, diversification of the ethnic composition of the resident population took place, here limited largely to the growth in numbers of Portuguese-speaking Azoreans and Cape Verdeans, concentrated primarily in the fishing enclave at Provincetown.

Transportation

The Late Industrial period was marked by continued improvements in overland transportation in the study unit. See Map 13. Railroad lines were extended on Cape Cod so that by 1890 every town but Mashpee had local train connections. Rail service was also introduced on Martha's Vineyard and Nantucket. Trolley, and later electric streetcar service, was introduced to a limited extent in the late 19th century. Only one line was established in the Cape region, and short routes were built on Martha's Vineyard and Nantucket to serve their summer resort populations. Serious efforts were undertaken to construct a Cape Cod canal during the period, and in 1914 a ship canal through Bourne and Sandwich was officially opened to traffic.

In 1872, the Cape Cod Railroad Company was united with the Old Colony line as the Cape Cod Branch division. The next year, service was extended fourteen miles from Wellfleet to Provincetown to bring service to the Cape's outer tip. In the western part of the region, the Woods Hole Branch Railroad began operations along seventeen miles of the Buzzards Bay coast in 1872, and special summer "Dude Trains" were soon bringing tourists and vacationers, setting off a resort boom along the line. The final mainland railroad in the region opened in 1887, when the Chatham Branch Railroad initiated service from Harwich to Chatham in the east. On Martha's Vineyard, railroad service was established in 1874 from Oak Bluffs Wharf through Edgartown Village to Katama Point on the island's south shore. Because of the exposed situation of its route along the island's east coast, this line

Map 13

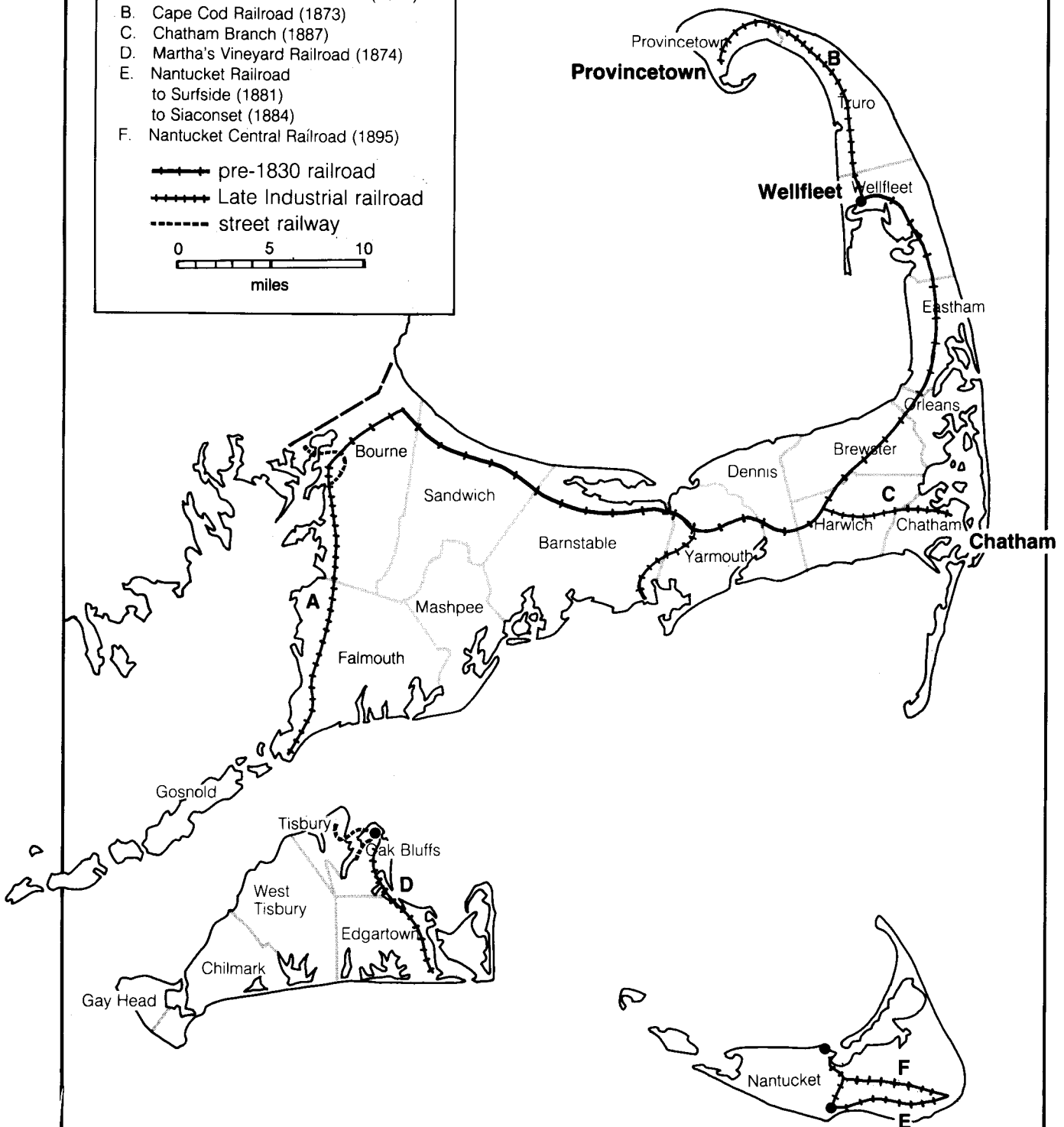
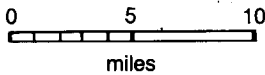
Late Industrial Period

Railroads, Street Railways and Canals

railroads

- A. Woods Hole Branch Railroad (1872)
- B. Cape Cod Railroad (1873)
- C. Chatham Branch (1887)
- D. Martha's Vineyard Railroad (1874)
- E. Nantucket Railroad to Surfside (1881)
- to Scaconset (1884)
- F. Nantucket Central Railroad (1895)

- +—+— pre-1830 railroad
- +—+— Late Industrial railroad
- - - - - street railway



suffered repeated winter storm damage, and maintenance costs combined with a shaky financial situation ultimately led to bankruptcy in 1896, after twenty-two years of operation. In 1881, railroad service was opened on Nantucket by the Nantucket Railroad Company, which constructed a narrow gauge line from the Village to the south shore at Surfside. In 1884, this line was extended east along the south shore to Siasconset. By 1895, however, the route through Surfside had been abandoned and was replaced by a direct, inland connection between Nantucket Center and Siasconset on the Nantucket Central Railroad.

Trolley service in the study unit was initiated at Oak Bluffs in 1873 when a horse railway was routed from Highland Wharf south to a loop around the Campground circle at Trinity Park. In 1892 this line was extended west to New York Wharf, and to the Prospect House at Lagoon Heights. Horsecar service also operated briefly on Nantucket between 1890 and 1894, when the Beach Street Railway Company ran a route from Main Street along Brant Point Road to the lighthouse. Electric street railway service was introduced in the 1890s, and the Oak Bluffs line was converted by the Cottage City Electric Railway Company in 1895. A powerhouse was built at Eastville, and the line was extended west to Lagoon Bridge. Two years later, neighboring Tisbury opened the Martha's Vineyard Street Railway, which ran from Vineyard Haven Wharf east to Lagoon Bridge, where passengers could transfer to the Cottage City line. By 1900, electric streetcar service had also extended onto the Cape from the southeastern Massachusetts region. Service on the New Bedford and Onset Street Railway Company served Bourne along Washington Avenue and Buzzards Bay Road to Bourne Center. The route then continued south along the County Road to Beach Street and Monument Beach.

Private attempts at excavation of a ship canal along the Monument River corridor were renewed during the period. The Cape Cod Canal Company was chartered in 1880, but construction efforts were abandoned after some initial

work had been completed. A Cape Cod Ship Canal Company was authorized three years later, but the project failed after a million cubic yards had been excavated. Canal building efforts were renewed in 1909, this time successfully, and the Cape Cod Canal officially opened in 1914.

Packet service between the mainland and the islands continued, with increasing seasonal importance of tourist runs. After the completion of the Woods Hole Branch Railroad in 1872, steam packet service to Nantucket was shifted here from Hyannis. In 1874, twice daily summer runs were initiated. In 1879, regular steam service from Nantucket to New Bedford began, and seven years later the New Bedford, Martha's Vineyard and Nantucket Steamboat Company was incorporated.

Population

Two key developments in the regional economy influenced population patterns in the Cape and Islands study unit during the period from 1870 to 1915. Most significant was the continued decline of the regional maritime economy, which brought about population losses in most of the region's towns. The period saw an overall decline in employment opportunities in the region. Between 1875 and 1905 male employment in fisheries fell 38 %, and in maritime transport it fell 59 %. Male employment in agriculture dropped 35 %, and manufacturing and mechanical industries had a 14 % decline. At the same time, growth in summer resorts provided new forms of seasonal work that drew people into several of the region's towns. With native emigration and foreign-born immigration, the composition of the region's population continued to change, and the diversity of residents increased in the few towns that grew during the period. Elsewhere, the drop in employment opportunities led to the consolidation or loss of local services and organizations such as schools and churches as populations dwindled and the living standards of those who remained declined. As the popularity and accessibility of parts of the

region as summer resort settings increased, the contrast between nonresident and resident populations grew more apparent, with the rise of more exclusive or specialized churches, clubs, and other associations oriented to the seasonally present groups. At the same time, greater ethnic diversity led to the formation of new voluntary organizations by the growing immigrant communities.

Overall, the study unit's population declined 9 % over the forty-five-year period, from 40,336 to 36,888. Barnstable County saw an 11 % drop, while Nantucket lost 23 % of its population during the period. In contrast, Dukes County, where resort development was strong, grew by 29 %. Only eight of the twenty-three towns in the region showed a net population gain over the forty-five-year period. Growth was greatest in the region's resort communities. On Buzzards Bay, the new town of Bourne had the highest growth rate in the study unit (96 %), even though population figures are only available after 1885. South of Bourne, the resort community at Falmouth had the second highest growth rate on Cape Cod (75 %). On Martha's Vineyard, relatively high rates of growth occurred at the new northern resort communities. Oak Bluffs experienced an 85 % rate of growth during the last thirty-five years of the period after its separation from Edgartown, and Tisbury saw a 32 % increase during the last twenty years of the period after splitting from West Tisbury. More moderate growth occurred at the Cape's two most populous centers. Barnstable showed a net growth of 4 %, although it had a population loss of 16 % over the first twenty years of the period. Provincetown showed a net growth of 11 %, although it experienced even greater growth (20 %) during the period's first twenty years before peaking around 1890. Two small Dukes County communities also showed gains. Gosnold increased by 57 % and Gay Head grew by 9 %, but these figures represent the total addition of only seventy-one persons in the two towns.

The remaining fifteen towns in the study unit lost population during the period, and thirteen of these had decreases greater than the study unit average of -9%. Only Edgartown (-2%) and West Tisbury (-4%) on Martha's Vineyard had declines of less than the regional average, but figures for these two towns cover only the latter part of the period, since both communities were involved in corporate separations. The greatest concentration of population decline in the study unit occurred on Cape Cod between Barnstable and Provincetown. Between these two centers of growth, all towns lost population. See Table 8.

Table 8

Population of Incorporated Towns in 1915

<u>Large Towns</u>		<u>Small Towns</u>	
Barnstable	4995	Wellfleet	936
Provincetown	4295	Brewster	783
Falmouth	3917	Truro	663
Nantucket	3166	Eastham	545
Bourne	2672	West Tisbury	441
		Chilmark	288
		Mashpee	263
		Gay Head	175
		Gosnold	155
<u>Moderate-sized Towns</u>			
Harwich	2179		
Dennis	1822		
Chatham	1667		
Sandwich	1500		
Yarmouth	1415		
Tisbury	1324		
Edgartown	1276		
Oak Bluffs	1245		
Orleans	1166		

The greatest rates of population loss took place on the outer Cape, where Wellfleet lost over half its population (-56%), and Truro suffered a nearly equal decline (-48%). Only slightly less dramatic were the mid-Cape losses at Dennis (-44%) and Yarmouth (-42%) over the period. Brewster (-38%) and Harwich (-29%) also had high rates of decline, and Chatham lost 31% of its population. The outer Cape towns of Orleans (-12%) and Eastham (-18%) showed more moderate rates of population decrease over the period. All these communities were affected by the depression in the fisheries and the decline in the region's maritime shipping industry, both of which led to drastically lowered employment opportunities. Harwich, for example, lost 95% of its jobs in the fisheries between 1875 and 1905. In the same period, Brewster's employment in marine transportation dropped 93%. West of Barnstable, Mashpee's population declined 24%. Employment in manufacturing in Sandwich dropped 73% between 1875 and 1905 with the loss of the glass industry, and the town lost 29% of its population in the period after Bourne separated. On Martha's Vineyard, Chilmark stood out amid the general increase in population with a 39% decline. Nantucket's population continued to drop (-23%) during the period. Thus, in spite of only moderate growth, the hierarchy of town size within the region shifted.

As the regional population declined generally, the proportion of foreign-born grew from 6% in 1875 to 17% in 1915, with a regional rate of increase of 148%, to a total of 6,205 individuals in 1915. In 1875, only five towns in the study unit had foreign-born populations greater than the proportion for the study unit as a whole. Three of these (Provincetown, 23%; Truro, 8%; and Wellfleet, 6%) were fishing communities on outer Cape Cod. Sandwich (10%) was the main manufacturing center in the region. Gosnold's proportion of foreign-born (10%) represented only eleven individuals. The remaining towns in the region had foreign-born populations of 5% or less, and eight of these had immigrant populations of 2% or less.

The most numerous group, the Portuguese, were present in fourteen of the region's twenty towns. The Irish were the most numerous foreign-born group in eight of the region's towns. Irish and Canadians were present in all but Mashpee, Gay Head, and Chilmark. Four groups made up 92% of the region's immigrant population: Portuguese (31%), Irish (25%), Canadians (21%), and English (15%). The least numerous group, English-born immigrants, were found in all the towns of the study unit.

In 1875, the greatest concentration of foreign-born, representing 40% of the region's immigrant population, lived in the fishing center of Provincetown. The region's only major concentration of Portuguese immigrants made up 59% of the town's foreign-born population, and the region's largest concentration of Canadians composed 26% of the local total. A smaller Irish group (19%) was also present. After Provincetown, the region's only other significant immigrant focus was the industrial center at Sandwich, where 14% of the region's foreign-born lived. The region's largest concentration of Irish immigrants made up 57% of the town's total foreign-born population, followed by English-born at 27%, and the region's only clusters of French (sixteen individuals) and Germans (twenty-nine individuals). Outside these two centers, few other concentrations of immigrants were present in 1875. A Canadian concentration was located at the fishing center at Wellfleet, where it made up 71% of the local foreign-born, and to the north, the Portuguese fishing community in Provincetown had spread into Truro, where it made up 60% of the town's immigrant population.

Nonwhites made up 2% of the regional population in 1875. While problems with reporting of nonwhite population statistics exist, local concentrations are discernible. Native Americans and blacks made up the majority of the population of two towns: Mashpee (83%) and Gay Head (94%), a fact that marked the continued distinctive character of these two former Native American reservations.

Elsewhere, only small concentrations of nonwhite populations were present in Barnstable, Sandwich, Edgartown, Tisbury, and Nantucket.

By 1905, the region's foreign-born population had grown to 14 % of the study unit total, and its composition and distribution had changed considerably. Only eight towns had foreign-born populations of less than 10 %, while nine had immigrant populations greater than the regional average: Gosnold (37 %), Provincetown (28 %), Oak Bluffs (26 %), Falmouth (18 %), Wellfleet (18 %), Sandwich (17 %), Truro (17 %), Edgartown (15 %), and Chilmark (14 %). Portuguese-speaking immigrants, primarily Azoreans and Cape Verdeans, made up 69 % of the region's foreign-born population, and this was the most numerous non-native group in thirteen towns in the region. The proportion of Canadian immigrants dropped to 15 %, Irish to 8 %, and English to 5 %. Although in decline, Canadian immigrants remained the most numerous non-native group in six Cape Cod towns. The Irish remained the largest immigrant group in Sandwich. With 26 % of the region's foreign-born, Provincetown remained the largest immigrant center, dominated by the Portuguese-speaking, who made up 81 % of the local foreign-born. The Portuguese fishing population spread to other maritime centers in the region, and they became the most numerous group on Nantucket and in all the Martha's Vineyard towns except Gay Head. Falmouth and Harwich had large Portuguese communities, many of whom found agricultural employment. Regional diversity was added with the establishment of a small Finnish immigrant cluster in Barnstable (19 % of local foreign-born) and Sandwich (20 %), and in 1905, Sandwich also had a small group of Italian immigrants. With their nonwhite majorities, Mashpee (90 %) and Gay Head (92 %) remained distinct enclaves. Oak Bluffs (8 %), Bourne (5 %), and Barnstable (2 %) had the region's other largest nonwhite concentrations, but it is unclear what percentage of this group was of Portuguese West Island extraction and what native.

The number of Roman Catholic parishes and missions grew with the increase in Irish and Portuguese populations, and as the demand for summer services by seasonal visitors rose. Thirteen new parishes and missions were added during the period. Four churches were formed in Falmouth at Woods Hole, Falmouth Village, North Falmouth, and Buzzards Bay. In Barnstable, three churches were added at Hyannis, Osterville, and West Barnstable. Truro formed two churches, one at Truro Village, the other at North Truro. Other churches were established at Oak Bluffs, Yarmouth Port, Wellfleet, and East Brewster.

The increase in summer resort population led to the establishment of nine new Protestant Episcopal churches in the region. Barnstable added three at Barnstable Village, Hyannis Port, and Wianno. Other churches were formed at Falmouth, Provincetown, and Harwich Port, and at Tisbury, Oak Bluffs, and Edgartown on Martha's Vineyard. The growing resort population also seems to have brought an interest in Christian Science, and meetings of this group were organized in Brewster, Orleans, Chatham, Falmouth Center, Buzzards Bay, and Siasconset on Nantucket during the period. Nondenominational Union Chapels were built for summer residents at Oak Bluffs, and at Siasconset. Summer Methodist camp meetings continued to be held at Oak Bluffs, where the Methodists also established a church and chapel at Trinity Circle. In 1875, the Methodists were joined at Oak Bluffs by a separate Baptist camp meeting. On Cape Cod, camp meetings continued at Yarmouth, Craigville (Barnstable), and Harwich Port, where the Cape Cod Spiritualists and Liberals gathered.

Among the year-round, native-born population, several shrinking congregations chose to consolidate, close, or support only irregular or seasonal services. On Cape Cod, South Parish Yarmouth and Hyannis Congregational churches united in 1880. The Baptist Church at Orleans was removed in 1889. On Martha's Vineyard, the Chilmark Congregational Church was torn down in 1875. The Friends

Meetinghouse on Nantucket survived, but the few remaining society members sold the building to the Nantucket Historical Society in 1894.

The region's nonwhite population also organized religious services during the period. A Zion Union Church at Hyannis served some of the region's black residents. On Martha's Vineyard, a schoolhouse at Christiantown in West Tisbury was converted to a chapel for the area's Native Americans. No new societies were formed at Mashpee, but several temperance groups were active. At Oak Bluffs, separate black Baptist camp meetings were initiated in 1875.

Both seasonal and year-round inhabitants formed a variety of new secular organizations. The growing concentrations of high-income summer residents in many locations established yacht and country clubs. Among the more notable local associations formed by seasonal residents were the Provincetown Art Association (1914) and the Provincetown Players (1915), established by the town's growing colony of artists and writers. The academic enclave affiliated with marine biological research at Woods Hole in Falmouth formed several distinctive associations, including an Equal Suffrage League in 1913. In the face of population decline and the downturn in the maritime economy, native-born groups continued to form voluntary associations. Mutual benefit and insurance groups were formed in many communities, and temperance reform associations were active throughout the region. In towns where farming was still viable, granges were formed; and where some level of prosperity was sustained, village improvement societies, lyceum societies, and library associations were established.

Settlement

The Late Industrial period saw a realignment of the settlement pattern in the study unit as maritime-oriented activities continued to decline generally and to concentrate at the deeper harbors. The extension of railroad service brought new growth to several communities. At the same time, resort development spread through the region. Seasonal resort settlements and concentrations appeared, particularly at Bourne and Falmouth on the Buzzards Bay shore and on Barnstable's Nantucket Sound shore. On the islands, a significant resort and camp meeting center developed at Oak Bluffs on Martha's Vineyard, and tourism also became an important component of Nantucket development. By period's end, hotels, cottage colonies, and summer estate districts had appeared in many localities.

The regional landscape had been transformed from one oriented toward fishing and maritime commerce to one designed to enhance seasonal recreational activities. While maritime functions persisted in several ports and fishing villages, many existing centers were transformed with the addition of tourist facilities. Outside the villages an entirely new recreational landscape developed along the coast. Commercial agriculture persisted in some interior locations, but in general the inland and coastal area little affected by the new summer growth saw varying degrees of decline and abandonment.

By the period's end, significant changes had occurred in the general density of settlement in the region, as population in the small maritime centers dropped and the new resort areas grew. Provincetown remained by far the most densely populated town in the region, with over 500 persons per square mile. Below Provincetown, the two most thickly settled towns in 1915 were the resort centers on Martha's Vineyard: Tisbury (184 per square mile) and Oak Bluffs (174). Density in

Chatham and Harwich on the Cape fell, but remained over 100 per square mile, as the decline in maritime activity was partially offset by resort growth. Four other Cape Cod towns had relatively high (over eighty per square mile) population densities. These included the large towns of Falmouth and Barnstable, as well as Dennis and Orleans to the east. Density of settlement remained moderate (below seventy-five) in Bourne, Yarmouth, and Nantucket, and low (below fifty) in Wellfleet and Edgartown. Very low (below forty) pockets of population density remained on Cape Cod at Eastham, Truro, Sandwich and Brewster. Mashpee's density (eleven) was the lowest of any town in the region. Western Martha's Vineyard also remained an area of very sparse settlement, with Gay Head below thirty per square mile, and West Tisbury, Chilmark, and Gosnold all below twenty.

At the Cape's outer tip, growth continued at Provincetown Village, which by the 1880s extended for three miles along the harbor waterfront. With the arrival of the railroad, the business focus shifted east along Commercial Street to the Old Colony Wharf (MacMillan Wharf), with the railroad station nearby at Bradford and Standish Streets. Maritime development continued along the harbor with the addition of several fish cold storage plants after 1890. Institutional developments included a new high school (1880) and landmark town hall (1865). St. Peter's Catholic Church (1874) was located at the northwest periphery of the village, and in the late 19th century the West End was increasingly occupied by Azorean and Cape Verdean fishing families. After the 1890s, summer resort seekers came to Provincetown in growing numbers, and in the early 20th century, the East End became the focus of an artist and bohemian literary colony, with rental lofts established at Day's Lumberyard.

Considerable settlement expansion occurred on the mid Cape around the Hyannis focus along the south shore. At Hyannis, commercial expansion continued near the Main Street depot focus, although a 1904 fire destroyed many central

business district structures. Residential development continued north and south of Main Street, and the State Normal School was located in the center. Summer resort development spread southwest to Hyannisport and included a golf club (1897), a yacht club, Union (1890) and Episcopal (1911) chapels, as well as hotels and high-income estates. To the west, several secondary resort centers developed along the Barnstable coast. A Christian camp meeting ground was established at Craigville in the 1870s with cottages, a hotel, and a tabernacle (1887). Development also occurred at Osterville, where oceanside summer estates were built along Wianno Avenue and an Episcopal chapel and Catholic church were added, and at Cotuit Heights, where a Methodist Church was located. In the north, institutional additions were made at the county seat at Barnstable Village, and a golf course was located at Cummaquid in 1895.

To the west of Hyannis, resort development focused at Falmouth Village and Woods Hole. A planned, speculative resort development was established at Falmouth Heights in the early 1870s. Cottages, hotels, and an observation tower were laid out on a radial street pattern on highlands overlooking Vineyard Sound, and a wharf was built for steamboat connections to New Bedford. By the 1890s, Episcopal and Catholic churches had been built, and residential development spread into the lowlands to the east and west. To the northwest of Falmouth Heights, Falmouth Center continued to grow as a commercial and civic focus. The business district shifted west toward the railroad depot, while the civic center moved east on Main Street with the addition of a new town hall (1881), high school (1895), and library (1901). East of Falmouth Heights, local resort clusters developed on Vineyard Sound at Mara Vista and Waquoit Bay, and as early as 1870 Universalist camp meetings were held at Menauhant, followed four years later by the formation of the Manauhant Land and Wharf Company.

At Woods Hole, a summer estate district replaced the Pacific Guano Works at Penzance Point. With the growth in summer population, Methodist, Catholic, Episcopal, and Congregational churches were built in the village. The United States Fisheries Commission built its headquarters here in 1884, and five years later the Woods Hole Biological Institute located nearby. North of Woods Hole, resort colonies and estate districts were developed along the railroad corridor at Silver Beach and Megensett Shores in North Falmouth, Chappaquoit Point at West Falmouth, Sippewisset (where the landmark Cape Codder Hotel was built in 1898), and Quisset Harbor. North of Falmouth, resort development in Bourne also spread along the railroad corridor that extended parallel to Buzzards Bay. Resort areas were established at Gray Gables, Monument Beach, and Pocasset. Buzzards Bay Junction grew as a commercial center, and after the incorporation of Bourne, Bourne Village became the local civic center, with a new library (1897), high school (1905), and town hall (1911).

East of Barnstable, resort growth spread from Hyannis into West Yarmouth along Lewis Bay, where developments were laid out at Hyannis Park and Englewood Beach. Resort residences also were built along Bass River at South Yarmouth. A small commercial focus developed near the lower Bass River Bridge, and the American Metal Fabric Company located a plant here in 1885. Farther east, resort growth focused at West Harwich and Harwich Port, where hotels and resort homes were built in the 1880s and 1890s. By ca. 1890 the Ocean Grove camp meeting ground had also been established at Harwich Port. To the north, Harwich Center remained a local focus of civic and commercial activity, with the addition of a library, high school, and the four-story, brick Exchange Building in the 1880s. East of Harwich, Chatham developed as a summer resort center after rail connections were opened in 1887. Hotels and inns were built on Pleasant Bay and Chatham Harbor. A resort estate district developed along Shore Road, where the

landmark Chatham Bars Inn was located in 1914. A small commercial district developed on Main Street, and a town hall (1878) and library (1896) were added during the period.

Development continued along the Cape Cod Bay shore, although it was less spectacular than elsewhere. The region's only major new industrial center developed in the west at Sagamore in Bourne with the expansion of the Keith Freight Car Manufacturing Company. Residential additions here included a cluster of tenement rows. At Sandwich Center, the commercial district was rebuilt after an 1870 fire, and a high school and library were built in the 1880s. However, the closing of the glass works in 1888 meant an end to settlement expansion in the village area. East of Barnstable, Yarmouth Port continued as an important institutional center, and new churches, a library, and a lyceum hall were built here. To the south, cottage additions were made at the Yarmouth Camp Meeting Grounds. Dennis Village developed as a resort focus with the construction of the Cape Cod Bay (1871) and Nobscusset (1890) hotels on the Bay shore. Further east, Brewster saw high-income resort additions, including monumental summer estates built at East Brewster in the early 20th century.

On the outer Cape, the Orleans depot area grew as a small commercial focus, and a small depot hamlet developed at Eastham. At Orleans summer homes were built at Nauset Beach. Both Orleans and Eastham built central town halls and libraries during the period. Wellfleet saw resort-related growth during the period, with the addition of summer estates and hotels near Wellfleet Harbor, including the Chequessett Inn (1885). At Truro, tourist-oriented development focused at the Atlantic shore highlands area where a hotel, golf course, and some summer homes were located in the 1890s. On the Bay shore, little local development occurred, although Catholic churches were added at Truro Center and North Truro to serve the growing Portuguese fishing population.

Resort growth was also the main focus for settlement expansion on the islands. On Martha's Vineyard, the primary center of settlement growth was the camp meeting and resort development at Oak Bluffs. Summer cottages and hotels were built in and around the Trinity Park Methodist Camp Meeting Grounds, and a cast-iron tabernacle was constructed on the grounds in 1879. The Oak Bluffs Land and Wharf Company developed adjacent lands as a secular resort, with the construction of a wharf, the landmark Seaview Hotel, a boardwalk, and amusement area. Circuit Avenue grew as a business district, and amid widespread cottage construction, Ocean Park was developed with larger Victorian residences. To the north, the Highland Circle area developed as the focus of the Baptist camp meetings, and a secondary wharf/hotel focus was established at Highland Wharf. The Martha's Vineyard Summer Institute located here in 1882. By period's end, summer estates had been built along the East Chop shore. Resort development also continued at Holmes Hole (later renamed Vineyard Haven) in neighboring Tisbury. The central district was rebuilt after a devastating fire in 1883. In the 1890s the West Chop Land and Wharf Company built a summer estate district to the north.

On Nantucket tourism stimulated hotel development both in the central village, where a cluster developed on Orange Street in the 1870s, and at outlying locations, where period hotels were built at Head of the Harbor, Brant Point, and Surfside. The Ocean House was located at Siasconset in the east in 1873, and the area was successfully developed with the growth of a residential cottage cluster at Sunset Heights and the addition of a Union Chapel (1883), casino (1899), and golf course.

Throughout the period, the inland areas of the inner and mid Cape remained sparsely settled. Agricultural activities continued, with intensification of cranberry growing and market gardening in many locations. Mashpee remained a sparsely settled enclave on the south shore. Martha's Vineyard outside the northern resort centers also saw little settlement growth. Some infill and additions were made at

Edgartown Village, and the Mattakeset Lodge was located in the southeast at Katama Point in 1873, but nothing came of attempts at real estate speculation in that area. Only dispersed development occurred in the other towns on the Vineyard. To the west on the Elizabeth Islands, fishing clubs were established at Pasque Island and Cuttyhunk Island, and Cuttyhunk Village grew as the main settlement focus of the town of Gosnold. Penikese Island was briefly the location of the Anderson School of Natural History and was subsequently the site of the State Leper Colony.

Early Modern Period (1915-1940)

Regional Events

Tourism and resort development continued to be the generators of regional growth during the Early Modern period. Economic prosperity in the 1920s continued to stimulate seasonal resort development, and provided employment opportunities in business and services oriented toward the expanding summer population. Increased use of the automobile had a pervasive effect on the mainland part of the region. New highway construction improved access to the region, and the completion of New Bourne and Sagamore bridges over the Cape Cod Canal established high-speed gateways to the region from the metropolitan areas to the north and west. The rise in tourism stimulated widespread seaside cottage construction as well as auto-oriented commercial development. The presence of the military as an important component of regional development came with the establishment of Camp Edwards and Otis Air Force Base. With ever-growing popularity and accessibility as a resort region, the area's population once again increased over the period.

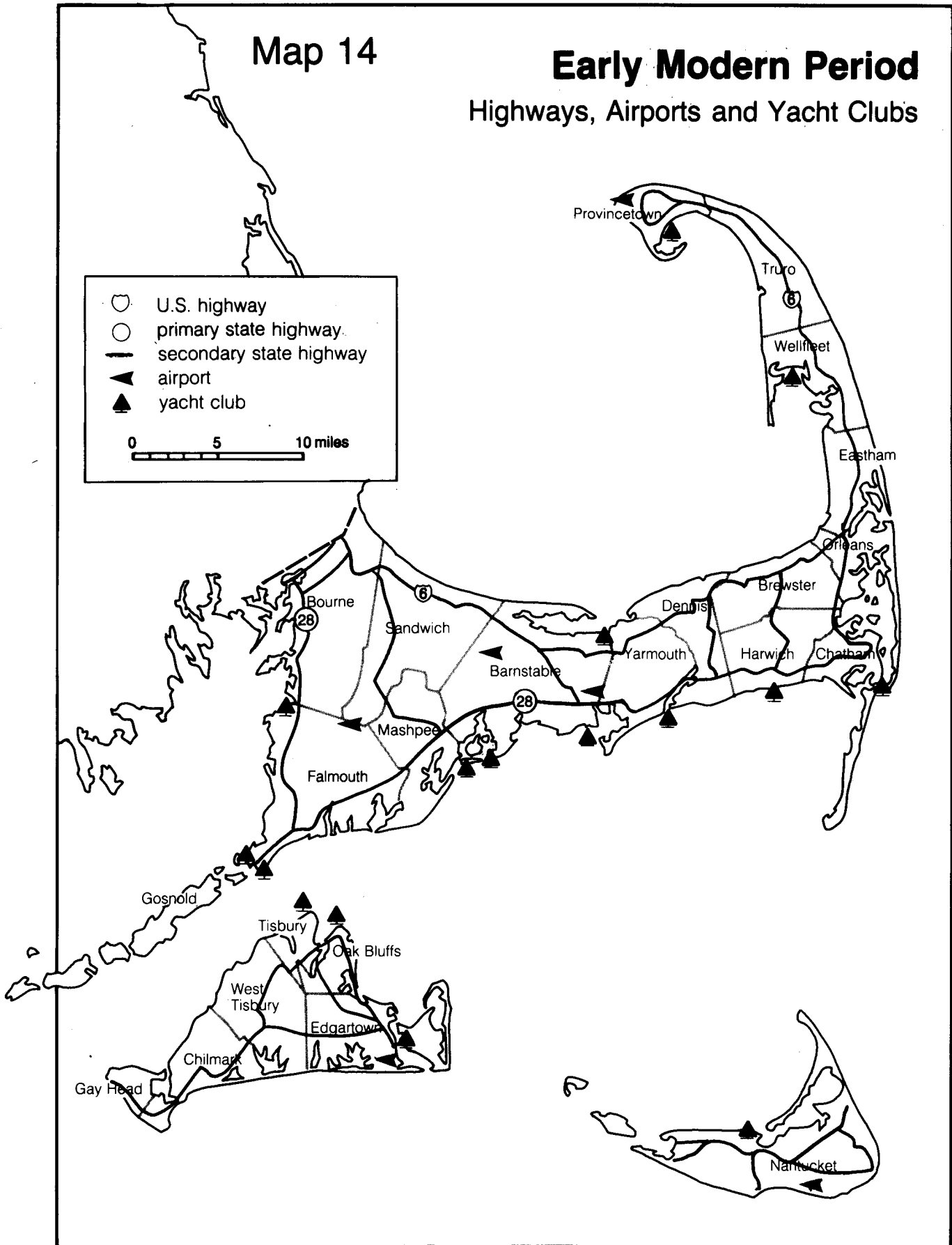
Transportation

The most significant transportation development in the study unit during the Early Modern period was the improvement and extension of the regional highway system as use of the automobile became widespread. See Map 14. Air service became available in the region for the first time, and several airfields were built. Improvements were also made on the Cape Cod Canal. Regular ship service between the mainland and the islands continued, as did harbor improvements and the establishment of yacht clubs for regional and interregional recreational boating.

Map 14

Early Modern Period

Highways, Airports and Yacht Clubs



By the mid-1920s, major regional automobile corridors had been established. The primary regional route on Cape Cod was established as U. S. Route 6, which entered the study unit in the west at Buzzards Bay, crossed the canal at Sagamore, and followed the north side King's Highway corridor to Provincetown. A southern loop was improved along the Buzzards Bay and Nantucket Sound shores as Route 3 (later Route 28) through Falmouth, Hyannis, and Chatham, connecting with Route 6 at Orleans. By the 1930s, secondary connectors were also established across the peninsula between the primary northern and southern Cape Cod highways. These included Route 130 from Sandwich through Mashpee to Cotuit, Route 132 from Barnstable to Hyannis, Route 134 through Dennis, Route 24 from Brewster to Harwich, and Route 137 from Brewster to South Chatham. Automobile access to Cape Cod was improved in 1935 with the replacement of the two canal drawbridges by new, landmark steel spans at Bourne and Sagamore, together with new access roads and traffic circles. A vertical lift railroad bridge over the canal was opened the same year at Buzzards Bay. On Martha's Vineyard, paved highways connected all the local centers, and on Nantucket a paved route extended from the Center to Siasconset.

Operations of the Cape Cod Canal continued, with use by both Boston to New York passenger steamers and freight carriers. However, waterway accidents, problems with tidal currents, and the narrowness of the channel all gave the canal a bad reputation. In 1918, control of the canal was placed under the jurisdiction of the federal Railroad Administration as a wartime measure. The following decade was taken up by lengthy negotiations, legal proceedings, and legislative maneuverings, which finally led to government takeover of the canal in 1928. Public works improvements followed during the Depression, and in 1936 a major dredging program was undertaken to widen and deepen the canal.

Air transport also became important in the study unit during the period. By the 1920s, several airports had been established in the region, and by the late 1930s seven airfields were in operation. Four of these served the three largest communities on Cape Cod. Barnstable had two: the Hyannis Airport was a municipal field located east of the Route 28 traffic circle, and Cape Cod Airport was a private field situated off Route 149 between West Barnstable and Marstons Mills. Provincetown Airport was a municipal field owned by the Commonwealth and located northwest of the village off Race Point Road. In the southwest, Falmouth was served by an airfield at Hatchville north of Coonamessett Pond. On Martha's Vineyard, Katama Airport was located in the south in Edgartown off Katama Road. Nobadeer Airport on Nantucket was located two miles southeast of the village along the Old South Road. A second Nantucket field, Curtiss Field, discontinued operations with the termination of Curtiss-Wright Flying Service to Nantucket in 1932. Besides these civilian facilities, two military fields were established in the study unit during the period. At Chatham, a Naval Air Station was built at Eastward Point in 1919 as a dirigible mooring base, with a large hangar, but the station was abandoned the next year. In Sandwich an airfield was built in the southeast in the mid-1930s at the Massachusetts National Guard Camp off Sandwich-Falmouth Road.

Population

The Cape and Islands study unit population increased by 26% over the twenty-five-year Early Modern period, with the regional total growing from 36,888 in 1915 to 46,365 in 1940. Barnstable County grew at an even greater rate (29%), while Nantucket (7%) and Dukes County (16%) had more moderate increases. In general, the period saw more widely distributed, moderate growth. Fewer towns continued to lose population, and seven towns had increases greater than the rate for the region. The greatest growth occurred at the regional commercial

and resort centers on Cape Cod, where Falmouth increased by 76 % and Barnstable rose 67 %. Between Barnstable and Falmouth, Mashpee experienced a 65 % increase as resort-oriented growth began. Yarmouth to Barnstable's east saw a 62 % rise in population. To the east, the resort center at Chatham (28 %) also grew faster than the region as a whole. The two primary resort towns on Martha's Vineyard also had relatively high growth rates: Tisbury gained 48 % and Oak Bluffs 27 %.

Eight additional towns grew, but at a rate lower than the rate of the region. See Table 9. Of these, the leaders were Bourne (24 %), which continued to grow as the gateway to Cape Cod, and Orleans (24 %) on the outer Cape. Orleans' neighbor to the north, Eastham, also grew, but more moderately, at 12 %. Three mid-Cape towns saw moderate, resort-oriented growth: Harwich (16 %), Dennis (11 %), and Brewster (6 %). The island resort centers at Edgartown and Nantucket both grew by 7 %. The remaining eight towns in the region experienced a population loss during the period. This decline in permanent residents was concentrated in two areas. On the outer Cape, Provincetown (-15 %), Truro (-12 %), and Wellfleet (-5 %) all continued to lose population. The highest rates of decrease occurred on western Martha's Vineyard and the Elizabeth Islands, where Gosnold (-12 %), Gay Head (-27 %), Chilmark (-22 %), and West Tisbury (-41 %) all lost permanent residents. Sandwich on Cape Cod also continued its downward trend, with a 9 % decrease.

While the region's overall population increased, the foreign-born population declined by 19 % over the period, dropping from 17 % of the total in 1915 to 11 % in 1940. In 1915, seven groups made up 94 % of the foreign-born total. Portuguese-speaking immigrants continued to dominate, with 50 % of the region's foreign-born, followed by Canadians at 14 %. Other significant concentrations included British (8 %), Irish (7 %), Italians (7 %), Russian-Finns (6 %), and Swedes (2 %). Local foreign-born populations greater than the percentage for the region were found in nine towns, including Gosnold (28 %), Provincetown (27 %), Bourne (26 %),

Table 9

Population of Incorporated Towns in 1940

<u>Large Towns</u>		<u>Small Towns</u>	
Barnstable	8333	Wellfleet	890
Falmouth	6878	Brewster	827
Provincetown	3668	Truro	585
Nantucket	3401	Eastham	582
Bourne	3315	Mashpee	434
		West Tisbury	260
		Chilmark	226
		Gosnold	136
		Gay Head	127
<u>Moderate-sized Towns</u>			
Harwich	2535		
Yarmouth	2286		
Chatham	2136		
Dennis	2015		
Tisbury	1766		
Oak Bluffs	1584		
Orleans	1451		
Edgartown	1370		
Sandwich	1360		

Falmouth (26%), Oak Bluffs (25%), Sandwich (18%), Tisbury (18%), Edgartown (18%), and Barnstable (18%). The region's largest concentrations of Portuguese-speaking immigrants lived in Provincetown (83% of the town's foreign-born) and Falmouth (66%). The Portuguese made up more than 40% of the non-native population in seven other towns (Harwich, Truro, Chilmark, West Tisbury, Tisbury, Oak Bluffs, and Nantucket). The Canadians were more widely distributed among the region's towns, but were most numerous in Provincetown (11% of local non-natives), Barnstable (16%), and Bourne (13%). Natives of Great Britain and Ireland were also dispersed through much of the region. Of the Italian immigrants, 87% were concentrated in

Bourne, where they found employment at the Keith Car Manufacturing plant, and where they made up 51% of the local foreign-born population. A majority of Russian Finns were located in Barnstable, where many were employed at the West Barnstable brickworks.

By 1940, the proportion of non-natives had dropped throughout the region. The same nine towns that had the highest proportions in 1915 still had foreign-born populations greater than the 11% regional average. Of the nine towns that had foreign-born populations of over 200 in 1915, only three showed increases over the period, and these gains were quite moderate: Barnstable (+18%), Bourne (+9%), and Tisbury (+5%). Provincetown, with the largest foreign-born concentration in the region in 1915, lost 52% of its immigrant population by period's end. In all, fifteen towns saw a decline in their non-native population, and only eight towns gained. According to the 1940 census, blacks made up 6% of the study unit's population. The largest black population was in Falmouth, where 744 black people made up 11% of the local population. Other significant concentrations occurred at Barnstable (493, 6% of total), Harwich (437, 19% of total), Nantucket (230, 7% of total), Mashpee (19%), Oak Bluffs (8%), and Tisbury (7%). At the same time, Mashpee and Gay Head retained their distinctive status as enclaves of persons of Native American descent, as indicated in the "Other Race" census category. People thus classified made up 77% of the Gay Head population and 68% of the total for Mashpee.

Change continued in the region's employment structure during the period. The importance of the fishing industry continued to diminish. In 1915, the numbers of persons employed in the fisheries (including nonresidents) was greater than all other employment categories in only three towns: Provincetown, Wellfleet, and Chatham. The relative importance of fishing also remained high in the region's least populated, peripheral towns: Mashpee, Eastham, Chilmark, Gay Head,

and Gosnold. Employment in manufacturing continued to be significant in only a few communities. Only Bourne (55%) and Oak Bluffs (52%) had more than half their male employees occupied in manufacturing or mechanical industries. With the general decline in employment opportunities and the rise in resort activities, employment in trade took on greater importance. Male employment in trade was high in Provincetown (18%), Dennis (15%), Harwich (15%), Tisbury (14%), Nantucket (14%), Barnstable (13%), Chatham (12%), Falmouth (12%), and Orleans (12%).

With population growth and diversification over the period, new religious societies continued to be organized for both seasonal and year-round residents. Six new Roman Catholic churches were established: two in Bourne (Sagamore and Pocasset), two in Falmouth (Falmouth Heights and East Falmouth), and one each in Barnstable (Santuit) and Chatham. Two new Episcopal parishes were established at Orleans and Bourne (Buzzards Bay). A Finnish Lutheran church was located in West Barnstable, and Greek Orthodox and Jewish societies were organized at Hyannis. New Christian Science churches were located at Buzzards Bay and Oak Bluffs, Christadelphian meetings were held at Bourne (Cataumet) and Chatham, Pentacostal churches were established in Mashpee and Dennis Port, and the Seventh-Day Adventist Church was situated at Oak Bluffs. At the same time however, the decline and consolidation of many established, native-born congregations continued. Federated churches formed as societies combined their resources were able to sustain only irregular or seasonal services in East Orleans, Hyannis, Cotuit, and Edgartown churches.

Renewed resort prosperity in many towns helped to stimulate the formation of new voluntary associations. Wealthy summer residents continued to form country clubs, beach clubs, tennis clubs, and yacht clubs. They also formed neighborhood associations. Summer amateur drama and theatre groups were also established. Year-round residents formed several local women's clubs, and historical societies

were organized at Barnstable, Bourne and Chatham. Mashpee continued as an important focus for Native Americans, and the Wampanoag Nation, a regional organization, was formed here in 1928.

Settlement

The Early Modern period saw a continuation and extension of trends in resort development initiated in the Late Industrial period. The rise of seasonal, automobile-oriented tourism stimulated the spread of resort settlement to most towns on the Cape and the Islands. Development was most intensive on the inner and mid Cape, where coastal summer cottage and estate districts, hotels, and commercial highway corridor development concentrated. Hyannis and Falmouth Village grew as regional commercial centers, and Bourne continued to expand as the gateway to the resort region. On Martha's Vineyard, the resort centers at Vineyard Haven and Oak Bluffs continued to grow. The historic village landscapes of Provincetown, Nantucket, and Martha's Vineyard all saw modification for resort use, and much of the region's historic rural and village settlement structure experienced the beginnings of widespread conversion to exurban and recreational use.

By period's end the general density of settlement was highest in the major resort centers. In 1940, Provincetown's population density of 439 people per square mile was still far higher than any other town in the region. The density of the Martha's Vineyard resorts at Tisbury and Oak Bluffs also remained very high, at over 200 per square mile. Five Cape Cod towns had high settlement densities of over 100 per square mile: the large resort centers at Falmouth and Barnstable, and the smaller resort towns of Chatham, Harwich and Orleans. Dennis and Yarmouth, both of which also saw significant resort growth during the period, had high densities of over ninety per square mile. The resort centers at Bourne, Nantucket, and Edgartown all had moderate population densities of over fifty people per square mile. Wellfleet (forty-four), Eastham (forty-one), and Truro (twenty-eighty) on the

outer Cape together remained a sparsely occupied area. Sandwich and Brewster represented other thinly-populated pockets on the Cape, with less than forty per square mile. Mashpee, with less than twenty people per square mile, remained the least intensely settled town on the Cape. The western half of Martha's Vineyard was still the most sparsely occupied area in the region. Only Gay Head had more than twenty people per square mile, while Chilmark, Gosnold, and West Tisbury declined to just over ten.

Barnstable continued to be the main focus of new settlement in the study unit during the period. Hyannis in the south grew as the major commercial center on Cape Cod. The built-up area expanded in all directions: north toward the Route 28 traffic circle, east and west along Main Street, and south toward Nantucket Sound. In the 1920s the central business area grew west along the Main Street automobile corridor, and the new Barnstable town offices (1927) were built here. Gas stations, car dealerships, and auto-oriented retail outlets also located to the east on Main Street and north on Barnstable-Hyannis Road. Cape Cod Hospital (1921) was also located to the east. Coastal resort development continued along the town's northern and southern shores, in the Barnstable Harbor area and southwest of Hyannis. At Hyannis Port, new estates were built on Marchant Avenue. Farther west, new resort growth took place at Craigville, West Hyannis, Centerville, Osterville, Wianno, Cotuit, and Cotuit Highlands. An exclusive estate district was established on Osterville Grand Island.

Outside Barnstable, the greatest concentration of new resort development took place along Buzzards Bay and Vineyard Sound. Commercial development continued along Main Street at Falmouth Center, and a junior high school (1925) was added at the civic focus. New summer colonies were established southwest of the center, and along the south shore at Mara Vista, Acapeskit, Davisville, and Manauhan. Along Buzzards Bay, exclusive residential districts were built at Gansett Woods at Woods

Hole, Racing Beach, West Falmouth, and North Falmouth. At Woods Hole, the Oceanographic Institute (1930) was added to the research facility focus at the village waterfront.

Seasonal resort growth also took place at Provincetown at the tip of the Cape, where summer cottages were built at the edges of the village area, with a concentration at Mayflower Heights in the east. A new post office (1930) was located in the Commercial Street business district, and a new high school (1933) was built on the highlands to the north. Artist studios were added in the East End, and the first conversions of fish houses, warehouses, sail-lofts, and barns into studios, theaters, restaurants, and shops took place.

Buzzards Bay Village in Bourne continued to grow as it became a civic and commercial center on the Route 6 automobile corridor. Residential development also continued, and by period's end Catholic, Episcopal, and Christian Science churches had also located here. Resort development continued to intensify to the south along the Buzzards Bay coast, and at Sagamore Beach and Sagamore Highlands on Cape Cod Bay.

Seasonal resort-oriented development continued along Cape Cod's south shore. West of Barnstable, shoreside area cottages were built in Mashpee at Rock Landing. East of Hyannis, growth extended through West and South Yarmouth, West Dennis and Dennis Port, and West Harwich and Harwich Port. Commercial automobile corridor development took place along Route 28, particularly in Yarmouth. Growth in the year-round population led to the construction of new south shore high schools at South Yarmouth (1930), Dennis Port (1931), and Harwich Center (1937). Shoreside cottages were built along the north side from Sandwich to Brewster, with a resort focus at Dennis, where a summer theatre (1926) and cinema (1930) complex was located east of the Center. At Brewster, Nickerson State Park was developed. Auto-oriented growth continued along Route 6 and Route 28 on the outer Cape, stimulating resort development in Chatham, Orleans, and Wellfleet. In Truro,

seasonal residential development extended south from Provincetown along Route 6 to North Truro.

On Nantucket, residential development continued at the periphery of Nantucket Village at Brant Point, Nantucket Cliffs, and along the Orange Street and Atlantic Avenue corridors. Growth also took place in outlying areas, including the established center at Siasconset to the east, Madaket in the west, Surfside in the south, as well as Monomy, Quase, Wauwinet, and Quidnet. On Martha's Vineyard, Oak Bluffs remained the focus of resort activity. Oak Bluffs Avenue saw new development as a commercial focus with movie theatres and gift shops, and commercial buildings were added along Circuit Avenue. Estates were added in the East Chop district, and Seventh-Day Adventist (1927) and Christian Science (1928) churches were located along New York Avenue to the west. Vineyard Haven in Tisbury also saw commercial and residential growth, and expansion of the West Chop estate district continued. Resort development also took place around the periphery of Edgartown Village and on Chappaquiddick Island. More dispersed coastal residences were built in West Tisbury and Chilmark. In Gosnold, both the State Leper Colony on Penikese Island and the fishing clubs on Cuttyhunk and Pasque islands were disbanded in the 1920s. Cuttyhunk, with its three dozen buildings, remained the focus of Elizabeth Island settlement.

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CHAPTER 4
ARCHITECTURAL DEVELOPMENT
Claire Dempsey

Introduction

This discussion of architectural development in the Cape Cod and the Islands region emphasizes building function in its organization. Two major subdivisions derive from the primary use of the buildings. **Residential architecture** considers long-term shelter for individuals and families, in this area almost exclusively in detached houses. The first and larger section covers the most numerous, most inventoried, and best understood group through the description of house forms favored in the region and their ornament and style is arranged chronologically by their order of appearance. **Institutional building** describes a range of private and public structures housing activities that bring individuals and families together across communities. Similarly, within each of these sections, the organization reflects a concern for building function in three categories: ecclesiastical, educational, and administration and service. Workplaces are perhaps the most elusive resources. Poorly covered in the architectural literature and MHC inventories, these are buildings devoted exclusively to economic activities, including

agriculture, fishing, commerce, transportation, and manufacturing. Brief discussions of these buildings and structures are included in Chapter 5.

The survey methodology has continued that was developed during the completion of earlier study units. The primary resource was the inventory of the towns' cultural resources on file at the MHC, supplemented by primary sources, including historic maps and censuses, as well as county and local histories. Fieldwork to assess the completeness of the town inventory was generally limited to three hours for small communities, but as many as six or nine hours for larger towns.

As in other early colonial outposts, a variety of construction types were available on the Atlantic coast in the repertoire of English settlers. Documentary evidence confirms the existence of palisado frame houses in Barnstable and Yarmouth (Swift 1888:202, Candee 1969:39). In these houses, vertical logs were closely spaced between sill and plate with daub infill. The more familiar horizontal log construction is documented for a South Dennis garrison, while stone was used for the first floor of fortification houses documented in Barnstable (Candee 1969: 68,69). More common, and presaging a persistent regional pattern, was vertical board, plank frame construction. In these buildings, thick boards were set between sill, plate, and widely spaced posts. Finally, builders chose stud filled post-and-beam or box frame construction, the most common framing method in most of New England.

It is the common use of plank construction on Cape Cod that sets the area apart. While this building technology was well known in the 17th century in areas with easy access to milling—Essex County, Massachusetts, New Hampshire, and Maine—early examples are also known from Plymouth County. Evidence from Ernest Connally's study of Cape Cod houses indicates that the method was particularly long-lived in the region. The box of sills, posts, girts, and plates was covered by sawn planks nailed to their exterior face and covered directly by shingles

or clapboards on the outside, and lathe and plaster on the inside. Similarly, the roof was composed of a small number of rafters pinned at their apex without ridgepole, stiffened by purlins, and covered with vertical planking. Buildings employing this technique are recognizable by the protrusion of their windows from their thin walls. Connally contends that this was the primary technique well into the 19th century, "gradually replaced by conventional frame construction" (1960:53).

An explanation of the popularity of plank construction on the Cape draws on those put forward for its use in other regions even as it contradicts them. Richard Candee's documentary study of Plymouth Colony architecture (1969) relies on the Pilgrims' interlude in Holland, where the type was better known than in England. The same author's work on early New Hampshire and Maine (1976) led to a revision of this interpretation, resulting in one emphasizing the availability of milled wood and the scarcity of skilled labor. New England's rich timber resources provided a dramatic contrast to Old England's depleted forests, and in all parts of the region wood was used more lavishly. At the same time, swift rivers and improved waterpowered sawmills made power sawn studs, boards, and planks easily available in many parts of the region. Plank construction provided the added advantage of reducing labor costs through the elimination of studs that were more expensive to cut at the mill, and to fit with tenons to mortises in the frame. Ironically, it may have been the Cape and the Island's scarce timber resources that made it attractive here. Soil depletion and deforestation were problems early on, while the presence of harbors and the importance of the coasting trade made importation of timber more convenient than it was for inland locations. An area with a small population, which required comparatively few houses and housewrights, might find the importation of boards and planks an opportune solution. Scarce skilled labor could then be focused on the joints of the basic box frame while the remainder of the house was simply nailed into place.

It is presumed that an ever-increasing proportion of the region's buildings were constructed in box or post-and-beam construction. Early in the 17th century, frames were substantial and overengineered, but as builders became more familiar with all-wood construction, individual elements were reduced in size and more widely spaced. Very little information is currently available on this process for New England as a whole or for this region in particular. Inventory methodology does not require interior examination or structural studies, and it is clear that by the 18th century, interior plastering covered more construction details and only the roof and floor girts remained exposed. Secondary sources as well as contemporary observers comment on the shift to dimension timber by the middle of the 19th century, a reflection both of the reduction of individual members and the transition to mass-wall balloon framing. In this region, the shift was probably begun at the mill-site sources of the imported timber. Coinciding as it did with a regional population expansion and building boom during the second quarter of the 19th century, it may have been accelerated by an increase in speculative building.

Frame has been the overwhelming choice of building materials in the region, and the use of brick and stone is exceedingly rare. On the Cape, builders often employed insubstantial foundations--in some places only small stone or brick footings--and the choice of small circular cellars, rather than full basements. The first floors of Barnstable's fortification houses were said to be stone as an aid in their defensive function. More traditional foundations were popular in large core towns and on Martha's Vineyard, and on Nantucket, high basements were used in large numbers. On Nantucket, early in the 19th century, substantial homes, and institutional and commercial buildings were constructed of brick along Main Street and other primary arteries. On Martha's Vineyard, brick was used for the county court buildings. A brickyard operated in Chilmark during the second quarter of the 19th century, but apparently only poorly fired bricks were used locally, in barns.

In Barnstable on Cape Cod, stone was used for the county court buildings; elsewhere, isolated structures, like blacksmith shops, occasionally used stone. Far more variety is found among institutional and commercial structures built during the 20th century. Many of the schools and town administrative and service buildings built during the 1930s employed brick. During this same period concrete block and stucco was used in low-slung stores and auto-related structures.

Some general comments can also be made to provide a summary of the regional patterns described in more detail below. As has been described in Chapter 3, much of this region is best understood as periphery during the historic period. With the notable exception of Nantucket early in the 19th century, few of these towns attained influence outside the region. These towns at first relied on mixed grain cultivation and husbandry, as well as fishing, and remained small and isolated. During the prosperous years of the early 19th century, however, Cape Cod and the Islands participated in the national rebuilding and greatly diversified its economic base. After the middle of the 19th century, the failure of most agriculture, the concentration of the fishing industry, and the absence of large manufacturing brought a period of population loss and stagnation. The region became an increasingly popular resort area later in the 19th century and stylish summer homes were constructed and older homes became popular as second homes for urban or suburban vacationers. The urban and suburban development that characterized the second national rebuilding was nearly absent here. The surviving regional architecture, then, was produced in a region that was provincial and agricultural during the 17th and 18th century, revitalized by the prosperity of a maritime economy early in the 19th century, and transformed by the rise of tourism that continues to this day.

The buildings in this region can be generally described as having the following characteristics. Surviving housing is uniformly smaller than the best-known New

England house types, favoring one-and-a-half story buildings rather than two-and-a-half story, and including the common use of a smaller number of facade bays than the model of five. Formal uniformity characterizes the surviving housing, and to a lesser extent, institutional building, within chronological periods. Relatively few formal variations gained popularity at any one moment, consistent with the area's function as a region of vernacular architecture. Building activity was most widespread during the early decades of the 19th century. The majority of the buildings are treated with ornament that is stylistically derived from the Neoclassical and Greek Revival, and comparatively simple.

Residential Architecture

The organization of this discussion represents a departure from those of earlier reports, and emphasizes topical rather than chronological ordering. In the first brief subsection known information on Native American housing is summarized. This is followed by a more lengthy description of the regional house types that characterized housing from colonial settlement through the early 20th century. Information on building interiors was derived solely from earlier research, including HABS drawings, studies of individual buildings, and the small number of reliable monographs (Candee 1969, Lancaster 1970). This data was then extrapolated to exterior views and observations of structures, with a focus on height (number of stories), roof form, length (number of bays), entry location, depth (single- or double-pile, an estimate of room arrangement), chimney placement, and general form (square, rectangle, L-plan, T-plan). The most common combinations of these general attributes were designated as an inductive typology of regional building forms. The region produced a limited number of types that remained popular for many years including first period houses, interior chimney houses, paired chimney houses, gable front houses, and suburban houses. Material on these house types is followed by a discussion of ornament and style that follows national rather than local trends, and corresponds more closely to conventional discussions of architectural development.

Native American Housing

Contact period sources from European explorers document native housing consistent with the pattern widespread in the northeast region of North America.

Champlain's map drawn after his visit of 1604-1605 included the Cape Cod shoreline, and illustrated house types found among the Nauset group. Two types are represented, including a majority of small dome-shaped dwellings, commonly called wigwams, and a handful of barrel-vault longhouses (Salwen 1978: 165). A second illustration from this visit provides a closer view of the wigwam and shows key features known from later historic sources: round or oval shape at ground level, flap-covered opening, smokehole near or at the top of the dome, and discontinuity between wall and roof coverings. These same sources suggest a structure consisting of a frame of flexible branches set into the ground in a fourteen- to sixteen-foot diameter, bent to meet an opposite member, and lashed together. Around the perimeter, smaller horizontal branches were lashed to these and provided support and stiffening. One or more breaks in the structure provided entry at ground level and a smokehole at the apex for ventilation. Bark or woven mats laid on this frame enclosed the space. Low wooden platforms were the primary interior furnishings, and provided sleeping space for, presumably, nuclear families.

Although the Native American population was substantially reduced during the epidemics of the early 17th century, the region retained a proportion of native peoples unusual in New England. Prolonged contact with English settlers brought changes to habitations. Although information is scarce for this region, the adoption of colonial goods by the native population influenced the choice of furnishing as well as the use of the interior space of the wigwams. A conjectural drawing of a Niantic wigwam of 1761 provides a useful suggestion of this process, demonstrating the selective incorporation of European furniture (Sturtevant 1975: 437, 444). Data for this region supports the use of wigwams well into the 18th century. At Christiantown on Martha's Vineyard, only one "English built" house stood in 1714, and only one at Gay Head in 1727. In 1747, "Indian built" houses were still taken down periodically at Gay Head, but by 1777, wigwams had been abandoned. At

Mashpee, there were fifty-two wigwams and twenty-one English houses in 1767, but nine years later the proportion had shifted to thirty-nine wigwams and forty-two English houses. In 1765, six wigwams remained at Yarmouth prior to the small pox epidemic of 1777. Fragmentary evidence suggests that wigwams had been abandoned by the end of the 18th century.

This shift in housing coincides with the significant demographic change in the Native American communities resulting from disease and intermarriage, outlined in Chapter 3. The small size of the remaining multiracial communities meant not only a continuing abandonment of traditional housing but also a smaller number of necessary dwellings. No studies have been undertaken to associate specific surviving buildings with Native American families, but recent research on Nantucket has located several sites of native occupied, English-style dwellings (Little 1981). Elizabeth Little attributes to Native Americans the whaling and fishing huts on the south shore because of the native's close association with those pursuits. The possible survivals of these huts, much changed in intervening years, are discussed below, in Chapter 4, in the section on Whaling. Preliminary observations of native-associated buildings in other communities allow only the suggestion that these structures were even smaller than those seen in the region for Europeans.

First Period Houses

Like the transient visitors that preceded them, the first English settlers to the Cape and the Islands often constructed small temporary structures for shelter during the early months of their occupation. Like the earliest Pilgrim examples at Plymouth, these were often open-sided, with only three walls. Soon, however, more substantial structures were built, selected from building traditions of framing and plan specific to the areas of England from which they had migrated. What these houses shared, and what came to be the most common early form here was the

single-cell house with side chimney and gable roof. In a hall on the first floor were combined multiple functions of food preparation and service, work and socializing areas. Garret and occasional second-story rooms provided sleeping and storage space. Larger houses added an additional room opposite the chimney bay that usually served as parlor, a sleeping area for the head of household and spouse, as well as for formal social occasions. In both small and large houses, it was not unusual for a rear lean-to to be added, augmenting available space for service and sleeping areas.

Examination of documentary records for 17th-century Plymouth Colony reveals twenty-three houses with known plans in Cape towns (Candee 1969). Most examples were single-celled with rear lean-tos, equally divided between one-and-a-half and two-and-a-half stories in height (eight of each). Smaller numbers of two-and-a-half stories retained a single cell (three), or added a lateral lean-to (two), and one-and-a-half story examples also favored of a single cell and lateral ell (two). Surviving period houses confirm these patterns, although houses built in the larger forms, or subsequently expanded, survive in proportionally larger numbers. In Barnstable the Sturgis Library began as a single cell with rear lean-to, but has been expanded laterally and raised in both front and rear. Also surviving in the town is the Goodspeed house, probably similar in original form but expanded. The single-cell John Green house, and the four bay John Jenkins and Allyn houses are all two-and-a-half story examples while only the Crocker house is in the once common one-and-a-half story size. The Hoxie house in Sandwich is of the single-cell and rear lean-to type, and the remainder are of the classic, center chimney, hall and parlor with lean-to variety, including the Tobey house in Sandwich, the Josiah Dennis house in Dennis, and the Sears and Dillingham houses in Brewster.

Surviving period housing on Nantucket reveals similar patterns of building during the first generation. Two of the island's best-known houses began as single

cells with an entry into the chimney bay, the Nathaniel Starbuck house (ca. 1676), the Richard Gardner house (ca. 1686), as well as 107 Main St. The Jethro Coffin house (ca. 1686), by contrast, adopted a more ambitious form, hall and parlor on either side of a central chimney and lobby entrance with facade gables originally lighting the garret story. The most numerous on Nantucket are those with single front rooms and lobby entrances before the chimney bay, with smaller numbers adding rooms opposite the chimney bay. A handful are also known of one-and-a-half stories.

Interior Chimney Houses

By the late 17th century, two generations of builders had adapted this housing form to the social and environmental requirements of the New England region. The plan of the largest examples illustrates its derivation from the larger first period house. The primary first-floor rooms consisted of a hall and parlor separated by a lobby entrance, with a kitchen in the rear. These rooms were clustered around the center chimney, which incorporated three fireplaces and their flues. The consistent addition of a tier of rooms to the rear of the house, or a second "pile", is the most significant characteristic. The facade was ideally composed of a center entry and symmetrically placed pairs of windows on each side, distinguished by the increased use of double-hung rather than fixed-sash windows. The side elevation represented the greatest exterior departure from earlier structures, with its overall form symmetrically oriented under its gable roof with equal stud heights in the front and rear, rather than a favoring of the primary front rooms. Like earlier houses, however, variations of this form to suit the user were common, so that both one- and two-story examples were constructed. There was also a range of facade widths as well, including those of three bays and side entry, four bays and off-center entry,

as well as the symmetrical five bays. Therefore they are known collectively as **Interior Chimney Houses**.

Within this region, the most common variation of the interior chimney house is a house of story-and-a-half height, known colloquially as the **Cape Cod House**. Low studding and compact overall width produced a facade elevation both symmetrical and closely fitted with openings. Similarly, the quintessential Cape Cod house was composed with a side elevation of many openings on its second floor, functionally to light the attic story, and aesthetically in keeping with the primary facade. Typically, the arrangement of windows incorporated two centrally located double sash with small, square, fixed-sash openings lighting the low corners of this, the only exterior wall with openings in the second story. Currently, the majority of these houses are shingled, and 19th-century sources confirm this as the most popular choice for wall surface.

The most common surviving examples, those of five bays, are now known as "full Capes," but historical evidence acknowledges the range of bay widths within the type. In 1802, Timothy Dwight distinguished three primary variations and pointed up the greater number of smaller houses. He recorded the "house" as the three-bay, side entry form, the "house and a half" as the four-bay, and finally, the "double house" of five bays. Within this region, as in others throughout New England, and indeed in the colonies as a whole, surviving examples represent examples of larger house types and houses added to at a later time. In all the Cape Cod towns, the double house, or five-bay version, is the most common surviving type. Its plan is of three principal rooms as described above, with small secondary rooms on each side of the rear kitchen; stair placement options favored the lobby adjacent to the chimney, but also included various locations within the rear pile. The next most popular size is four bays in width and survives commonly in

Bourne, Chatham, Orleans, Provincetown, and Truro. In plan they derive from the larger house, with the four-bay type typically reducing the size of either hall or parlor and eliminating a tier of secondary rooms behind it. Small three-bay houses are rarer, but they survive in concentrations in Provincetown, Harwich, Orleans, and Nantucket. The three-bay type includes only a single front room and reduces the size of the rear kitchen. Few of these house types appear in Edgartown, and there are proportionally fewer on Nantucket.

This house type remained popular for the entire 18th century and well into the 19th century. For the most part, however, these structures were seldom treated with exterior ornament or elaborate finish. Because of the destruction of Barnstable County records and the simplicity of ornament, there are few securely dated examples. General comments can be made about regional choices of ornament, however. Early colonial examples, as well as many houses constructed later, survive with little or no ornament at the entry, window surrounds, or cornice, the most common foci. Ornament became more common during the Federal period, when entablatures were added to doors, as occasionally were fanlights and sidelights. The most elaborate examples date from the prosperous decades of the 1820s and 1830s, when wide cornice boards and door surrounds effectively approximated the proportion of Greek entablatures. Later examples are also more likely to display more stylish clapboards for the common shingle, particularly on the facade. Most significant, due to the influence on interior space use, is the increased use of extended stud height, increasing headroom in the second story. In contrast to houses in other regions, windows or screened openings were seldom added to this additional space between window heads and eaves.

Like its one-and-a-half-story counterpart, the best-known two-and-a-half-story interior chimney house type is the large five-bay version, with a symmetrical facade of center entry and pairs of windows on each side, and five second-story openings

above. Its side elevation and first-floor plan resemble the Cape Cod house, and it includes the addition of a full second story, doubling the chambers available for sleeping and storage. It is known as the **New England Center Chimney House**, but is comparatively rare in this region. Early in the 19th century, when descriptions of Cape towns were reported to the Massachusetts Historical Society, two-and-a-half-story houses were sufficiently scarce so that the author included their number in his catalogue of structures. Perhaps the earliest of these is the Moody house in Sandwich, said to date to 1699, while well-known examples include the Old Yarmouth Inn and Squire Doane house. Only Cape core communities have examples of this form in the Colonial period, including Sandwich, Falmouth, Barnstable, and Yarmouth. When prosperity returned in the second decade of the 19th century, two-and-a-half story houses became more popular. Gable roofed, five-bay versions remained most common, but the same variety that categorized the Cape Cod house is seen within this group. Four-bay examples are known in Chatham, Harwich, Orleans, Provincetown, Wellfleet, and Yarmouth, while three-bay examples survive in Provincetown and Yarmouth. These houses were most often treated with ornament only at their door surrounds. However, the single significant departure from gable roofs among the region's vernacular buildings is the period use of stylish roofs. These low hip roofs in conjunction with interior chimneys survive in isolated examples in nearly every Cape town.

By far the largest concentration of two-and-a-half story, interior chimney houses can be found on Nantucket. Beginning in the middle of the 18th century, island builders constructed examples of three, four, and five bays. By the turn of the 19th century, the four-bay version was sufficiently popular so that it is now known locally as the **Nantucket House**. This two-and-a-half story house is raised on a high brick basement, with entry into the second or third of its four bays, with the chimney located between those same bays. In plan it is related to the larger

five-bay versions, with a single large room in the front pile behind the pair of windows, while the entry might consist of either a small lobby or a larger area extending into the remaining single bay. The rear pile included a large kitchen and a single tier of service rooms. The largest number of these houses were constructed during the Federal period, and so the most common ornament is a door transom, or transom with entablature. Although popular authors have often associated this simplicity with the Quaker faith, it is also consistent with the regional, period pattern. Center chimney houses survive in modest numbers on Martha's Vineyard.

Paired Chimney Houses

In spite of the enormous popularity of the interior chimney houses in the region, smaller numbers of other early American house types are known. The most numerous of these are grouped for convenience here as **Paired Chimney Houses**. Rather than locate all fireplaces on a single stack and cluster rooms around it, builders of these types used multiple stacks located farther from the house's core, and often on its exterior walls. The commonly identified source of these types is the academic Georgian plan. Here the stylistic requirements of bilateral symmetry dominated the design of facade and plan, and elaborate ornament decorated interiors and exteriors. The majority of Georgian houses were two-and-a-half stories in height, and employ the familiar five-bay, center entry facade. However, the floor plan employed a wide through passage or central hall and four rooms of equal size. In these large examples, chimneys might be located in symmetrical locations between the rooms, or along the exterior, lateral walls.

Seldom, however, did the houses meet this ideal plan. In the earliest examples, employing double interior chimneys, the approximation was closest. In exterior wall examples more variation in room size was possible due to the greater possibilities

for chimney placement along that wall. In addition, not all plans incorporated a full through passage, but instead extended the rear pile of rooms across that space. The greatest departures, however, were those houses that resembled these in elevation, but employed L-plans. In these houses, the plans employed three primary rooms on the main floor, like the majority of interior chimney houses. The primary block of the house was divided by a central passage, and usually augmented by a one- or two-story rear ell that enclosed the kitchen. Chimney placement was related to the double-pile forms, employing an interior and rear wall, or exterior and rear wall, or all exterior locations. The double pile forms were constructed throughout the mid-18th to mid-19th centuries. The L-plan houses are almost exclusively associated with Federal period examples.

Large houses of these types were rare in this region. Small numbers were constructed in the core towns prior to the Revolution: Barnstable, Falmouth, Sandwich, Edgartown, and Nantucket. As larger houses became more common during the Federal period, the type was constructed in nearly every town, but in significant numbers only in Edgartown and Nantucket. In spite of the shift from fireplaces to stoves, the double interior chimney plan remained useful in large houses through the mid-19th century, with Greek Revival and Italianate ornament. Decoration paralleled that described for the Cape Cod house, but with the addition of a group of houses ornamented with the paneled pilasters, bracketed cornices, and labels and hoods of the Italianate style.

Gable Front Houses

Perhaps the most dramatic change in the outward appearance of homes on Cape Cod and the Islands was the adoption of the **Gable Front** form during the second quarter of the 19th century. Retaining the overall form of a rectangular block under a gable roof, this change was accomplished through a reorientation

of the roof ridge to run perpendicular to the front wall, and the gabled plane became the facade. The resulting house form includes both continuities and discontinuities with earlier, more traditional forms. In keeping with the regional preference for smaller varieties within forms, the overwhelming choice was for a three-bay facade, and as in earlier periods, the preferred style was the one-and-a-half story house. The entry was located in one of the side bays and two windows lit the second floor, centrally located in the roof's gable, straddling the imaginary eave line. In some instances a single window was placed above them, recalling the aesthetic of tightly fitting the wall with openings. In rarer, two-and-a-half story examples, a second tier of three windows was inserted above the entry level floor. Upper story rooms under the roof ridge received their natural light from the windows in the gable end, and only occasionally from the addition of wall dormers. The choice of this wall for the facade increased the wall surface there, and hence the space available for openings and ornament. Many of these houses survive as simple rectangular or nearly square blocks with few later alterations or additions, like the center chimney houses. A moderate proportion, however, employ smaller ells in the rear or laterally, adding substantially to the space available in these homes.

Although extensive information on plan is lacking for this region, it is widely presumed that this form utilized a lateral entry and stair passage running along front and rear parlors with a rear kitchen ell. Confirmation of the frequency of this plan is unavailable from inventory forms currently in use, or from exterior examination. Research of plans in other regions indicates, however, that exterior similarity can mask a variety of personal and cultural adaptations of popular house plans (Upton 1984: 19), and several alternatives can be tentatively posed for this region as well. Some nearly square houses were built to accommodate the three primary rooms that characterized center chimney houses by reducing the length of the passage to allow for two rear rooms within the main block. In other houses,

the depth of the main block was increased to provide for additional tiers of rooms extending backward. A greater departure came in plans in which builders added ells laterally, rather than from the rear, to form T- or L-plans, thereby adding greatly to the range of rooms and arrangements. Little information is currently available on these larger plans as original or added sections, or their impact on space and room use.

Although nearly every town in the region contained a range of gable front house forms, significant regional variations in relative numbers of one-and-a-half and two-and-a-half story examples can be noted. In several of the region's towns, gable-front forms became the dominant building type due to population growth at mid century, and as many as fifty examples survive in regional cores like Provincetown, Wellfleet, Yarmouth, Barnstable, Sandwich, Falmouth, Edgartown, and Nantucket. One-and-a-half story examples are far more numerous in the region as a whole, and there were nearly equal numbers of the large, two-and-a-half story forms in only a few communities, including Provincetown, Wellfleet, Eastham, Barnstable, and Chilmark. Builders favored these types in ratios of two to one, or three to one, in favor of the smaller form in most communities, including Eastham, Orleans, Harwich, Dennis, Yarmouth, Sandwich, Bourne, Falmouth, Edgartown, and Tisbury. A group of smaller towns boasted only a handful of the larger form, and included Truro, Chatham, Brewster, Bourne, Oak Bluffs, and West Tisbury. Nantucket represents an exception to otherwise regional patterns, including a large number of examples, about eighty, but dramatically favoring the smaller one-and-a-half story form.

Less variety existed in the choice of bays in the houses' widths, with three bays even more predominant than the preferred one-and-a-half story form. In only two communities are there significant numbers of gable-front houses with four-bay facades, the Martha's Vineyard port towns of Edgartown and Tisbury. Five-bay

facades are still rarer, and are known from only isolated examples in Provincetown, Wellfleet, Brewster, Yarmouth, Barnstable, Edgartown, and Chilmark. Information on the distribution of lateral wing plans is less consistent, but most larger Cape towns record significant numbers, particularly Provincetown, Wellfleet, Orleans, Yarmouth, and Barnstable.

With its design roots in the temple front form of the Greek Revival, it is not surprising that this form was most popular during the second quarter of the 19th century. It is significant, however, that two Falmouth L-plan examples are treated with Neoclassical fanlights, affirming the use of this roof ridge orientation in earlier contexts. During the 1820s and 1830s, however, a period of prosperity in the region combined with the widespread use of housewright's design books to bring about a substitution of the popular gable-front form for the traditional center chimney house during a period of rapid building and expansion. Ornament on these new forms bears a striking resemblance to the center chimney houses still constructed in large numbers in the years prior to the Civil War. Wide cornice boards and door surrounds were constructed to resemble simple Greek entablatures by the superimposition of plain boards of varying widths, and were seldom elaborately detailed. Slightly more elaborate examples employ round or lancet windows, recessed entries, columned entry porches, or colossal porticos in the Doric or Ionic orders. These elaborations are quite rare in the region, limited to a single example in most towns.

Although building in most towns fell off quite dramatically after mid century, the gable-front form remained the form of choice for small and moderate-sized homes throughout the 19th century. As in other areas of Massachusetts, the use of Gothic ornament is rare, and confined to the use of lancet windows in combination with Greek Revival cornice boards, or the addition of circular sawn vergeboards. Second in popularity to the Greek Revival in the region is Italianate ornament, used in every town that added structures at mid century. Again the use of ornament is

restrained and limited to doorhoods and bracketed cornices, and in more elaborate examples, round headed windows, panelled pilasters, entry porches and occasionally bay windows. Still rarer are the related houses employing Second Empire elements on this form, substituting a mansard roof for the gable roof, and adding bay windows and porches as ornament. Isolated examples from the late 19th century make use of ornamental shingle wall cover and more elaborate verandas common to the Queen Anne style, while still later examples are almost devoid of ornament.

Suburban Houses

During the last quarter of the 19th century, the nation experienced a second major rebuilding in response to the population growth, economic reorganization, and transportation improvements that produced suburbs for the upper and middle classes. During this boom, architects and builders were joined by increasingly commercial designers producing plans, and pre-cut houses for the new market. The books, journals, and catalogues of the period, from 1890 to the Depression, illustrated a multitude of examples for small- and moderate-sized houses that could be built inexpensively by local contractors, or, at least theoretically, assembled by new homeowners. The form and plan of these designs emerged from the reform impulse to simplify the running and maintenance of the household, as well as to hold down costs. The houses were, therefore, smaller than the rambling picturesque models that preceded them, more likely to include technological improvements like indoor plumbing or central heating, and often incorporated the open planning conventions of the Queen Anne, Shingle, and Prairie styles. Two new forms emerged: The house of a single story is called the **bungalow**; the large house of two stories is called the **foursquare**. Suburban builders also continued to employ the

useful and adaptable gable-front form, as well as Georgian plan derivatives that used a center passage between the primary public rooms.

The popularity of the bungalow drew on the association of these small houses with their origin in Bengal, their subsequent use by the British Raj, the rural retreats of the wealthy, and the outdoor life of California. Perhaps their preeminent characteristic is their small size, limited to a single story or a single story with low dormer-lit attic. The facade of the bungalow was dominated by a full-width veranda, preferably formed as an extension of the roof. Interior plans varied somewhat, but commonly employed two parallel runs of rooms running from the front to the rear of the bungalow. Public rooms were included on one side, with the front living room opening onto the middle dining room, and in the rear, the more isolated kitchen. Two or three bedrooms and perhaps a bath were located on the opposite side, entered directly from the living room or dining room, or through a small passage. Somewhat larger examples included bedrooms in the attic story, lit from the gable ends and by a facade dormer. The foursquare is recognized as a two-story cube under a pyramidal, or hip-roof. Common exterior additions were first-floor, full-width verandas and central dormer. Unusually uniform are the floor plans of these houses, consisting of four rooms of nearly equal size. The center, or side entry, led into a large hall containing the stairs. Adjacent on the front was the living room, opening, in turn, onto the rear dining room. Here again, the kitchen was located discreetly in the rear. Four bedrooms were located on the second story, and occasionally, two more in the attic.

Containing no cities or large towns, nor located sufficiently near those in adjacent southeastern Massachusetts, the Cape and the Islands region contained little that could be termed suburban in either its settlement or its architecture. Each town included a handful, at most, of bungalows and foursquares. It is, therefore, difficult to generalize about the styles in which these forms

commonly appear, but as with other forms, simple treatment of cornice and opening was most common. Two general styles predominate. The Craftsman houses employed deep eaves and exposed rafters, and columnar veranda supports. The Colonial Revival houses used familiar, if somewhat more elaborate, Georgian elements.

Ornament and Style

The goal of this section is twofold: to describe the ornament builders and homeowners added to the house types above, and to describe the small number of stylistically ambitious homes constructed in the region. Thus, while other portions have been arranged topically, this section will follow the conventional sequence of architectural styles. In contrast to the continuity stressed in those earlier sections, here the emphasis will move to the shifting fashions of design, and the rate of their acceptance within this region. It is noteworthy that in keeping with the area's role as periphery and resort, the vast majority of the region's surviving housing is simply decorated, and elaborate architecture is rare and found nearly exclusively in small clusters in regional cores.

The aesthetic sensibility that accompanied the earliest English colonists to New England has been termed **Postmedieval**. As the name suggests, it reflects the incorporation of some elements of Renaissance design into house form and ornament. In its fullest expression here, this style incorporates a vertical emphasis in its choice of high gabled roof and elaborate pilastered chimney. While its front plane might often be simple and flat, the style's hallmarks include the use of a second-story overhang, prominent facade gables and entry porch, often emphasized by drops and cornices, to add plasticity to the design. Facade openings were most often asymmetrically arranged, small openings of casement, diamond-paned windows, and batten door. Abundantly available wood allowed the choice of

clapboard wall surface and shingle roof, with brick and stone chimneys. The effects of later changes to houses and 20th-century restorations have masked the original appearances of houses in the region, but the Jethro Coffin house, Nantucket, may stand as an example of an elaborate house, with its "horseshoe" chimney, high roof, and originally, two facade gables. The Hoxie house in Sandwich and the Vincent house in Edgartown represent the simpler and more common types of the period.

As the influence of the Renaissance became more widespread and pervasive, house design emphasized nearly exclusively the **Classicism** of the ancient world as interpreted by contemporary Italian and English architects. Among provincial and rural builders, several general principles came to govern the design process, chief among these being regularity and symmetry in form and decoration, and Greek and Roman precedents in proportion and ornament. These principles of design continued to develop and evolve nearly unchallenged through the early years of the 19th century, and a complex series of classically based styles vied for preeminence. In New England the influence of these competing fashions can be seen in the sequence of regionally popular styles known as the Georgian, Federal, and Greek Revival.

The first of these, the **Georgian**, had its influence among the colonies' elite in the late 17th century, and predominated in all areas through the Revolution. In its ideal form these principles dictated bilateral symmetry in the organization of both facade and plan, a clustering of characteristics whose popularity was remarkably long-lived. As described in several of the sections on house types above, the common regional display of this style is in the standard facade of central entry between pairs of windows in a symmetrically arranged five bays. This arrangement of facade remained in use through the series of classical styles, a common core onto which various ornamental styles were applied. Even when bilateral symmetry could not be achieved, as in the regionally significant three- and four-bay facades, the regular repetition of elements, evenly spaced windows and doors across the

facade, produced a similar effect. The overall form of the house remained rectangular under a gable roof.

For its decorative treatment of individual elements, the style relied heavily on Roman-based and English interpreted entablatures, applied in whole or more often in parts. At the building's cornice, ornamental moldings were often applied, and in elaborate examples included dentils. Similar treatment was occasionally applied to the windows, now overwhelmingly double-hung sash. The focus of ornament, however, was the center entry, and the surround applied to the panelled door. In the most common examples, simple moldings were used. More ambitious examples added an entablature, an entablature with side pilasters, or in very rare examples, a full pediment and pilasters. The exceptional hip-roofed houses were built in Barnstable--the Ebenezer Hinckly house and the Nathaniel Baker house--both dating ca. 1720.

In the years after the War of Independence, New England builders became familiar with the new design tenets developed by the Adam brothers from domestic rather than public Roman precedents. As interpreted in New England domestic architecture of the **Federal** style, these tenets built on those of the Georgian. Rectangular structures presented symmetrical or even facades of double-hung sash and center, panelled door entry, and the distinguishing factors are found in variations in proportion and scale. While the earlier design emphasized horizontality and three-dimensional ornament, the Federal style focused on a taut facade with flat, delicate ornament, using tall and narrow elements. As a result of the building hiatus due to war and depression, examples of the style are rare but distinctive in the landscape. In many towns, a high proportion of the two-story houses date to this period, when builders heeded the dictate of verticality in their choice of building form. Similarly, buildings constructed with Federal design ambitions often chose low hip roofs, in direct contrast to the overwhelming choice of gable roofs before

and after the early 19th century. Three-story houses are also rare, and noted only in Barnstable and Nantucket.

Lightness and delicacy characterized the ornament applied to these dwellings. While many still relied exclusively on simple molding surrounds, the use of narrowly proportioned pilasters and entablatures increased, as did the use of a simple fixed transom at the entry. While some friezes were ornamented by urns, swags, and modified triglyphs, most remained quite simple. The style's hallmark fan and sidelit entry, and second-story, central Palladian windows are exceedingly rare. A small, exceptional group of houses added center gabled porticoes, most notably those on the common in Falmouth. The Captain Warren Bourne house and the Silas Bourne house are outstanding examples employing this stylish element of Neoclassicism, each with a two-story, pedimented portico on its facade; the same area includes a number of single-story porticoes.

Soon, however, designers turned away from Roman to Greek antecedents, and developed a highly geometric and boldly proportioned style known as the **Greek Revival**. Greek temples, with wide gable fronts and substantial Doric columns, were the primary models, and period likenesses include the style-setting Second Bank of the United States in Philadelphia, substantial Southern plantations, and small, white farmhouses across the Midwest. The imitation of these temples was accomplished in a number of ways, perhaps most significantly in its coincidence with the reorientation of house facade from long to gable front wall, as well as with porticos of several scales, colossal examples screening the entire facade, and small-scale examples covering entries. Far more common are much more simply decorated houses, with similar ornament added to houses of all sizes. Facade ornament was simple and two-dimensional in most cases. Most popular was the use of a simplified Doric entablature, often including only a simple architrave and unornamented frieze to mark cornices and entries on even the simplest of dwellings.

In New England as a whole, and particularly in the Cape Cod and the Islands region, the popularity of this style coincided with a period of prosperity and growth dating from the 1820s to the 1850s. This building boom's enunciation in this style was further facilitated by the increased popularity and availability of builder's guides articulating its tenets. This made the style both the region's most pervasive, and also its most elaborated. Not surprisingly, the most ambitious examples are highly concentrated on Nantucket Island. Although large and expensively detailed, most of these homes retain the familiar form of two-and-a-half stories, five bays, center entry, and paired chimneys. An early and unusual example is the Folger house, built of brick in 1831. Its five-bay facade has exceptional bowed bays on each side, a brownstone Doric entry portico, and a quilloche cornice. The Starbuck houses, "The Three Bricks" (1836-1838), are also familiar in their five-bay form, with frame Ionic porticoes, balustrades, and cupolas. The similar Jared Coffin house (1845) rises to three stories. The frame Levi Starbuck house (1838) retains long-wall entry but presents its gable end to the street. Its walls are flushboard, its three-bay facade is divided by thick, panelled pilasters supporting a wide entablature, and its entry includes an Ionic portico which, with its window heads, is ornamented by key elements familiar from pattern books. The William Hadwen house (ca. 1840s) is unusual for its colossal Ionic portico applied to the central three bays of its facade, which is also treated with simple wide pilasters and cornice, low pedimented window heads, and projecting entry. Few examples of large houses employ the gable-front form. The most notable exception is the George W. Wright house (ca. 1840s), with a facade of colossal Corinthian portico.

Similarly elaborate examples are rare in other parts of the region. On Martha's Vineyard, builders of Edgartown's large examples also continued to favor the two-and-a-half story, five-bay, paired chimney form with Greek Revival entries, and include the Captain's house (1832), the Edward Coffin house (1839), and the

Jeremiah Pease house (1858). Whalewalk in Eastham is a large example with traditional two-and-a-half story height, five bays, paired chimneys, and cupola, but with facade ornament limited to the application of frieze and architrave ornament at cornice and door, and with corner pilasters. On the Cape, more examples of elaborate gable-front forms are known. In Falmouth the Albert Nye house has both an added porch and a cupola. In Yarmouth, the Sears Arms is a two-and-a-half story gable front with a full Ionic Portico over two story porch. In Dennis three examples are known, a one-and-a-half story example with square columns across its four bays, and two L-plan examples with long-wall porches, one with square and one with Ionic columns. In Brewster a small gable front boasts flushboard facade with pilasters and two lateral ells. A Chatham example incorporates its Doric porch into the body of gable-front block. Orleans' Linnell house is a large hip-roofed house of three bays with a cupola and colossal Ionic portico. Wellfleet's Simeon Atwood house (1855) is an L-plan that adds roundhead windows. In Provincetown, both entry and full two-story porticoes are known.

The rise of house pattern books within a context of an improved communication network and emerging national culture led to the development and subsequent popularization of a rapidly changing sequence of architectural styles. The most influential arbiters of these tastes advocated a significant shift from the long-standing canon of Classicism, and actively lobbied against the ubiquity of the Greek Revival. Chief among them was Andrew Jackson Downing, whose books and imitators would establish an era dominated by the principles of the **Picturesque**. Asymmetry and irregularity were the chief tenets of massing, and might be articulated within a number of idioms, including the Gothic, Italianate, Second Empire, and later the Stick style. The emergence of these styles coincided with the dramatic slowing of population growth here, and few towns experienced sufficient

economic prosperity to add significantly to their housing stock during the time of their popularity.

These styles were seldom articulated in plan, form, or massing on the Cape and the Islands, but rather in the application of ornamental treatment of openings and cornices. Regional examples of the use of the **Gothic** style are rare and seldom number more than a handful per town. Furthermore, this ornament is often limited to the addition of lancet windows to otherwise Greek buildings. More ambitious examples might add facade gables and bargeboards. **Italianate** treatments were far more common, related as they were to familiar Classical elements. The largest examples employed the two-and-one-half story, five-bay, center entry, gable-roof form, and the most elaborate added facade gables or porticoes as in Barnstable, Bourne, Dennis, Falmouth, Wellfleet, Edgartown, and West Tisbury. More common on these as well as gable-front houses was the use of a bracketed cornice, panelled pilasters, labels, occasional roundhead windows, and console-supported door hoods. **Second Empire** houses are even rarer than the Gothic, and known almost exclusively for their distinctive mansard roofs. In larger towns, large examples with raised tower elements are occasionally found, as in Provincetown, Wellfleet, Orleans, Brewster, Barnstable, Falmouth, Edgartown, and Nantucket. More common were two-story examples employing both center entry and side entry facades. Best known is Eastham's Penniman house and barn, and small examples are known in the above towns as well.

The dramatic exception to the regional pattern is the group of **cottages** constructed on Martha's Vineyard at Wesleyan Grove and adjacent campgrounds beginning in the 1850s. The basic form of each cottage was a 15 x 20 foot rectangle, orienting its gable front to the street, constructed of random-width tongue and groove panelling set on brick piers. The first-floor facade is composed of a center, double-leafed door, with a small window on each side, and on the second

floor, a double-leafed door leads to a narrow cantilevered porch. In addition to the vertical lines of their wall cover, these cottages are ornamented through the use of a variety of window and door shapes, elaborate moldings surrounding them, and the application of jigsawn bargeboards and spindlework balustrades. On the interior, these homes were simple, composed of a single large front room, and smaller rear room with stair to the single second-floor chamber. The earliest and most common examples in Oak Bluffs are of this small type and number over 300 at Wesleyan Grove, and as many as 100 elsewhere in the town. First-floor porches or other additions, and other wall surfaces such as clapboard or shingle, are in many instances later additions. Other camp meetings with surviving cottages are located in Barnstable at Craigville and in West Yarmouth.

Occasionally large "double" cottages were constructed for preachers in the Grove. However, with the opening of new campground areas, by the Land and Wharf Company, and at Vineyard Highlands and Bellevue Heights, cottages were built on larger lots allowing larger, more complex variations of this form. The most common ways of expanding these cottages included the addition of another story, of a perpendicularly placed second block, or secondary elements like cross-gables or side towers. The Pitkin house adds cross-gables, a high tower, and shed-roofed wall dormers. The Spinney double cottage is composed of two gable-front blocks divided by a square tower. Twin Cottages is a similar base with the additional embellishment of a full first-floor porch and a pair of conical-roofed second-story porches. The best-known architect associated with these buildings is Samuel F. Pratt, who designed over twenty area buildings between 1870 and 1872. His houses stressed complex rooflines that combined mansards with cones, dormers, hips, and gables at several levels. He also published in period pattern books, and 140 Wesley Park Road is pictured in Bicknell's Pattern Book. A related group of cottages constructed at the resort development Falmouth Heights includes an exceptional

Y-shaped cottage designed by Elbridge Boyden, and in the related **Stick** style also at Siasconset on Nantucket.

As tourism rose to preeminence in the region, the number of stylistically ambitious buildings increased in number, though in highly localized clusters. Ironically, these buildings are often overlooked in inventories, so precise information on dates, original appearance, or architect is seldom available. This presents a highly significant area for further research, since the development and articulation of late 19th-century styles of domestic architecture was led by the wealthy in their construction of large homes in newly important seasonal resorts. The camp meeting cottages just described represent the first regional expression of this pattern, executed in eclectic, picturesque styles primarily by members of the emerging and economically independent middle class. When seasonal communities became more exclusively the reserve of the wealthy after the 1880s, the Queen Anne and Shingle styles were the dominant idioms.

The **Queen Anne** style originates in the house designs of Richard Norman Shaw in England during the second quarter of the 19th century. Incorrectly linked to the reign of Queen Anne, Shaw's houses relied on manor houses of the 16th century for their inspiration. This style was not strictly historically based, however, and combined elements and periods in an eclectic fashion, relying heavily on innovative interior planning, complex massing, and elaborate ornamentation, including variation in color and texture, complex trim and wall cover. Through the newly popular architectural periodicals like American Architect and Building News and The American Builder, many high-style Queen Anne designs became known to American builders, architects, and patrons. H. H. Richardson began experimenting in the style about 1870, and in 1874 his Watts Sherman house was built in Newport, an exceptional American adaptation of Shavian principles of design. Vincent Scully (1955) has documented the development of the Queen Anne style in the period's

preeminent resort communities, but little documentation is currently available on the activities of the principal architects of the style in the Cape Cod and Islands study unit.

As with the previous styles, the application of ornament to existing and familiar house types was the primary mode of expression by regional builders. The presumed shift from plank or post-and-beam construction to mass-walled, balloon framing meant complex massing was more easily accomplished. Indeed, exterior views of these houses reveal an additive approach to massing consistent with the new planning ideals of the style. Rectangular central masses remained constant, employing both long-wall and narrow-wall facades, but projecting bays, towers, dormers, and more complex roofs became increasingly popular. The hallmarks of the style are more complex wall coverings, including ornamental shingles of various shapes, alone or in combinations changing from floor to floor, and the application of turned, spindlework elements, particularly on porches. The most elaborate examples use a hip- or pyramidal-roofed main block, and achieve asymmetrical massing through an off-center entry placement and the placement of full height, gable roofed, projecting bays on the facade and lateral walls. Belvederes and corner towers were added in particularly ambitious examples. Many of the same effects could be achieved through the use of bay windows rather than projecting bays, or with facade gables or dormers adding complexity to rooflines. Gable-front blocks might rely on chipped gables and canted corners, or solely on wall cover and porch placement. With population decline so prevalent in the region, it is not surprising that examples employing the style are rare. Indeed, in the region's smaller towns--Truro, Wellfleet, and Eastham on the outer Cape, Chilmark and West Tisbury on Martha's Vineyard, and in the Native American communities of Mashpee and Gay Head--only a handful are noted. Larger numbers and more elaborate examples, are found in the more prosperous communities like Falmouth, Barnstable, Provincetown,

and Edgartown, and those with emerging resort communities like Provincetown, Nantucket and particularly Bourne.

The **Shingle** style emerged rapidly from the Queen Anne, a truly American development with origins in colonial building, that retained open planning and complex massing. At first, architects relied heavily on the architecture of the 17th century, and quickly adopted shingle wall cover and roofing that effectively unified the many parts of the houses into asymmetrical but horizontal schemes dominated by their high roofs. William Ralph Emerson's 1879 house in Mt. Desert, Maine, is said to be the first fully developed Shingle style house. Subsequently, architects incorporated more elements of Georgian Colonial design beginning about 1885. It is difficult to generalize about the houses built in this style, the first in the region to rely primarily on designs by architects and developers emphasizing the individuality desired by a wealthy client. Two- and three-story blocks have high peaked gable, or more commonly, wide gambrel roofs. While massing remains asymmetrical, projections are more commonly in the roof area in the form of cross-gables or gambrels, wall dormers, or tiers of shallower dormers of various types. Porches and decks increase in number and importance to produce the overall horizontal designs. Clusters and banks of windows are similarly horizontal. Walls, roofs, and often porch supports are shingled, and trim can be quite simple or employ individual referents to Georgian design. Foundations and occasionally first floors are constructed in random laid fieldstone.

The Shingle style was commonly employed in the resort communities planned by speculators in the last quarter of the 19th century. While many of these developments began in the late 1860s and early 1870s, financial upheavals postponed most construction into the 1880s. Chief among the successful speculative resort developments are Falmouth Heights, Hyannis and Wianno in Barnstable, West Chop in Tisbury, and Siasconset on Nantucket. Other significant clusters in the region

include Grey Gables, Rocky Point, Monument and Sagamore beaches, and Toby's Island in Bourne, Penzance Point, Sippewisset, Chappaquoit, Menauhant, Silver Beach, and Mara Vista in Falmouth, and Cotuit in Barnstable. It was not uncommon for developers to employ a single architect for a number of the houses, as at Wianno, where Horace Frazier of Boston designed several houses and the hotel. Still other communities included minimum dollar values for new house construction in an effort to achieve quality houses and good investment properties.

The final style to achieve a measure of popularity in the region is that clustering of form and ornament known as the Colonial Revival. With its roots in the Queen Anne and the Shingle styles, the Colonial Revival looked back to American traditional architecture for its design sources. More literal reconstruction of past forms were the rule, however, and many critics have found the style antiquarian and unoriginal. Many distinctive subtypes can be recognized, but no single one is known from a large number of examples. In the later resort communities and in isolated examples in other towns, Georgian Revival houses became popular, and large two-and-a-half story symmetrical gable blocks were constructed. Moderate-sized homes in resort communities as well as for the year-round population applied similar ornament to the two-and-a-half-story pyramidal foursquares, and even to bungalows. Later suburban house types were added in small numbers and include Dutch Colonials, simple two-and-a-half-story, five-bay, center entry gable blocks, and not surprisingly, modern Capes. Other historic revival styles such as Tudor, French, and Spanish, found few adherents, nor did the more progressive Prairie or Craftsman styles.

Institutional Architecture

The discussion of institutional architecture more closely parallels earlier reports in its emphasis on function, the social purpose of the structure. Three categories are used to subdivide this large and diverse group of public and private buildings: ecclesiastical, educational, and administration and service. The first category is perhaps the largest, consisting of the region's meetinghouses and churches. These were the first public buildings for most communities and consistently well documented. Similarly numerous and early, if somewhat less well known, are regional schoolbuildings. As governmental functions increased both at the county and the town level, publicly funded structures to house them increased to include meeting halls, courthouses, custom houses, and libraries and maintenance buildings, the most common types.

Ecclesiastical Buildings

Within the early European communities in Massachusetts, meetinghouses for collective worship were the most common public buildings constructed. The nonconformist faiths that motivated so many of the settlers structured their creation of orderly, covenanted communities in the New World. The institution of the church became the organizing principle above the family, and its meetinghouse the location of community meetings. Even where support of the ministry was voluntary, contribution to the construction of a meetinghouse was a requirement imposed on all. Residents in this region were slower to meet this ideal. The Cape area was peripheral to the more tolerant New Plymouth system, and while they were part of New York Colony, the islands were subject to no church requirements. In

addition, this region was from its initial settlement uniquely diverse, both culturally and theologically, and religious groups in the area included members of Plymouth's Separate Church, New England Way Congregationalists, Quakers, and Native American converts, as well as later New Light Separates and Baptists. Although merger with Massachusetts Bay brought the region under the legal rule of the Congregationalists' Standing Order, these early patterns minimized their influence. The multiplicity of groups that found followers in the region can be seen in the structures they built to house their specific forms of worship.

Few accurate descriptions survive of the region's earliest meetinghouses. In part this is due to the pattern of rapid rebuilding of these structures during the early years of a community's establishment. The scarcity of resources and labor, coupled in most instances with rapid population growth, meant that the earliest examples were rapidly outmoded. With few exceptions it was not until the decades of the 1720s and 1730s that long-lasting buildings were constructed. This pattern is nearly universal in the region. Sandwich built its first house in 1638, rebuilt it in 1656, and again in 1704; Yarmouth built in 1640, and 1716, Barnstable built in 1646, in 1681, and in 1717; Eastham's first meetinghouse is undated, but it was rebuilt in 1676 and 1720; Falmouth built in 1687 and again in 1715; Harwich in 1700 and 1722; Chatham in 1700 and 1730; Truro in 1711 and 1720; Provincetown in 1717 and 1765; and Wellfleet in 1722 and 1735-1740. On Martha's Vineyard, Edgartown's first meetinghouse was built in 1653, replaced in 1665, and again in 1719; Tisbury built in 1694, 1700, and 1733; Chilmark in 1701 and 1723. Only a small number of congregations built first houses that proved to be lasting structures. Each of these examples were new formations from older churches or new groups in older communities, and include Orleans and West Parish Barnstable in 1718, East Parish Yarmouth (Dennis) in 1722, and Nantucket's Presbyterians in 1725. Like the houses that other congregations constructed in the early 1700s, these had long lives

as the foci of parish activities. The region's colonial meetinghouses that date to this critical period served their communities an average of 107 years before being replaced by their congregations. Most of these structures are of unknown appearance, and only two survive today: West Barnstable's meetinghouse of 1718 and Nantucket's Presbyterian house of 1725 (now the vestry of the First Congregational Church).

Throughout this period of rapid rebuilding, both square and rectangular meetinghouses were constructed. Some of the region's earliest examples are distinctly oblong in form, as in Edgartown's 1665 house, measuring 33 x 19 feet with eight-foot stud height, as well as Eastham's house of 1676. Most, however, were square or nearly square in form, consistent the liturgical preeminence of preaching and the need for a centrally located pulpit. Some houses were quite small: Eastham's first house, as well as Wellfleet's of 1722, measured only twenty feet on a side, or 400 square feet. Later houses' dimensions produced considerably larger houses of over 1,000 square feet. The need for more space was a significant factor in the movement toward rectangular houses with gable roofs more easily constructed for large sizes than hip forms. At the same time, later additions brought square houses to rectangular form; several houses had additions made at each end (Chatham 1773), at one end (West Barnstable, 1723; Sandwich, 1756; Dennis, 1761; Truro, 1765), or the original house was cut in two and expanded in the center (East Barnstable, 1723; Tisbury, 1765; Yarmouth, 1768). Additions occasionally made rectangular structures square (Eastham's addition of 1715, Wellfleet's of 1765), and at least one mid-century rebuilding was for a large, square meetinghouse, Falmouth's of 1749.

The lack of descriptive materials on colonial meetinghouses restricts comments on the ornamentation of these structures. Occasionally an enclosed porch was added to the primary entry on the long side of a meetinghouse, as at West Barnstable,

Yarmouth, Brewster, Chatham, and Truro. More rare were the high towers that might adorn gable ends, housing stairs and bells; examples are known from East and West Barnstable, Brewster, and Sandwich. Throughout the 18th century builders of these meetinghouses maintained the practice of locating the primary entry in the wall parallel to the roof's gable, usually the long wall, and opposite to the pulpit. Rare exceptions, entered through the gable end, include Edgartown's second house and Wellfleet's expanded 1765 house.

Similarly, little is known about the meetinghouses of the region's dissenting and minority communities. The area is well known for the large Quaker presence, particularly in the towns of Nantucket, Falmouth, Sandwich, and Yarmouth, but these structures are largely of unknown appearance. The Separate and Baptist meetinghouses were constructed to serve societies formed with the Great Awakening, but they too are unknown in appearance. The houses built for use by Native American converts, in the towns of Gay Head, West Tisbury, Bourne, Mashpee, and Orleans are primarily unknown. The exception is the extant Mashpee church of 1717, altered much later, but confirming the regional choice of a small, gable-roofed structure with a minimum of elaboration.

The War for Independence and subsequent dislocation brought by inflation, embargo, and the War of 1812 nearly eliminated the construction and expansion of ecclesiastical buildings. Only six parishes rebuilt their meetinghouses prior to 1825: Chilmark (1786), Provincetown (1793-1796), Harwich (Second Parish, Brewster 1792), Falmouth (1796), and Sandwich and Orleans (1804). Expanding communities added second meetinghouses during the period, for Holmes Hole in Tisbury (1788), for South Yarmouth and the area which is now Bourne in Sandwich (1794), for Centerville in Barnstable and the East End of Falmouth (1796), for Unitarians at Nantucket (1809), and for Trinitarians at Sandwich (1813). In the remaining communities, townspeople chose not to make appropriations of scarce

resources toward meetinghouse construction, and in only a few instances, toward meetinghouse remodelling: at Chatham in 1792, Nantucket in 1795, and Brewster in 1796. In spite of their comparatively late dates, few of these buildings are described in the secondary sources. As a result, few meetinghouses in the region illustrate the period transition from "meetinghouse" to "church" plan. Porch entries and stair towers are mentioned, but not their location on the building's main block; the remodelling often included tower construction and suggests a change in orientation. The two examples that survive are probably indicative of the variety of houses constructed. The Falmouth East End Congregational Church of 1797 was a simple, two-story gable-roofed structure with its long side, and presumably its primary entry, facing the street. The Second Congregational Church of Nantucket was built in 1809 and reflects fashionable forms known from other regions in the Commonwealth. Its gable end faces the street and its pedimented porch entry is a hallmark of stylish churches of the period. The extension of this porch to three stories as a high, wide base to the tower relates this modification to high-style examples like Asher Benjamin's West Church (Boston) of 1806.

Although building by town-financed Congregational societies was curtailed during these years, newly formed societies of the region's dissenting denominations constructed meetinghouses, adding significantly to the number of institutional buildings across the landscape. From their colonial base in Harwich, the Baptists expanded and built meetinghouses in Hyannis (Barnstable), Brewster, Chatham, and Orleans, while Native American influence led to construction in Bourne, Tisbury, West Tisbury, and Edgartown. Most impressive, however, were the activities of the Methodists, who formed religious societies in every Cape town, as well as on each of the islands, prior to 1830. Before 1825, eleven societies in the region constructed meetinghouses, primarily on the outer Cape: Provincetown and Truro, 1795; Harwich, 1799; Falmouth, 1811; Wellfleet, 1816; Chatham and Orleans, 1818;

Eastham, 1819; Dennis, ca. 1820, at Cataumet (Bourne, an existing building purchased); Brewster, 1822; and Edgartown in 1811. Like the early Congregational meetinghouses, few descriptions are available on these buildings, but those available indicate small, simple, gable-roofed structures with comparatively short lives. The Friends followed a somewhat different pattern and built new meetinghouses during the period after the Revolution. A meetinghouse was built for West Falmouth's Friends in 1775, for Nantucket's Friends in 1792, and a second, north society established there later. Yarmouth's meetinghouse of 1809 survives--a small frame, gable-roofed structure with paired entries in the porch located on the long wall. The Sandwich meetinghouse of 1810 is two stories with a two-story porch with entries on each of its three sides. During the second quarter of the 19th century, the Nantucket community began to fragment, and by 1869 no meetinghouses remained in use. The final Quaker meetinghouse to survive was built at West Falmouth in 1841 and is a departure from earlier forms in its use of a gable-front form with paired entry into the main block rather than an entry porch.

When prosperity returned to the region in the 1820s, the region's religious societies responded with a decade of unprecedented meetinghouse rebuilding. Between 1825 and 1835, fourteen of the twenty-four Congregational societies replaced existing meetinghouses, and an additional house was built for the new parish in South Wellfleet. At the same time, the continued expansion of the Methodists coupled with this prosperity led to rebuilding by three societies (Edgartown, Truro, and Chatham), the construction of meetinghouses by nine new societies, and remodeling by two more. A handful of new houses were constructed by Baptists and Universalists, too, during the period. Building continued throughout the 1840s and 1850s, though in smaller numbers, as sixteen houses were rebuilt, and fifteen new societies constructed meetinghouses in the twenty-five year period prior

to 1860. These buildings survived at an extraordinary rate, and at least forty are extant today in the region.

As a group, these houses of worship resemble each other in general form, and illustrate the acceptance of the church over meetinghouse form. The amount and type of ornament on these churches allow the formation of a typology that includes a range of examples small and large, simple and elaborate. Rectangular, gable-roof blocks remain universal but all builders selected the short, gable end for the entry and placed the pulpits opposite. The entry area remains the focus for stylistic ornament, and entry, bell, or clock towers are used in four of the five style types. All are frame in construction, with clapboard wall covering, have a variety of roof materials, and are currently painted white.

The first group is most closely related to the meetinghouses of the 18th and early 19th centuries. These rectangular, gable-roof structures differ from their predecessors in the placement of their entry at the short gable end, but seldom employed entry porches or stair towers. Their ornamentation could be found at door and window surrounds, and the occasional use of belfry on the ridge at the entry end of the roof. The large Orleans Congregational Church of 1829 was two stories in height, with paired entries and palladian window at one gable end, open, ogee-roofed belfry on the ridge above, and lancet-side windows. The Chatham Congregational Church of 1830 and the South Wellfleet Congregational Church of 1833 were similar in size and form, employed similar belfries, but their openings were square-headed. Tisbury's 1832 Methodist Church employed roundhead windows, as did Edgartown's 1840 house. Many of the churches of this type were far smaller, relied solely on window and door surrounds for ornament, and were constructed by the region's early Methodist societies (including those in Provincetown, Truro, Orleans, Dennis, and Bourne), as well as small Baptist societies (including Forestdale and Pocasset in Bourne, Bass River in Yarmouth,

and the Center Village in Barnstable), Universalists (Hyannis in Barnstable), and a community church at Osterville in Barnstable. Small groups would continue to use this form, with the addition of later stylistic embellishments, well into the 20th century, as in Barnstable at the 1909 Hyannis Zion Church, the 1922 Maple Street Church, and the Lutheran churches.

The second, small group of churches are those built in the form popularized by Asher Benjamin early in the 19th century, but seldom built in this region until after 1825. In these churches, both the entry portico and bell tower are located on a short, gable end. In contrast to earlier examples, these towers are placed partially over the primary block, and partially over the entry porch. These entry porches are usually three bays in width, in height just under that of the main block, and pedimented to echo the facade gable of that block. The Nantucket house of 1809 was the first of the general type. The Edgartown Unitarian meetinghouse of 1828 is a large and elaborate example, two-and-a-half stories in height with a pedimented, single entry porch, square tower, and steeple; the fanlit and pedimented paired entries, and fanlight in the tympanum of the porch are elements familiar to the Federal style. Simpler examples were constructed in Truro in 1827 (without a spire), in West Tisbury in 1833, and possibly, by the South Parish (1796) and Marston Mills (1830) churches in Barnstable, all constructed by Congregationalists. Later, more elaborate versions were constructed in Sandwich in 1847, and in Wellfleet in 1850. More Greek Revival elements are seen in the greater protrusion of the entry porch, its treatment with full height classical orders, and pilasters at the corners of the main block, as well as cross-gable roof on the square tower. The Sandwich example is ornamented by Ionic pilasters on the porch, as well as Ionic colonettes on the octagonal belfry supporting a spire. The Wellfleet example employs plain pilasters on the portico, and its belfry is octagonal and ogee-roofed.

Fully Greek Revival structures make up by far the largest group of mid-century structures in the region. In this group, the form of the main block remains rectangular under a gable roof with entry into the gable end, with pulpit in the opposite wall. The primary gable end, however, is composed more consciously in imitation of the Greek temple form, with freestanding columns supporting the portico and the square bell towers pulled back behind the facade plane to sit completely on the roof ridge. Not surprisingly, the most elaborate examples were constructed in wealthy core communities of the region. The earliest example may have been Nantucket's Universalist Church (1825-1836), said to resemble the extant Athenaeum with a colossal portico of fluted Ionic columns in antis. The earliest extant example is the Edgartown Methodist Church, built ca. 1827; its portico is supported by six Tuscan columns, its square tower holds a belfry and clock, and is topped by pinnacles. Other island examples include a similar church constructed by the town's Baptist society in 1839, later used as a Masonic lodge; the Chilmark Methodists constructed a church in 1844 with a portico supported by four Doric columns and spire-topped tower. In 1840, the Methodists on Nantucket added a new colossal portico to the church of 1823, composed of six smooth Ionic columns. More numerous were the churches that substituted a facade of pilasters for a full portico. Earliest examples in the region date from the late 1830s and 1840s and include the West Dennis Community Church of 1835, Nantucket's Baptist church of 1840, West Harwich Baptist of 1841, the Barnstable South Congregational of 1848, Tisbury Congregational of 1849, and the Hyannis (Barnstable) Universalist Church, all with spires above their square towers. The continuing popularity of this form can be seen in its selection by Methodists in Sandwich (1847), Falmouth (1848), Chatham (1849), South Yarmouth (1852), as well as by Provincetown's Universalists (1847), and by Chatham's Congregationalists (remodeled 1866). Still simpler examples relied solely on corner pilasters and are found at Cataumet (Methodist, remodeled 1839),

Orleans (original version of Methodist, 1837, as well as Universalist, 1843), Barnstable (Hyannis Evangelical, 1841, and Cotuit Union, 1846), Eastham (Methodist, 1851-1920), and East Falmouth (Methodist, 1859).

The fourth group of meetinghouses is contemporary with the Greek Revival group but represents a small number of formally and ornamentally distinct churches, related to the early Gothic Revival style. Like the early 19th century urban examples, the gable-end facades of these churches are dominated by the entry tower set partially within the main block. The region's earliest examples were constructed in Sandwich by the Unitarians and on Nantucket by Congregationalists in 1833. The latter, extant example has its ornament focused on its ogee-headed entry, large lancet window above, and pinnacled tower and spire. Brewster's Unitarian Church of the next year combines Greek and Gothic elements: three square-headed facade entries and corner pilasters, lancet heads on all the windows, and a single-staged belfry with high, spirelike roof, Dennis' South Parish Congregational Church of 1835, Barnstable's East Congregational Church of 1836, and North Truro's Union Church of 1840 are similar in form and ornament. Probably the region's most stylistically ambitious example was Tisbury's Baptist Church (1837) which added small corner turrets with crenelation which continued along the roofline to the entry tower. Not unlike the Greek group above, simple variations of this type employ a flat facade plane and a square tower sitting on the ridge. Examples can be found in North Falmouth (Congregational, 1832), West Yarmouth (Congregational, 1835), Yarmouth (Universalist, 1836), Barnstable (Osterville Baptist, 1837), Dennis (North Congregationalist 1838), South Harwich (Methodist, 1836 and Bethel, 1853), and Waquoit in Falmouth (Congregational, 1848). As in the domestic architecture, isolated lancet windows can be found on otherwise Greek Revival houses, and an example is known in Orlean's Universalist Church of 1843.

The final group of churches, constructed during the 1850s, shared with the Gothic churches a dominant tower on the entry facade, but employed ornament from the Renaissance Revival vocabulary. The best extant example is the Center Methodist Church of Provincetown, completed in 1860. Here the large tower houses the first-floor vestibule and entry, supporting a second stage ornamented by Ionic plaster and labels forming a blind arcade and echoed in the two-tiered octagonal belfry above. In 1851, the Methodists in South Truro constructed a smaller and simpler version of a single story with facade entry tower housing the projecting vestibule and two-staged belfry. In Brewster, the Universalist Church (1852-1858) shifts its entries to either side of the tower which rises straight to its concave pyramidal roof, but retains bracketed cornice lines and roundheaded and labeled windows. The First Congregational Church of Yarmouth, was built in 1870 with a projecting entry tower rising to a spire, and ornamented with roundheaded windows and a bracketed cornice. In the Methodist Church of West Falmouth, built in 1857, the builder employed the familiar practice in smaller churches to place its square belfry on the ridge above its paired gable entries, and placed labels at each round-headed opening. Pilgrim Congregational Church in Harwich (1854) was originally ornamented in this style. This style was particularly popular among congregations that chose to remodel rather than rebuild at midcentury. In 1854, J. D. Towle of Boston updated the Harwich Congregational Church with an elaborately detailed tower and spire. In 1858, the Falmouth Congregational Church of 1796 was updated with bracketed cornices and roundheaded, labeled openings. In 1863, the Wellfleet Methodists remodeled their church, as did the Congregationalists in Chatham (1866) and Provincetown (1873).

Church building fell off dramatically during the Late Industrial and Early Modern periods as the drop in population reduced the number of churches needed as well as the usage of those that remained. Smaller congregations were often

disbanded—Reformed and Wesleyan Methodists, or Quakers on Nantucket, for example. Their houses of worship were sold for other uses, or dismantled. Others continued to use the same structure, which might be remodeled, but replaced only if destroyed by fire. New churches for new congregations were constructed primarily for newcomers to the region: by new Roman Catholic parishes and missions, and by summer resort communities, commonly as nondenominational chapels, Protestant Episcopal or less frequently Unitarian or Universalist churches. This reduction in new construction coincided with the shift stylistically from symmetrical to asymmetrical forms in ecclesiastical buildings. Most of the churches constructed during these years were designed in a generalized Gothic mode. During the early years of the 19th century, designers turned to more accurate reconstructions of Gothic prototypes. At the same time, when ornamental elements were borrowed from the stylistic canons governing contemporary residential architecture, vernacular and medieval elements gained popularity over classical precedents.

The region's Protestant Episcopal churches represent the most stylistically ambitious group of churches constructed during the period. The philanthropy of the Beebe family and the efforts of Reverend Phillips Brooks led to the formation of St. Barnabas Memorial Church in Falmouth and the selection of Henry Vaughn as architect in 1888. This exceptional granite church is derived from English parish church design and dominated by a large square bell tower with spire, while the main block is decorated by a porch entry and projecting vestibule, as well as buttresses echoing the tower ornament. A cloister connects the church to a stable which has been converted to a chapel, and the whole is pleasingly sited in a large park near the village center. Nearby, the Church of the Messiah of Woods Hole, constructed the next year, is similarly elaborate. Here too a large square bell tower dominates the facade, the entry is in an enclosed porch, and the structure is of stone. The builder, here, however, added a stone spire and transepts, but neglected to accent

ornamental features with contrasting stone. Later, on Nantucket, Quincy granite and brownstone was used in the new Episcopal church constructed in 1901 in a similar form, as was Hyannisport's (Barnstable) St. Andrew-by-the-Sea of 1911.

Frame examples of the same overall form, gable-end block with sidetower, were constructed in the region's resort communities during the final years of the 19th century. The large Trinity Methodist Church constructed in Oak Bluffs in 1878 has an entry porch in the center of the gable front, a side, square-bell tower, and is ornamented by bargeboards. In Tisbury, three of the churches chose this form, the Stick style Grace Episcopal Church of 1883, the Shingle style Baptist Church of the same year, and the Arts and Crafts Steven Memorial Church of the Unity of 1896. In Sandwich, St. John's Episcopal Church was constructed in this form in 1899 in the Shingle style, as was St. Peter's at Wianno (Barnstable, 1903), and the Siasconset Chapel (Nantucket, ca. 1890) was originally Stick style. Trinity Episcopal Church in Oak Bluffs (1882) had no tower, but added transepts, and a belfrey on the roof ridge. Edgartown's St. Andrew by the Sea was constructed of brick, in a simpler version excluding any projections, with entry immediately into the main block; it is ornamented by half-timbering in the gables and by a small ridge belfry. St. Christopher's Church in Chatham (1880) is a small gable-front form with a small lateral entry porch and transepts. The auxiliary chapel constructed in Wesleyan Grove, Oak Bluffs, in 1885, is a simple gable-front form.

Other churches constructed in the region are generally smaller, and utilize elements of the Shingle style and the Arts and Crafts movement in their composition. In these examples, the primary entrance shifts back to the long wall parallel to the ridge of their gable roofs. An exceptional fieldstone example was constructed in the growing community of Sagamore through the generosity of Gustavus Swift to the Methodist Church there in 1911. A large square bell tower sits offset from the center entry, which is screened by an arcade and accented by a

half-timbered dormer in the gable roof above it. Another, still larger fieldstone example was constructed by Tisbury's Methodists to replace their burned church in 1924; here, entry is into the large bell tower located at one end of the long front wall of the gable block. The Church of the New Jerusalem (Swedenborgian) in Yarmouth Port is a related frame example. The Wellfleet Methodist Church of 1891 is a large, frame structure, composed of two wide gabled sections, joined at a right angle fitted with an entry tower. Each gable is ornamented by a large lancet stained-glass window, and the tower has a belfry with belcast-shaped roof and pinnacles. A smaller example of this cross-gable-and-tower form was constructed by the Bethel Society in South Chatham about 1915. Related Falmouth examples include the Woods Hole Congregational Church of 1890, in which the gable faces the street, but entry is into the tower, located on the building's long side, and the Menauhant Chapel, with entry tower also on the long facade wall. Less elaborate examples were constructed without towers, and focused ornament on the porch or portico located at one end of the gable-roofed block, and at small belfreys or clock towers on the ridge. Churches of this type include the Universalist Chapel in Brewster (1870), the Chapel in the Pines, (Universalist) in Eastham (1889), St. Mary's (Episcopal) in Barnstable (1890), and Christ Church (Episcopal) in Harwich (1926). Later churches, more eclectic in composition, were constructed by Episcopalians in Provincetown in 1919 (St. Mary of the Harbor), and Orleans in 1935 (Holy Spirit), and in Eastham, where the Methodists rebuilt in 1926.

The Roman Catholic churches constructed during this period uniformly retained the orientation of entry into the gable end, opposite the altar. The region's earliest surviving church, St. Peter the Apostle in Provincetown, of 1874, has a small portico over its entry, a square belfry with octagonal ogee roof, and pairs of roundheaded windows. When the Wellfleet parish modified a former schoolhouse in 1900, they added roundheaded, stained-glass windows, while builders of St. Thomas'

Chapel in Falmouth Heights converted a tea room in 1928 by adding side aisles, and utilize roundedheaded windows. St. Patrick's Roman Catholic Church in Falmouth (ca. 1900) has an entry porch at its gable end, transepts, and a tower on its crossing. More fashionable examples include one in Sandwich in 1901, when Corpus Christi was constructed in brick with Romanesque detailing and a large square tower halfway down the long side wall. The Shingle style was used in 1899 at Sacred Heart Church in Yarmouth Port, and in 1926 at St. Theresa's Church in Sagamore (Bourne), while St. John the Evangelist in Pocasset is a brick Tudor design of 1931. Generalized Mediterranean designs were used in Our Lady of Lourdes at Wellfleet (1900). St. Margaret's in Buzzards Bay (Bourne, 1915), and the Chapel of Our Lady of Hope, West Barnstable (1915). Later, some parishes built in Colonial Revival modes, often echoing earlier meetinghouse designs, as at St. Francis Xavier in Hyannis (Barnstable, 1904, remodeled 1916), Our Lady of the Assumption in Osterville (Barnstable, 1905), Holy Redeemer in Chatham (1915), and St. Anthony's in East Falmouth (1923). The most ambitious use of this style, however, was for the Barnstable Unitarian Church of 1905, designed by Guy Lowell. The hip block has a square tower, octagonal bell and dome, and a pedimented portico of Ionic columns in antis.

Educational Buildings

The multiplicity of functions performed by the meetinghouse in colonial Massachusetts precluded the need for additional public buildings in most communities. Tax-supported schooling was required in the Bay Colony after 1647 for common schools in towns of fifty families or more, and an additional grammar school was required for larger towns. Most of the region's incorporated towns passed this threshold early in the Colonial period, but few immediately constructed a separate schoolhouse. Instead, the schoolmaster would travel through the town,

staying within a household for several months while teaching students in that area before moving on. Reporting on the construction of separate schoolhouses is inconsistent, but at least six towns in the region built, or discussed building them. The earliest mention is for Provincetown in 1713, prior to incorporation and perhaps due to the absence of a meetinghouse. Most other towns delayed construction until after midcentury. Descriptions indicate small, rectangular, gable-roof structures with dimensions of 17 feet to 20 feet in length, 13 feet to 16 feet in width, and 6- to 7-foot stud height. Only Barnstable's house of 1771 specified two stories. Only the Dennis Schoolhouse of 1770-1775 survives, a National Register property of one-and-a-half stories under a gable roof.

The Revolution and its aftermath arrested schoolhouse construction as it had all building. In 1789, the new school legislation perpetuated the existing colonial system. Of particular importance to town resources was its reinforcement of the district system which allowed towns to subdivide themselves into smaller units whose residents controlled teacher selection, curriculum, schoolhouse construction, and maintenance. This allowed students to attend nearby schools, gave parents a direct role in the education of their children, and provided neighborhoods with a convenient local meeting place. On Nantucket all schools were privately funded through 1827, an exception to the Commonwealth pattern, and students attended religious or secular private schools of unknown appearance. Population growth and prosperity in the region led towns to construct far more schools during the years around the mid-19th century, paralleling the patterns described for residential and ecclesiastical architecture. By 1850, when both population growth and the district school system neared their peak, the region boasted 210 public schools with 250 teachers and nearly 10,000 pupils.

The schools constructed in the towns and districts present an image of uniformity in form and ornament that, again, echoes house and church building.

Gable-front forms were the universal choice of builders of known schools, presenting their narrow end as facade and entry location. Although many schools remained devoid of decorative treatments, the overwhelming choice was of Greek Revival and Italianate ornamental elements. Though few still survive, most 19th-century schools were single-story, one-room primary or common schools, located in districts for educating the community's youngest students. Early surviving examples include Barnstable's East Schoolhouse of 1826, with an unusual hip roof, and Tisbury's 1828 gable-front structure with paired entries and a small belfry on the roof ridge, now used as the meeting hall of the Daughters of the American Revolution. Other surviving regional examples include a similar example in Forestdale in Sandwich, a side entry example in Yarmouth, elaborate examples with bargeboards and cupolas at the National Seashore Visitors' Center in Eastham and in Bournedale, and single, center-entry types in Gay Head, Chilmark, and Oak Bluffs.

Larger, two-and-a-half story examples survive today in greater numbers. While some of these may have combined public meeting halls with classroom space, more often they served community needs for multiple teaching spaces. Districts with a large number of students might adopt the innovative system of grading students or house common and grammar students in a single structure. These larger structures were treated to more ornament than the one-room schools, were clapboarded rather than shingled, and added wide cornice boards, corner pilasters, and door surrounds of the Greek Revival, or bracketed cornices, panelled pilasters, and door hoods of the Italianate style. Paired-entry examples survive in Brewster, Dennis, and Falmouth, and single-entry examples in Harwich, Wellfleet, Yarmouth, and Edgartown. Exceptional designs are known from Orleans, where entry is in the outermost of four bays on the long side, the Barnstable Village School with two entry porches, and in Provincetown, where a square tower complements the 1844 school.

Beginning in this same period, patrons of tuition-funded schools began to construct school buildings of their own. Like the publicly funded schools, most of these began in residences as ministers and educated men and women opened select schools to augment locally available programs. Early in the 19th century the number and organizational complexity of these schools increased, and members of the regional elite incorporated Academies, and in many instances constructed buildings for them. In keeping with the ambitions of their sponsors, these schools were often among the most elaborate and stylistically ambitious in their communities. The earliest known independent structure, constructed in Sandwich in 1804, resembled period public schools in its gable-front, center-entry form, with belfry. The earliest school surviving on Nantucket was built by the black community in 1825, a single-story, hip roof structure currently in poor condition. Rock Harbor Academy, constructed in Orleans in 1827, combined classrooms with a public hall in the two-and-a-half story structure. During the 1830s, core towns added elaborate academies, including Lawrence Academy in Falmouth, built with a colossal Ionic portico in 1836, Brooks/Pine Grove Seminary in Harwich, built in 1844 with a colossal Doric portico, the pilaster-and-ball-corniced Davis Academy of 1836 in Edgartown, the large (but of unknown appearance) Dukes County Academy in West Tisbury, and Barnstable Academy of 1839 is a two-story gable front with a Doric portico. The most substantial school was that built in 1852 for the bequest-funded Coffin School on Nantucket. Constructed of brick, the gable-front facade is ornamented by Ionic columns in antis screening the center entry, with its entablature rendered in brick.

Population loss in the region and Commonwealth policy advocating centralized school systems significantly reduced the number of schoolhouses in the region during the late 19th and early 20th centuries. In some towns the district system was maintained, and schools were sold off as the number of pupils fell. A similar process

was accelerated in towns that chose to follow School Board policy but used existing school buildings purchased by the town from the districts. These were the most common choices exercised by towns in the region. Occasionally, more ambitious programs, undertaken after legislation of 1827 and 1869, called for school replacement and the establishment of high schools. On Nantucket the first public schools were built during the 1830s, and the town's first public high school was constructed in 1856, two stories in height under a bracketed hip roof, with large banks of windows. Replacement schemes were undertaken in Chatham, Harwich, Orleans, and Yarmouth, and where the replacements are known they resemble those constructed in the districts. In Chatham the graded school constructed in 1858 was two-and-a-half stories in height with a hip roof, bracketed at the cornice, and hood over the entry in the center of the three-bay facade. The Orleans school resembles the two-and-a-half story district schools but for its entry location at one end of the long side. Yarmouth's are standard, gable entry in form, and Harwich's are of unknown appearance. In core areas of expanding population, occasionally new schools were required. In Centerville (Barnstable) the 1880 school is Classical Revival in style, while in 1903 the West Barnstable School was Arts and Crafts in design. In Falmouth a Stick style elementary school was constructed in 1886, a National Register property of two-and-a-half stories. During the next year the town shifted its preference to the Shingle style when it constructed Lawrence Academy.

The greatest change in the educational architecture of the region came in the 20th century. During the early years of the century, national education reform policy shifted strongly away from small frame rural schools toward large, brick, well-lit consolidated ones. While more densely settled parts of Massachusetts, particularly the cities, had moved rapidly in this direction during the final quarter of the 19th century, areas like the Cape still maintained small dispersed schoolhouses for most children. The first school in the region to exhibit in this new pattern was

the high school built in Bourne in 1905, constructed of brick in the Colonial Revival style. By the 1920s and 1930s, the combined effects of policy and improved transportation led most of the region's towns to construct either elementary or high school or both in this form. Bourne added a brick elementary school, and Barnstable added a large Y-plan high school, both in 1924, followed in Sandwich by the Wing School in 1927. Farther out on the Cape, similar schools were constructed in Dennis (1931), Falmouth (three education-related buildings in the 1930s), Harwich (1937), Mashpee (1932), Orleans (1938), Provincetown (1938), and on Nantucket (one each in 1929 and 1930). The overwhelming design choice was for a generalized Georgian or Colonial Revival building with the center entries housed in a projecting frontispiece, often with cupolas and hip roofs. Only the Nantucket, Falmouth, and Provincetown examples were multistoried, and only the latter two employed the H-plan common in larger Massachusetts communities. Exceptions to this widespread pattern were the frame consolidated elementary schools constructed in outer Cape towns. In Brewster the school (1930) was a simple two-and-a-half story hip-roofed, shingled structure, while Eastham's school (1936) resembled a multibayed Cape Cod house.

Administrative and Service Buildings

Construction of government-related buildings at community expense proceeded more slowly, especially in this peripheral area. Colony government was distant during early settlement, but county structure was effectively implemented by the late 17th century. In 1685 when Plymouth Colony merged with Massachusetts Bay, three new counties were formed, incorporating the Cape Cod portion of the region as Barnstable County, named after the Shiretown. Shortly thereafter, a courthouse was built, but of unknown appearance. It was replaced in 1774 with a rectangular, gable-roofed structure that survives in the town though substantially altered due to later, new uses. In 1832, the core of the present county courthouse complex was

constructed. Primarily of granite, this substantial Greek Revival design is the work of Alexander Parris. It originally measured 26 x 65 feet, and its gable-front facade is dominated by its wooden Doric portico and round domed belfry. Substantial additions were made to this main block during subsequent decades as county functions multiplied.

Martha's Vineyard, the Elizabeth Islands, and Nantucket were originally associated with the Colony of New York, and organized as Dukes County in 1683. They were transferred to the Province of Massachusetts Bay in 1692, and subsequently, in 1695, Nantucket was made a separate county. Undoubtedly, the coincidence of town and county bounds led to a joining of these related functions in a single structure. A townhouse measuring 24 x 34 feet, but of unknown appearance, was constructed in 1716. In 1836, the town purchased a portion of a brick commercial building, expanding into the full building in 1889; the two-and-a-half story, six-bay, gable-roofed, end chimney, brick building now houses the Nantucket Historical Association. On Martha's Vineyard the first courthouse was constructed at Great Harbor (Edgartown) in 1721 measured 27 x 40 feet. In 1808, the present courthouse was constructed of brick, measuring 26 x 36 feet, rising two-and-a-half stories under a gable roof with segmental arches over its windows.

After a courthouse, these communities most often felt the need for a jail, and the first one built in the region still survives in Barnstable. Dating to 1690, the two-story rectangular structure has a gable roof. A jail preceded the courthouse in Edgartown, in place by 1699. It was replaced in 1743 by a structure measuring 12 x 24 feet with seven-foot studs that stood until 1762. A third stood from 1762 until 1825, when a new jail was built adjacent to the courthouse; that stood until 1874. Barnstable built a new jail during the Revolution, of unknown appearance. Its 1821 replacement was constructed of oak plank. In 1936, a new county jail and House of Correction was built from a Georgian Revival design for a two-and-a-half-story

structure of five bays with a parapetted center entry, having twenty-five single cells and dormitory space for twenty. On Nantucket the first known jail was built in 1805 and survives. Constructed of logs, it is two stories in height and three bays in length. A second House of Detention was built at the poorfarm complex at Quaise in 1826. This two-and-a-half story, gable-roofed structure was moved adjacent to the jail in 1854 and demolished a century later.

With the exception of Nantucket, where Quakers were in the majority and a townhouse was constructed in 1716, towns followed the New England pattern of using their meetinghouse, taverns, and private homes for the meetings of the full town and its selectmen and committees. Final separation of church and state in the Commonwealth came in 1833, and in the years that followed came a spate of townhouse construction that coincided with the regionwide building boom. Not surprisingly, the core town of Sandwich was the first to build a public hall in 1834. This ambitious building is two-and-a-half stories in height with a gable-front facade ornamented by Doric columns in antis. The Brewster hall of 1835 was a small simple structure of one-and-a-half stories with center entry into its gable end. Towns that constructed halls but of unknown appearance include Orleans (1837), Falmouth (1840), Eastham, Provincetown (both 1851), Dennis, Harwich, and Chilmark (no dates). Others purchased existing buildings for use as a town house. In 1843, Edgartown purchased the second Methodist meetinghouse, a gable-front structure raised above ground level and reached by stairs to paired entry, and with roundheaded windows on the second, primary floor windows. The South Wellfleet Congregational meetinghouse was built in 1833 and subsequently moved and reused as the town hall. The gable-front form rises two stories, has paired entry, and a square tower with ogee-roofed belfry; it burned and was reconstructed in 1960. Tisbury acquired the 1844 Congregational meetinghouse, a gable-front form ornamented by pilasters and entered through its square tower. Truro acquired a

former meeting hall, gable front with pilasters and cornice, center entry, and small belfry. No information exists on town halls in this period for the region's only other incorporated towns, Chatham and Yarmouth.

In the decades after the Civil War, several towns built second town halls that survive. Orlean's house of 1873 is of Italianate design, rising two stories under a hip roof with a three-bay facade with center entry with hood, and a small facade gable lit by a round window. Provincetown replaced its burned house in 1877 with a large and elaborate Renaissance Revival structure; two-and-a-half stories under a gable roof, its entry is into a projecting gabled pavillion extending the full height of the structure, and the whole is surmounted by a central clock tower and ornamented by multiple paired pilasters. Falmouth's 1881 town house employs the Stick style in its use of horizontal banding and stickwork on its wall surfaces. It is a two-and-a-half story structure with a hip-on-hip roof, with a projecting entry pavillion on its short side housing its entry and topped by a belfry. In the same year, Brewster built a Queen Anne hall, a large hip block with corner tower and a pedimented porte cochere on its facade, and horizontal bands of ornamental shingles.

Additional towns built public halls for the first time. Barnstable's town office building of 1889 is a one-and-a-half story gable front with center entry, ornamental shingles, and bargeboards. Here, village halls in secondary areas were constructed. In West Barnstable the 1879 hall was subsequently used as a Finnish Congregational Church (1935-1963) and is now a hip block with pedimented entry porch. In Hyannis the 1912 hall was designed by Samuel Kelley, a one-and-a-half story gable-front form with entry porch and ornamental shingles. The undated Bournedale hall is a one-and-a-half story gable front with paired entries, bargeboards, and belfry. The town of Chilmark built a simple second town hall in 1897, gable front in form, and two-and-a-half stories in height with pilaster ornamentation. The new hall built by Eastham in 1912 is a brick Georgian Revival design; a single story under a high hip

roof surmounted by a cupola, its seven-bay facade is ornamented by central Doric entry portico and recessed roundheaded windows. Barnstable's town building of 1926 is a brick Georgian Revival design, composed of a two-and-a-half story, flat-roofed main block with lateral ells, and contrasting trim at the half round Ionic portico of the center entry, and arches over the first-floor windows. Sandwich's annex of 1927 is a brick Colonial Revival structure of one-and-a-half stories. Gay Head and Mashpee's Early Modern town halls are simple and utilitarian in design. The 1920 hall at Gay Head has a wide gable-end hall with pedimented porch entry and a perpendicular gabled ell housing offices. At Mashpee, the 1940 structure is a single-story, wide gable-front structure.

Private groups constructed meeting halls as well. The earliest of these were the Masons, who had structures in Provincetown and Wellfleet as early as 1797, followed by one in Falmouth in 1800. Dennis' Lodge of 1802 survives as a two-and-a-half story hip block resembling period residences. Nantucket's Lodge of 1805 is an exceptional Neoclassical structure, with plain pilasters rising to Ionic pilasters on the second story and an elaborate cornice with patera and swags. Provincetown and Wellfleet built two-story, mansard-roofed lodges in the 1870s, the latter adding a center tower. Yarmouth's Masons constructed a five-bay, center-entry gable front building with Ionic porticoes in 1875, while a simpler version was built in Harwich in 1880. This gable-front, center-entry form was also adopted by the builders for meeting halls with a more general use during the middle years of the 19th century, including the surviving Liberty and Freedom halls in Barnstable, the Liberty and Warden halls in Dennis, and the side entry Lyceum in Yarmouth. Later, as agricultural societies became popular, halls were constructed. At West Tisbury on Martha's Vineyard, the hall was built in wide, gable-front form and ornamented with bargeboards in 1859. The Barnstable Hall of 1862 was a two-and-a-half-story structure with porch, bracketed cornice, and paralld

pilasters. Falmouth's Grange Hall of 1886-1887 is a one-and-a-half-story structure with bands of contrasting ornamental shingles.

In addition to their town halls, communities constructed a wide variety of additional structures, increasing in number over the historic period. The first to be considered were shelters for the town poor. During the Colonial period towns gave food or fuel directly to the needy, or employed the "auction" system, placing them into other households by bid. The new attitude that the poor should be separated, and, if possible, made to pay for their expenses through work had influence in the region. Thus at Sandwich, as early as 1726, the town discussed and may have operated a poor house; Barnstable purchased a house in 1766; at Provincetown the new system was under consideration by 1767, and a poor house had been constructed by 1806. The largest complex was constructed in Nantucket, where a farm was purchased in 1822 and four buildings were constructed. A House of Correction, described above, was added to the complex in 1826. All but the latter burned in 1844 and were quickly rebuilt but sold in 1854. A portion now survives as the basis for Our Island Home. Ironically, the rise in popularity of the poor farm system coincided with the regionwide economic decline, and so few towns purchased or operated farms.

As firefighting technology improved, towns constructed houses to shelter the equipment required. The earliest survive in Provincetown, known from an exceptional group of five. Constructed in 1880, these gable-front structures of two-and-a-half stories with a small hose tower house a single engine. Oak Bluff's 1886 example houses two engines with a larger rear hose tower, ornamental shingle wall cover and bracketed cornice. Bourne's undated example is a two-engine, hip block with classical cornice and pilasters. Orleans' 1925 example is unknown in appearance, and the 1929 shingled, gable-front example in Harwich has been greatly

changed. Nantucket's 1930 firehouse follows the brick and Colonial Revival format of the town's period public buildings.

Far more popular, in part due to state-supplemented funding, were town public libraries. Through most of the early years libraries were restricted to ownership by the wealthy and educated and kept in their homes. Beginning late in the 18th century, members of the elite began to pool their resources to form private, subscription libraries--still, however, stored in private homes. These ministers', teachers', and subscription libraries were soon augmented by small selections housed in district schoolhouses for use by students. The earliest exception to this in the region was the Nantucket Atheneum, originally located in the former Universalist Church (1825). Designed by Frederick Brown Coleman, it is known to have had a colossal Ionic portico, and it burned in the fire of 1846. Its 1847 replacement, built by Charles Wood, is a five-bay, flush board facade with a recessed entry screened by an Ionic portico in antis. Its library and museum are located on the first floor with a large lecture room above, and it became free and public in 1900.

Separate buildings for libraries became more common as the century wore on, particularly after 1869 when Commonwealth legislation meant more funds for free public libraries. In most instances, individual philanthropy made separate buildings possible. The first within this region was built in Brewster in 1868, a small Stick style structure under a hip roof with facade gables and hooded, center entry. Yarmouth's 1870 library is a brick hip block with porch entry and gable-roofed ells. Provincetown's library was formed and housed in a three-story, three-bay, mansard roofed structure. In Orleans, the Snow Library (1877-1952) was a Tudor style structure of brick with half-timbered gables raised on a stone basement, with a side entry and a bank of casement windows.

The second cluster of building activity took place during the 1890s. The Jacob Sears Memorial Library in Dennis of 1895 is a high dormered hip block with an

octagonal tower at one end, a round tower at the opposite, and a covered side entry. The 1896 Eldridge Memorial Library in Chatham is a brick Romanesque Revival design by A. A. Marble, composed of a gable-roofed block with facade gable, bay window, and recessed entry under a segmental arch. Its reading room is a full two stories in height. Eastham's tiny 1897 library is a simple pyramidal roofed block with center entry. The Bourne Library of the same year is a brick Colonial Revival design with center pedimented entry and cupola. The undated West Falmouth Library is a hip block on a stone basement with central pedimented entry and asymmetrical arrangement of narrow windows under the eaves and rectangular sash.

The final group of libraries was built in the early 20th century and from generally Classical Revival designs. Edgartown's Carnegie Library was built in 1904. In Sandwich, the single-story Beaux Arts structure is of stone. The undated Falmouth example is yellow brick under a high hip roof with center entry between banks of roundheaded windows. The Dennis Library of 1924 is a gabled block with a central recessed entry, belfry and lateral ells. Towns with no known library building include Truro, Wellfleet, and Mashpee on the Cape, as well as all Martha's Vineyard towns with the exception Edgartown, and the Elizabeth Islands community of Gosnold.

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CHAPTER 5
ECONOMIC DEVELOPMENT
Peter Stott

Introduction

The following eight essays are discussions of several of the more important economic activities of the Cape and the Islands Study Unit. In them are outlined the origin and development of these industries; their geographic distribution and, where possible, their relationship to each other. Although the major focus of each of the essays lies in the 19th century, when most of the industries saw their most significant activity, considerable attention is also given to the 17th- and 18th-century origins of agriculture, commerce, and the whale and fin fisheries.

Unlike the more technologically oriented "factory" industries common to other study units, the physical resources of the region's maritime economy have not had the same scrutiny, either by local historians or in industrywide studies. Wharf construction has only recently begun to receive attention. The social and corporate organization of port communities also underwent important changes in the post-Revolutionary period, though these are only hinted at in the available secondary literature. By contrast, salt manufacture, which has left no known above-ground resources intact, was described in extensive detail by contemporary observers.

The following essays are designed to provide a context for understanding specific artifactual resources within the development of their own industries. They are organized in chronological order according to their first introduction or period of greatest expansion.

Agriculture and Husbandry

Most early settlements in Massachusetts were agriculturally based. Those on Cape Cod and the Islands were no exception. Rich agricultural soils were present in all areas of initial settlement on the Cape. North of the hilly Sandwich moraine, a fertile strip of land stretched along the Cape Cod Bay shoreline from Sandwich to Eastham. Soils here were particularly fertile bordering tidal necks and other coastal estuarine locations. Initial settlements in Sandwich, Barnstable, and Yarmouth concentrated settlement in this vicinity. In the outer Cape, coastal areas were also fertile, particularly in the Pleasant Cove area of Chatham. In Eastham and Orleans the outwash plains provided fertile agricultural land during the early settlement stage. The Eastham area was, in fact, so fertile that the Plymouth settlers on two occasions prior to 1644 contemplated moving the political and religious seat to this area. The earliest European settlers chose these areas to establish agricultural communities like those they had left in Old England.

During the 17th century, colonists sought to replicate an agricultural system of mixed cultivation and husbandry. Wheat, rye, and oats were the major grain crops with which they were familiar. Wheat was not well suited for growth in coastal areas, and early wheat crops met with several problems. In 1646, caterpillars attacked both wheat and barley, deer often trampled on fields, and black stem rust gradually appeared. Colonists persisted in their attempts to grow wheat, rye, and

oats when and where possible. Some wheat production was eventually successful, and better fields in the Eastham area, for example, might have yielded fifteen to twenty bushels per acre. Native American crops of Indian corn, pumpkins, beans, squash, and tobacco, and fruits such as pears and apples, were also planted to supplement the diet.

It was not long, however, before Indian corn, or "turkey wheat," developed as the major crop in all settled areas. At first, corn was grown by the traditional Native American method. It was planted on hills two to three feet apart and frequently interspersed with beans, squash, and pumpkins. Cape farmers soon abandoned the traditional native method for level farming (Russell 1976: 277). Increased production resulted in most areas. In 1750 William Douglas put the ordinary production of Indian corn at twenty-five bushels per acre, but in some instances, corn production on the Cape was higher than regional averages. In 1742 a corn harvest in Truro reached 177 bushels from six acres with the use of crab fertilizer (Russell 1976: 135). Corn not only provided a major and often much needed food resource for humans but also served as an excellent supplementary feed for cattle and poultry.

While agriculture was the primary trade of the early Cape settlers, husbandry was also important. During the 1630s and 1640s, cattle raising was lucrative in the New England colonies. As the region's towns were first settled, livestock accompanied the first settlers and may have supported them economically until lands were cleared and crops harvested. Cattle may have been grazed in the salt marsh areas of Sandwich, Barnstable, and Yarmouth prior to actual settlement. The extensive salt marshes found in the outer Cape and along the Cape Cod Bay shoreline provided extensive fodder for cattle and other livestock. Eventually, English hay was also grown. As settlement was made on the Cape, Martha's Vineyard, and Nantucket, other livestock accompanied cattle. Pigs, sheep, and

goats were present, as were chickens, ducks, and geese. Oxen and horses were common as work animals. Russell (1976: 164) notes that horse breeding was an important pursuit on the Cape, particularly in the mid to outer Cape areas.

Little information is available on the size or layout of farms within the study unit during the 17th and early 18th centuries. Figures from other, better documented towns suggest that the average farm was well under 100 acres. Of this, only a small portion would actually be cleared and placed under cultivation. The majority of the acreage was set aside for growing hay or for pasturage or left "unimproved," either as uncleared pasture or woodlot. While these small farms were productive, they were seldom self-sufficient. Most farmers had to combine agriculture with other work, especially during the winter. The most common activities were fishing, whaling, or other maritime pursuits. Others supplemented their farm income by working in skilled crafts such as carpentry or boat building. While much of the produce of these farms was consumed locally, either by the families that produced it or through exchange with neighbors, some products such as grain and livestock were exported through the coasting trade. With the rise of offshore fishing and whaling early in the 18th century, the need to provision vessels became another impetus for expanding production.

Mills were important for processing farm products. The sequence of mill construction on the Cape in large part followed the incorporation of towns. The earliest mills were erected in Sandwich (1640), Yarmouth (by 1647), and Eastham (1661, now part of Brewster). In the same decade, mills were also built in Nantucket (ca. 1666) and West Tisbury (1668). More than in any other area, however, the physiography of the Cape governed the types of mills that could be constructed. On the outer Cape, no rivers were present on which waterpowered mills could be constructed. Tide mills had been the earliest solution to this problem, and the first

mill on the outer Cape was probably a tide mill built on Salt Pond in Eastham before 1684. By about 1700 three tide mills had also been built in what is now Orleans.

The solution to this power deficiency was the adoption of the wind as a motive force. The first windmill in New England had been built in Watertown in 1632, and within fifty years there were several along the coast. Not until the 1680s, however, were they adopted on the Cape. Their introduction appears to have been the work of one man, Thomas Paine (d. 1706). Paine had come to Yarmouth with his father and quickly gained a reputation as a mechanic. In 1661, Paine constructed the waterpowered Setucket Mill for Governor Prence of Eastham, on what is today Stony Brook in Brewster (Freeman 1858-1862: II: 188). In 1684 he built the first windmill on the Cape, for the town of Eastham, probably near Kescayo Gansett Pond, in Orleans. The second and third windmills, on Cobb's Hill in Barnstable (1687) and on the Yarmouth "Commons" (1697), are also said to have been built by Paine. Paine's second son, Thomas (1657-1721), settled in Truro and built the first windmill there in 1711. By the end of the Colonial period, virtually every town had at least one windmill. Nantucket operated four in a row. Inevitably, these mills followed the smock-mill form, with rotating cap on a fixed shingled octagonal base. The boat-shaped cap was typical, and revolved through the use of a long tail pole. These mills were easy to disassemble and move, and virtually every windmill in the region had such a history of movement.

As agricultural production increased and more land was cleared, soil fertility began to suffer. One short-term response to this problem was fertilizer, at times wood ash, but frequently fish and "king crab," probably the horseshoe crab. While this method of crop fertilization may have been practiced by the natives, it was carried to an extreme by Europeans. Literally tons of herring were used each year to increase soil fertility. By the early 18th century, herring was so overused as a fertilizer that many towns passed ordinances prohibiting this practice. In spite of

such efforts, however, soils were beginning to fail in several towns by the end of the Colonial period. The overcutting of woodlands and excessive farming had reduced soil fertility, resulting in lower than average crop yields. The lack of ground cover, combined with the effects of wind and water, resulted in topsoils being eroded away, to one-third or one-half their 17th-century depths. This erosion may have been in part responsible for the silting in of numerous harbors and for the death of oyster beds.

Ironically, the American Revolution may have also been a significant factor in this process of soil depletion. With the outbreak of the war, virtually all maritime activities ceased, and many of the sailors and fishermen turned temporarily to farming. The effect was devastating. The Rev. John Simpkins, in his 1806 account of Brewster, described the "irreparable injury" done to the soil during the Revolution:

Interrupted in their maritime pursuits, and deprived of employment in the fisheries, many of the inhabitants were compelled to resort to the land for subsistence. They were driven by necessity from year to year to diminish the value of their lands by severe tillage, breaking up a large quantity at a time, giving it little or no manure, until a soil, naturally free from grain, became reduced to the extreme of poverty. (Simpkins 1809: 74).

By the end of the 18th century, the combined effects of poor management and erosion had substantially changed the pattern of agriculture on the Cape. The 1791 census reported that only about 2% of the land in the region was under cultivation. Only inner Cape towns rose above 3% land in cultivation—Harwich with 4.2% and Yarmouth with 3.1% were followed by Falmouth (2.5%), Sandwich (2.1%), and Barnstable (1.4%). The richest soil lay north of the glacial moraine, where the dark loam produced corn, rye, flax, and still occasionally, wheat. Even the thin sandy soil south of the ridge could be fertilized and made to grow good crops. Barnstable occasionally sent corn to Boston from the north shore of the Cape, while at the same time the south shore was importing it in nearly the same quantities. Dennis grew vegetables enough for summer use but had to import them in other

seasons. Onions became an important product, and by the 1790s both Barnstable and Dennis were sending onions to Boston markets. The richer soils of Falmouth and Sandwich also attracted farmers.

Farms were small, but all sorts of grains could be raised easily. As late as 1820, farmers made up 53% of the Sandwich's population, a higher figure than in any other town in the county but for Mashpee.

While sheep raising never approached the importance it would have on the islands, it did become an important activity on the Cape mainland in Falmouth, Sandwich, and Barnstable. In Sandwich, which had the largest number until the 1830s, sheep were allowed to run free before being sold to drovers from outside the county. "Sandwich mutton" was much sought after in Boston (Russell 1976: 290). Although both Sandwich and Barnstable continued to raise substantial numbers of sheep, by 1831 the lead had shifted to Falmouth, which was the only town to show an increase over the county fifty years earlier. The extensive pasturelands and salt marshes of Sandwich, Barnstable, Harwich-Brewster, and Yarmouth-Dennis made these the leading cattle towns in Barnstable County.

The outer Cape towns suffered particularly from the effects of soil depletion and erosion. Only 1.9% of the land in Chatham remained under cultivation; 1.8% in Eastham. Wellfleet and Truro each had .3% in tillage, and Provincetown made no report at all. By all accounts, the most seriously affected by shifting sand was Eastham, where on the western side of the town, sand buried soils that once produced wheat. Elsewhere, sand filled small valleys and swamps. This encroachment was halted in its progress east by three cedar swamps protecting a 200-acre fertile tract on Town Cove, thought to be superior to any land in the county. In Orleans, too, there was fertile land, and both towns produced wheat and flax on their best land, and more than any other town, could regularly send surplus corn to markets in Boston. Chatham still had some good agricultural land near

Oyster Pond and the coves, but as in other towns of the outer Cape, its cultivation was left to old men and boys, and the town was a net importer of beef and provisions of all kinds from Boston. Wellfleet by 1800 was regarded as the most barren town of any on the Cape, but for Provincetown. Its grain was usually imported from the southern states, possibly because of business interests in connection with the importation of oysters from Virginia. In Truro, ever since the mid-18th century when men began leaving farms for sea careers, the soil had been depreciating. Fertilizer was seldom used, and by 1802 large tracts of land that once produced wheat were unfit for cultivation. Local farms produced turnips, potatoes, and pumpkins, but only about half as much as the inhabitants needed; beef, flour, cheese, and beans were brought from Boston.

The isolation of the islands made them more heavily dependent on the products of their own cultivation. Of the towns reporting on the islands, Edgartown reported 3.1% and the sheep-raising territory of Chilmark 1.2% in tillage. Edgartown/Oak Bluffs was an important agricultural region, in large part probably due to their supplying foodstuffs for outfitting whalers and coasters. A contemporary account indicates 875 acres (2.7%) under cultivation on Nantucket. These acres produced in rotation corn, rye, and oats. By 1831, the island was producing 2,000 bushels of corn, more than any Vineyard town and about average for Barnstable County.

Sheep raising remained the principal farm activity on the islands, though the sheep population may never have reached its prewar levels. Prior to Gray's Raid in 1778, there were said to be 20,000 sheep on Martha's Vineyard. On Nantucket, sheep were also numerous, with 15,000 head being reported in 1773. Flocks on both Martha's Vineyard and Nantucket were decimated during the Revolution, but were built up again thereafter. In 1810, Nantucket reported 10,000 sheep. On the Vineyard about the same time, 15,600 sheep were estimated. In Chilmark, the raising of sheep was the town's principal industry. On the Elizabeth Islands the

exposed conditions produced heavy fleeces, and by 1817 Naushon alone had nearly 4,000 sheep. There, about half the wool was exported, and the other half was made into stockings, mittens, and coarse woollen cloths for sale to traders on the island as well as in New Bedford and Boston.

Throughout the 19th century, agriculture continued to play a major role in the economy of the study unit, with a progressive shift in emphasis away from grain production toward dairying, poultry raising, and specialty crops. In the study unit as a whole, grain production reached its peak in 1855. Between 1838 and 1845, crop yields had doubled, then slowed to a 2% increase in the succeeding decade, when it peaked with 3.1% of the state's total production. Within the region, however, there was wide variation. Although Nantucket's production also peaked in 1855, Barnstable County reached its optimum production a decade earlier, and Dukes County a decade later. On the Cape, rye was usually the second-favored crop. On Martha's Vineyard, oats were usually the second-favored crop; in 1831 the harvest of oats amounted to 31% of the grain harvest there. Nantucket harvested two-thirds as much grain as the Vineyard, but it was entirely in Indian corn. When a substantial quantity of secondary grain was reported there, as in 1875, it was in oats. By far the most productive towns at mid century were those around the "elbow" of the Cape, between Harwich and Eastham. Measured on a bushel-per-square-mile basis, Orleans consistently ranked first among the region's towns in production of grain between 1831 and 1885; as late as 1905, it still ranked third. Eastham was credited with over 800 acres in grain in 1855, the largest grain acreage in the region. Between 1865, and 1905, total grain production in the region plummeted 81% to only 20,000 bushels, or about 1% of the state's production.

As the number of cattle in the region began to shrink after 1831, dairy cattle made up an every increasing proportion of the herds. Dairying was initially limited to the summer months, when most towns made sufficient butter and sometimes

cheese for their use. Between 1831 and 1865, the percentage of cows in Barnstable County rose from 29% to 65%, on Nantucket, from 31% to 71%, and on Martha's Vineyard, from 38% to 48%. Butter production increased throughout the unit until reaching its peak in 1855. By mid century, Brewster, Barnstable, Nantucket, Orleans, Falmouth, and Eastham all produced 20,000 pounds or more of butter a year. Both Barnstable and Falmouth, which would later lead the list of milk producing towns, still emphasized butter over milk. In other towns, however, increasing emphasis was being given to sales of whole milk. In 1865, the first year in which milk statistics are available, Truro, Chatham, and Sandwich were the leading milk producing towns on the Cape, with 72% of the county production. Truro alone was responsible for over a third of the Cape's 91,000 gallons. In part, Truro's success may have been due to the proximity of Provincetown, then the fastest growing community on the Cape. The study unit as a whole reached its peak milk production in 1905 with 1.5 million gallons, 1.4% of the state's production. Approximately 70% was from Barnstable County, although Nantucket, with 10% of this quantity, ranked second in the region after the town of Barnstable, followed by Falmouth, Truro, and Sandwich.

Between 1831 and 1855, the number of sheep in the study unit fell nearly 60%. The decline was greater on the mainland (86%) and Nantucket (80%) than on Martha's Vineyard (22%). However, during the Civil War virtually every town added a few sheep to their flocks in order to profit from the premium on locally produced wool. The rise was short-lived, and in the forty years to 1905 the Cape lost nearly 88% of its flock and Nantucket 94%. By contrast with the rest of the region, however, the sheep decline in Dukes County was slower. In 1905, Dukes reported 21% of the state's sheep. Gosnold and Chilmark were the leading sheep-grazing towns in the state. Whereas in Barnstable County cows outnumbered sheep by nearly ten to one, in Dukes County, sheep outnumbered cows by the same proportion.

Like the rest of southeast Massachusetts, Barnstable County became known for its egg and poultry production during the last half of the 19th century. State census figures indicate that the commercial raising of eggs and poultry had been established in Barnstable County by the 1840s. Between 1845 and 1865, Orleans and Eastham led the state in egg production. As late as 1905, although the county had only 3% of the state's farm acreage, over 12% of the state's egg and poultry farms were on the Cape. Within the county, the major concentration of poultry raisers generally shifted inward between 1855 and 1905, from Eastham, Orleans, and Wellfleet to Harwich and Barnstable. By 1905, Falmouth, Barnstable, and Orleans accounted for 45% of the county egg production, while Falmouth and Barnstable together produced 60% of the county's dressed poultry. On the islands, both West Tisbury and Nantucket were important poultry producers as early as 1865. In 1895, Nantucket led the region in the quantity of dressed poultry sold. After 1905, production throughout the study unit declined as competition from other parts of the state and elsewhere in New England cut into sales, and feed grain prices soared during World War I.

In the last half of the 19th century, specialty crops became a prominent part of the region's agriculture. During the 1880s it was discovered that the soil in Eastham was good for growing asparagus. There was also an increased demand for other market vegetables such as turnips and onions. Cranberries became an important crop in the decade between 1855 and 1865, as the county's share rose from 3.6% to 27% of the state total. Harwich was the leading town with 209 acres of cranberry bog, followed by Dennis (194 acres), Brewster (136), and Barnstable (126). The formation in 1866 of the Cape Cod Cranberry Growers' Association was indicative of this increased interest. A dramatic increase in the market value of cranberries in the 1870s brought a corresponding rise in production—478% between 1875 and 1885. The invention of the cranberry scoop in this period was a key factor in the larger

harvests, as was the improved rail service after the Civil War. Corporate organization followed these improvements. In this period, cranberry growing evolved from a family-oriented business to one of large corporations and hired labor. Barnstable's Abel D. Makepeace (1832-1913) was the most prominent figure in this transformation. While bog acreage in Barnstable peaked in 1905, the region continues to be an important part of the state's cranberry harvests.

Another fruit that benefited from the sandy soil of southeastern Massachusetts and rail transportation to urban markets was the strawberry. Although strawberries had been commercially grown on the Cape before the Civil War, it was not until the last quarter of the century that they began to be produced in a major way. Between 1885 and 1895, strawberry production climbed 360%, and by the end of the following decade, the percentage of strawberries grown in Barnstable County climbed from 1.3% to 5.1% of the state's total crop. Three-quarters of this production came out of Falmouth, which that year ranked fourth in the state after Dighton, Concord, and Worcester.

Early in the 20th century, several important efforts were made to revive agriculture both in the region and across Massachusetts in general. The Cape Cod Farm Bureau was formed in Hyannis in 1916. The same year also saw the first discussions concerning the establishment of a model farm to encourage agriculture on the Cape. The result was the formation of the 14,000-acre Coonamessett Ranch in Falmouth, Bourne, Sandwich, and Mashpee, credited with being "the largest agricultural project of its type east of the Mississippi" (Faught 1945: 20). Its ultimate object was to attract farmers to the Cape by demonstrating that large-scale farming could be profitable. The company ran a dairy and raised a wide variety of produce, but difficulties in marketing the produce hampered its prosperity. In 1922, a solution was proposed, one in which agricultural and maritime produce would be shipped to Boston markets via a State Pier at Buzzards Bay and

the new Cape Cod Canal. Unfortunately, the ranch folded before the pier was built, and when the latter was finally completed in 1935, there were not enough farmers and fishermen to make operation of the pier worthwhile. It was later turned over to the Massachusetts Maritime Academy.

Agricultural tasks have historically been pursued by all members of the farm family in and around the house, outbuildings, associated yards, and fields. Most women's work was focused in the vegetable garden and within the home and its associated outbuildings as they processed farm products, and as they fed and clothed their household. Men's work took them to the outer shops, barns, and fields as they grew and gathered farm products. The locations of these activities, the layout of yards and fields, and the plans of houses and outbuildings, are among the most ephemeral of historic resources. As Hubka (1984) has aptly shown, buildings were frequently moved and reworked in keeping with changing agricultural practices, and field patterns changed with crop choices as well as modernizing planting and harvesting techniques. It is not surprising then that little study has been made of the region's agriculturally related structures.

Secondary sources uniformly comment on the small size of the region's barns. This is consistent with the persistent problem of soil exhaustion, and the absence of large-scale commercial farming. These structures have not been inventoried, nor have other farm outbuildings associated with specific crops. It has been presumed that, as in other Commonwealth regions, both English and New England barns were constructed. Both are rectangular structures under a gable roof, with entry into the long wall in the former, and in the gable end in the latter. Later in the 19th and 20th centuries, forms popularized by national trends came into use, including the silo.

Mills used in the processing of agricultural products are better studied, and survive in small numbers. Waterpowered mills survive in Sandwich, Yarmouth,

Brewster, and on Nantucket. The Historic American Building Survey dates the Stony Brook Mill in West Brewster to 1872, and it was restored in 1940; the two-and-a-half story frame structure has a gable roof and exterior wheel. The undated Dexter Mill in Sandwich was reconstructed in 1961, and is similar but for its gambrel roof. Yarmouth's Baxter Mill is likewise undated, is a square, single, story frame structure under a hip roof, and houses a replica of its 1860 turbine.

Windmills survive in surprising numbers due to their perceived picturesque qualities through reuse as residences and shops. Fourteen are known in the region, though several have been moved from outside the region, including the Redbrook and Jefferson mills in Bourne and the Cape Cod Mill in Eastham. The majority of the remaining mills have been moved and are used as residences now. These include: in Bourne, the Rothery Mill (built in Orleans ca. 1800, moved ca. 1900), the West Harwich Mill (built there ca. 1800, moved ca. 1900), and the Buzzards Bay Mill (unknown); in Harwich, the Old Mill House; in Wellfleet, "Morning Glory" (built there in 1838 and moved in 1870); and the Mill Stone Pottery in Dennis may have once been an authentic windmill. Several windmills are restored and listed on the National Register: the Old Higgins Farm (ca. 1800, moved 1974) in Brewster, the Godfrey Mill (1797, moved 1955) in Chatham, the Judah Baker Mill (1791 in West Dennis, moved 1953) in Yarmouth, and the Old Mill (1746), on Nantucket. The latter is the only mill on its original site. All are octagonal, smock mills with rotating caps to position their sails or arms, and tailpoles.

Of particular interest is the survival of the Agricultural Society Hall built in West Tisbury in 1859. The two-and-a-half story gable front structure has a first-floor porch that supports its wider second story, and is ornamented by bargeboards. It is still used for meetings and the annual fair.

Maritime Commerce

During the first half of the 18th century, maritime commerce became an important component of the Cape and Island's economy. Initially this was a regionally oriented supply trade, one designed to bring goods and materials to the study unit's towns, often in exchange for local products. By 1750, however, the emphasis had shifted from supplying local markets to a commercial carrying trade that involved transporting products from several regions in addition to those of the Cape and Islands, up and down the Atlantic coast. Characterized by relatively small vessels and independent operators, this coasting trade remained successful until the Civil War, when the loss of southern markets and the effects of railroad competition brought about its gradual decline.

The first evidence of interprovincial maritime commerce was the establishment of the Aptuxcet Trading Post on the Manomet River in Bourne. Built in 1627, this post helped establish a trading route between the English colonists in Plymouth and the Dutch in New Netherlands. Despite the importance of this route to Plymouth, the extent of its influence on the Cape itself is unknown. Initially, maritime commerce on the Bay side focused chiefly on Plymouth, the administrative center of the colony until 1685. The first "trading" vessel of which there is record was that of Barnstable's Thomas Huckins (1617-1679) who established a tavern at the end of Scudders Lane by 1652. He also maintained a landing place and ran a "packet," which transported liquor, powder and shot, and other commodities. Some evidence also exists for trade between the Cape and neighboring colonies to the south—for instance, the 1654 seizure of "a vessel belonging to Mr. Samuel Mayo of Barnstable, employed in conveying the goods of Mr. Leverich from Sandwich [now Bourne?] to Oyster Bay, Long Island" (Swift 1897: 88).

By the 1680s, there was substantial travel and trade between Falmouth and both Martha's Vineyard and Nantucket. By 1700, a regular ferry had been established between Woods Hole and Holmes Hole. Nantucket's isolated location and absence of adequate agricultural land made the island more dependent on coastal trade. As early as 1679, Tristram Coffin had built a warehouse on Nantucket Harbor. The earliest vessels were probably shallops, sloops, and ketches. Shallops were used for local trade or for a day's fishing in the Bay. Although their number is unknown, many farmers and merchants probably had such a boat. For longer voyages into deeper water, larger vessels were required. The sloop, which dominated coastal trading for much of the 17th and 18th centuries, was first introduced through commerce with the Dutch, probably in the 1630s (Baker 1966:46-47). Thomas Huckins's "packet," in use by 1663, may have been a sloop. In 1691, Barnstable's John Lothrop was trading between New Haven and Boston in his sloop, Swan.

The first general picture of maritime commerce in Massachusetts emerges from the Register of Shipping, compiled between 1698 and 1714 (Vol 7: Commerce). Unfortunately, the list has its limitations. It does not report anything smaller than sloops. In addition, it reportedly does not include vessels engaged strictly in coastal or intraplantation trade (Bailyn 1959: 5). Of the 211 vessels recorded in the province in 1698, only four were from the Cape, with another three from Nantucket. Of the four, two were from Yarmouth, one from Sandwich, and one from Barnstable. By 1714, thirty vessels had been registered from the region out of which nine—nearly one third—were from Nantucket. An indication of the growing strength of trading within of the study unit is that fully half the registrations occurred in the last three years, 1711-1714.

Although Boston vessels had been sailing to the West Indies since 1645, bringing back sugar, rum, and molasses in return for fish, it is doubtful that vessels from the Cape and the Islands entered this trade until the signing of the Peace of Utrecht

(1713-1715). One of the earliest and most prosperous of the West Indian traders was the Barnstable merchant John Gorham (1688-1790), son of Lt. Col. John Gorham, who had introduced shore whaling to the Cape. Gorham became one of the most successful merchants in the county, establishing a store at the end of Scudders Lane around 1700. He also built one of the first documented wharves on the Cape, known as Gorham's Wharf, around 1720. Gorham's grandson, Sturgis Gorham, was another successful merchant, engaged in the West Indian trade between 1760 and 1790. He erected a wharf and storehouse on Lewis Bay in 1778, one of the first early indicators of the growing commercial importance of the "South Sea" area of Barnstable and Yarmouth.

By the 1760s, Nantucket had become the region's leading port, replacing Boston as the central market for much of the study unit. Both European and West Indian goods came to Nantucket, and by the 1770s, Crèvecoeur could write that Nantucket men were

well acquainted with the cheapest method of procuring lumber from the Kennebeck river, Penobscot, etc., pitch and tar, from North Carolina; flour and biscuit, from Philadelphia, beef and pork, from Connecticut. They know how to exchange their cod fish and West-Indian produce for those articles which they are continually either bringing to their island, or sending off to other places where they are wanted. (Crèvecoeur 1946).

In addition to documenting Nantucket's importance, Crèvecoeur's description also illustrates how broadly the coasting trade operated during the third quarter of the 18th century.

While many parts of New England benefited from this coastal trade, the towns of the Cape and Islands that handled most of the transportation were especially successful. The markets in the West Indies were of particular importance. Among the products transported, dried fish, mostly from Massachusetts, made up nearly a third of the exports in 1768. Horses (to run the sugar mills) and cattle made up another 20%—these came chiefly from Connecticut and the inland towns of the

Connecticut valley. Other products included pineboards and staves from Maine (19%), beef and pork, sperm candles (probably all from the Providence area), and small quantities of bread, flour, and whale oil. In return for New England dried fish, livestock, and lumber, the West Indies sent molasses (50%), rum (26.5%), sugar (8.8%), cotton (7.1%), and salt (6%). The West Indies was also the principal supplier of cotton both to England and to the colonies. New England's import of cotton in 1768, (330,236 pounds), represented 72% of all the cotton shipped into the colonies (Shepherd and Walton 1972: 223-230).

The Revolution severely affected commerce throughout the study unit as the British seized ships and threatened to blockade harbors. The impact was greatest on Nantucket, which depended on the coastal and seagoing commerce for virtually all necessities. That the island was successful in avoiding widespread famine was due, in large part, to its appeals for relief from both loyalist and revolutionary authorities. The six years following the Revolution were ones of intense depression. England closed her own ports as well as those of her West Indian colonies. The French and Spanish did the same. Coastal trade was also discouraged by state tariffs. In the meantime, European goods flooded American markets, sending needed cash to Europe.

A variety of factors brought about a renewed prosperity after 1789. Ratification of the U.S. Constitution in 1788 brought order to the tariff confusion in coastal ports. With England and France again at war in 1793, the lucrative West Indian ports were once more open to American vessels. Beginning in 1789, Massachusetts passed a series of measures designed to encourage maritime commerce, resulting in an expansion of coastal trade throughout the study unit in the 1790s. By 1796, the Barnstable Custom District reported the highest tonnage in New England outside of Boston and Salem.

Most of this growth took place in the harbors along Nantucket Sound from Falmouth to Chatham and Eastham, much to the "envy and despair of all the Bay shore towns" (Kittredge 1937: 26-28). There were various reasons for this, but the most significant was the south shore's better access to New York and other Atlantic coast ports where New England cod, salt, and other products were in demand. As a result, much of the maritime freighting moved to the south shore, leaving the north shore with little more than packet service to Boston. Virtually all the maritime activity on the south shore was freight, and as freight brought more revenue to their owners, the south-shore vessels greatly outnumbered those of the north shore.

Falmouth was the Cape's most important port for coasting vessels early in the 19th century. In 1802, its fifty-four vessels (averaging fifty-five tons each) outnumbered the rest of the study unit's fleet altogether. Of these, thirty were in the business of carrying lumber (probably from Maine) to the southern states and the West Indies. Falmouth vessels generally went south in the early fall, taking lumber and young carpenters or mechanics who found ready employment in the Carolinas and Georgia during the winter. Meanwhile, the vessels picked up local charters freighting cotton, molasses, rice, and sugar to the Sea Islands or along the southern coast. In the spring the vessels returned north with their cargoes, bringing the Cape men back in time for work on the farms or fisheries. Elijah Swift, who later became Falmouth's most successful merchant, whaler, and shipbuilder, was typical of these lumber merchants.

After Falmouth, the next highest number of vessels sailed from the "South Sea", the south shore of Barnstable and Yarmouth. From here, coasters sailed to Boston, Connecticut, or the southern States, and then on to the West Indies. With its emphasis on transporting salted fish to the Sugar Islands, "South Sea" became one of the first areas of the Cape to recover after the Revolution. A smaller number of coasting vessels also sailed from Chatham, Dennis, Orleans, and Eastham, bringing

cordwood from Maine during the summer and carrying lumber to the West Indies during the winter. The extensive woodlands of the inner Cape encouraged a specialized coasting trade in cordwood. Sandwich had nearly thirty small boats engaged in the coasting business to Boston and the state's eastern shore with firewood as the principal cargo.

In spite of the growth of maritime trade among the Cape communities, Nantucket remained the study unit's primary commercial center. The island's location made it a natural focal point in the various trade networks. Another factor in Nantucket's burgeoning coastal trade was the success of the island's whaling industry. Not only did Nantucket supply merchandise to many of the south shore Cape towns, it provided whale oil to much of the eastern seaboard. As measured by the figures for licensed tonnage, Nantucket's coastal trade expanded in direct proportion with whaling; between 1803 and 1840, the increase in tonnage was over 200%.

By the early 19th century, the success of maritime commerce began to be reflected in a series of technological innovations that brought physical changes to many of the towns. The construction of wharves and docks is an example. Wharves appear not to have been built on the Cape until the early 18th century. Instead, vessels were loaded or unloaded after being hauled up on the shore. Although temporary platforms, "fishing stages," were used, there is no record of a permanent wharf until the construction of the "Old" or "Straight" Wharf on Nantucket in 1716. This date coincides with the movement of the main settlement from Capum Harbor to Wesco. Offshore whaling had begun four years earlier, and it was probably no coincidence that construction of the first wharf followed within a short time. When Crèvecoeur visited Nantucket in 1772, the village possessed three wharves. Wharves were also constructed in Hyannis (1742) and in Truro (1754). Throughout the study unit, wharves were constructed of stone and timber. Most 18th-century wharves

were similar to those at Nantucket, which Crèvecoeur likened to Boston wharves:

These docks are built like those in Boston, of logs fetched from the continent, filled with stones, and covered with sand. The wharfs to the north and south of the docks are built of the same materials, and give a stranger, at his first landing, an high idea of the prosperity of these people. (Crèvecoeur 1946).

Waterfront development was encouraged early in the 19th century by the organization of wharf companies, incorporated by the legislature and authorized to charge "dockage" fees. The Truro Pond Harbor Corporation (1806) was the first such company in the study unit to be incorporated by the state legislature, though drifting sands forced the project to be given up. More successful was the Nobscusset Point Pier Company, chartered in 1814 (Chapter 149, Laws of 1813). The "Corporation Wharf," as it was later known, was a stone and timber structure, some 600 feet in length, built on the east side of Nobscusset Point in Dennis. Other wharves authorized by the legislature were located in Falmouth (1819), Edgartown (1822), and Sandwich (1829). These wharves appear to have continued the use of colonial crib design.

The introduction of the wooden-pile wharf in the 1820s was a significant technological advance over crib wharves and led to a period of rapid waterfront development. The pile wharf appears to have been introduced to the Cape by Thomas Lothrop, who constructed the first wharf in Provincetown in 1826. Local residents, who feared the sea would wash away the piles and destroy the wharf, warned Lothrop against the project. The project's success, however, led to the construction of many other wharves in Provincetown and up and down the Cape. Between 1830 and 1860, over 100 new wharves were authorized by the legislature. Although the list is incomplete, thirty-eight were built in Provincetown, ten in Harwich, nine in Edgartown and Dennis, eight in Chatham, six in Truro and Tisbury, four in Falmouth and Barnstable, three in Wellfleet, two in Yarmouth, and one each

in Orleans and Sandwich. The majority of the wharves, seventy-five, were authorized in the eight years 1846 to 1853, with the largest number, seventeen, in 1853.

With a few exceptions, this burst of wharf construction appears to have been a function of the successful commercial cod fisheries. A comparison of the number of wharves authorized 1846-1853 and the value of cod caught in 1845 follows in Table 10. In contrast, neither a mackerel fishery list (Wellfleet, Truro, Yarmouth leading) nor a combined fisheries list yields the same successful match.

Table 10

A Comparison of Wharf Construction and Value of Codfish Catch

Town	Number	
	of Wharves	1845 Cod Value
<hr/>		
Provincetown	34	\$ 45,000
Harwich	9	28,400
Dennis	7	27,875
Chatham	8	17,000
Yarmouth	0	15,280
Truro	5	14,062

Another characteristic of the Federal period was government investment in "internal improvements," innovations designed to speed commerce as well as encourage manufacturing. Most important to the study unit was the federal government's new role in lighthouse construction, authorized by an act of Congress in 1789. Before the Revolution, lighthouses were a local responsibility. The earliest in the study unit, and the second oldest in the U.S. after Boston Light, was built at Brandt Point, Nantucket, in 1746 to guide returning whalers and coasters. The light

was built in the same year that the first Nantucket whaler sold its oil in London. Whalemen also were responsible for the second light in the study unit, built in 1759 at Taupaulin Cove, Naushon Island, by the former Nantucketer Zaccheus Lumbert for the public good of whalemen and coasters with oil supplied by "the people of Nantucket" (Emerson 1935: 303). Of the thirty lighthouses constructed in the study unit between 1746 and 1940, over half (sixteen) were constructed or reconstructed in the Federal period. Only one—the fieldstone tower at Point Gammon (1816)—survives. In Table 11 are listed the lighthouses of the Cape and Islands study unit.

In addition to promoting lighthouse construction, the federal government also encouraged harbor improvement. It is doubtful whether breakwaters of any magnitude were built in the U. S. before the federal government began to subsidize their construction in 1824. The new breakwater at Hyannis, 390 yards long, was one of the first for which Congress appropriated money. This structure made Hyannis one of the principal ports of call for coasters sailing between New York and Boston and the busiest port (next to Provincetown) on Cape Cod. Expanded in later years, the breakwater is still in use today.

The success of Hyannis's breakwater prompted other towns to consider breakwaters, either by private subscription or by petition to Congress. In 1832, Chatham and Orleans were authorized to open a passage through Nauset Beach to improve Chatham Harbor. The Truro Breakwater Company was incorporated in 1835. Although work finally started in 1848, the breakwater was never completed. In Dennis, the Wharf and Harbor Company was authorized in 1841 to construct and maintain a breakwater at Sesuit Creek. Another innovation for harbor improvement were jetties designed to deepen navigable channels by the scouring action of water currents. The scheme was first used at Newburyport in 1829. In 1831, two jetties were authorized at Bass River. The construction of these jetties was unsuccessfully

Table 11

Lighthouses of the Cape and Islands Study Unit

Date	Town	Lighthouse	--Present Tower--		
		Name	Date	Material	NR status
1746	Nantucket	Brandt Point	1901	wood	NRp*
1759	Gosnold	Tarpaulin Cove	1856	brick	NRp
1784	Nantucket	Great Point		blown down 1984	
1796	Truro	Highland	1857	brick	NRp
1799	Gay Head	Gay Head	1856	brick	NRp
1801	Edgartown	Cape Poge	1922	wood	NRp
1806	Chatham	Chatham	1877	cast iron	NRp
1816	Yarmouth	Point Gammon	1816	fieldstone	---
1816	Provincetown	Race Point	1876	brick & cast iron	NRp
1817	Tisbury	West Chop	1881	brick	NRp
1822	Wellfleet	Billingsgate		replaced	
1823	Gosnold	Cutty Hunk		torn down 1860	
1823	Chatham	Monomoy Point	1871	brick & cast iron	NR 1979
1826	Provincetown	Long Point	1875	brick (square)	NRp
1828	Falmouth	Nobska Point	1876	brick & cast iron	NRp
1828	Edgartown	Edgartown Harbor	1875	cast iron	NRp
1836	Barnstable	Sandy Neck	1857	brick	---
1838	Nantucket	Bug Lights		removed	
1838	Eastham	Nauset Beach	1877	(moved) cast iron	NRp
		"Twin Sisters"	1892	wood	NRp
		"The Beacon"	1892	wood	NRp
1839	Wellfleet	Mayo's Beach		removed	
1849	Bourne	Wing's Neck	1889	wood	NRp
1849	Truro	Snow's Beach		discontinued 1855	
1849	Nantucket	Sankaty Head	1849	granite	NRp
1849	Barnstable	South Hyannis	1849		---
1855	Dennis	Bass River	?		---
1855	Chatham	Stage Harbor	1880	cast iron	---
1858	Yarmouth	Bishop & Clerks		demolished 1952	
1864	Provincetown	Wood End	1873	brick	NRp
1869	Oak Bluffs	East Chop	1876	cast iron	NRp
1940	Bourne	Cleveland Ledge	1940	concrete	NRp

*NRp means listing on the National Register is pending.

tried at Rock Harbor, Orleans, in 1833, and later at Pamet Harbor in Truro in 1853, and in Nantucket Harbor, 1879-1937 (Parkman 1978: 36, 70).

In 1850, the Barnstable Custom District recorded its peak coastal tonnage, 46,441 tons of coastwise shipping, the highest in New England. This represented a rise of over 1,000% from the 1803 figure. Salt cod and pickled mackerel remained the mainstay of the trade and were sent to ports from Pensicola, Florida to Bangor, Maine. When the fish catch was poor, the coasting trade was also diminished. The link between fishing and commerce was reinforced as the large fishing companies, like Harwich's Marsh Bank Company, began to run their own trading schooners up and down the coast. Along the south shore and outer Cape new firms entered the business in the 1840s and 1850s, and old firms expanded. Hyannis merchant Heman Chase was typical: Chase began business in 1848, running a packet from Hyannis to New York loaded with fish and returning with goods for merchants and grain for himself. On Dennis's north shore, Stillman Kelley and Seth Sears enlarged their business in 1850, adding six new vessels for the fishing and coasting trade; at their height, they operated thirteen vessels.

Salt was another product sent out on the coasters. For a number of years, the Cape's salt producers kept over fifty coasters busy, particularly along Long Island Sound and up the Connecticut River. Falmouth's Abisha Phinney was one of those, sailing from Waquoit Harbor and Woods Hole. The coal business came to the Cape about 1850, when Cobb and Smith added coal to their wharf business at Barnstable Village. A year later, Stillman Kelley became the first to establish a coalyard at Corporation Wharf in Dennis.

After 1850, several factors combined to bring about the gradual decline of the coasting trade. One was increased competition from railroads. Another was the Civil War, which first disrupted and then effectively destroyed the trade with the southern market, a primary component of which had been supplying a slave-based

economy. One result of these changes was a shift away from the transport of fish and other consumer goods and a greater emphasis on heavy bulk cargoes such as coal, ice, lumber, and granite. Coal was particularly important, having replaced firewood as the primary fuel used in urban areas. To accommodate the demand, Maine shipyards began to produce a new class of large schooner, of over 350 tons, in 1865. By the 1880s, these had become the dominant vessel in the American merchant marine (Hutchins 1941: 545). Since it was more difficult for Cape harbors to handle vessels of this size, this change in scale further reduced the study unit's participation in coastal trading.

Not until 1865, when the coastal trade was already in decline, were the tonnage figures broken down by town. That year, Dennis, Barnstable, and Brewster were the leading towns with over 71% of the tonnage among them. A more complete picture of this trade is provided by the 1885 Census of Massachusetts. Dennis was the study unit's leading port town, as it had been in 1865. At that time, the state census had credited Dennis with 10,208 tons of coastal shipping, 30% of the district total. The 1885 figure represented over 55% of all the exclusively coastal shipping in the district. Most of this was made up of twenty-eight large coal schooners that moved between Boston and New York or Philadelphia. Twenty-two of the coal schooners also picked up ice from Maine ports. Although most of the vessels appear to have had separate owners, two firms had fleets of coal and ice schooners. All sailed with ice from Maine ports to Baltimore and Philadelphia, returning with coal. The same firm also owned two oceangoing vessels, credited to Dennis. The larger, a 916-ton bark, carried a cargo of coal and oil to India, returning with tea; a smaller 587-ton bark carried lumber to Buenos Aires, returning with hides and wool.

Yarmouth came the closest to rivaling Dennis in tonnage. The largest coal schooner on the Cape, a 725-ton vessel, delivered coal from Baltimore to Boston, and two small schooners carried mixed cargoes of coal, grain, and ice. Barnstable

had eight smaller coal schooners running between Boston and New York, and occasionally to Baltimore or Philadelphia. Bourne ran five small schooners carrying coal and mixed cargoes between New York and Nantucket Sound. Harwich had only two coal and ice schooners comparable to those in Dennis, but three smaller schooners carried coal, lumber, grain, ice, and mackerel to ports between Philadelphia and Boston.

Sandwich and Falmouth were the only towns to report any of the small "firewood schooners." Three schooners and two sloops (the largest of the fleet no more than twenty tons) carried firewood from Falmouth to Nantucket and occasionally to Edgartown, Chatham, New Bedford, or Newport. Sandwich's thirty-three-ton firewood schooner sailed to Newport and Providence, and a larger coal schooner sailed to New York.

On the outer Cape, where fishing remained more viable, the coasting trade operated on an ancillary basis. In Provincetown, for example, a few small schooners carried fish and general merchandise while the bulk of the fleet, 114 vessels, were fishing schooners. Wellfleet was something of an exception, in part because of Lorenzo Dow Baker. In 1870, Baker made a voyage to the tropics with a cargo of mining equipment. His return trip with a cargo of bananas initiated the Boston Fruit Company (1885) and United Fruit in 1889. Nevertheless, thirty-six mackerel schooners in Wellfleet's fleet still outnumbered coasting vessels.

By comparison with the Cape, coastal traffic in the islands was slight. Of the two Vineyard ports, Vineyard Haven (276 tons of shipping) had about three times the tonnage of Edgartown as well as all the passenger traffic (by steam vessel) from New Bedford and Woods Hole. Five small Tisbury schooners took clay, paving stone, bricks, fish, and hay between Vineyard Haven and Boston, New Bedford, Fall River, and New York. A larger schooner (124 tons) carried coal, ice, and stone between

Boston, Hyannis, and New York. Edgartown's traffic was limited to two small schooners bringing coal from New Bedford and New York.

Nantucket's traffic was similar to Vineyard Haven's. In addition to the steam passenger vessels, which sailed on to Nantucket after leaving Vineyard Haven and "Cottage City," there were three small schooners that brought general merchandise from New York or Boston, a twelve-ton lumber schooner working between Nantucket, Hyannis, and Woods Hole, and a larger coal schooner supplying the island from New York and New Jersey coal terminals. The completion of the Cape Cod Canal in 1914 had no discernible impact on the maritime commerce of the region. By the time the canal had been completed, the maritime trade of the Cape and the islands had come to an end. Steam tugs and barges had effectively replaced coastal sailing vessels, and both roads and railroads competed effectively for what freight traffic remained. Only passenger service expanded as resort traffic grew throughout the region.

Whale Fishery

Whales were hunted in the Atlantic Ocean for centuries, both by Native American tribes and by Europeans. As early as the 16th century, the Basques were fishing off Greenland and the coast of Nova Scotia. The Dutch later followed and by 1719 were the first to enter the Davis Strait, that body of water between Greenland and Baffin Island. By the 19th century, American vessels, led by Nantucketers, dominated the world whaling grounds,

like so many Alexanders; parceling out among them the Atlantic, Pacific, and Indian oceans. Two-thirds of this terraqueous globe are the Nantucketer's. For the sea is his; he owns it, as Emperors own empires; other seamen having but a right of way through it. The Nantucketer, he alone resides and riots on the sea; he alone, in Bible language, goes down to it in ships; to and fro ploughing it as his own special plantation. There is his home; there lies his business, which a Noah's flood would not interrupt, though it overwhelmed all the millions in China. . . . With the landless gull, that at sunset folds her wings and is rocked to sleep between billows; so at nightfall, the Nantucketer, out of sight of land, furls his sails, and lays him to his rest, while under his very pillow rush herds of walruses and whales. (Melville, Moby Dick, Ch. 14).

In the early days of the European and American whale fishery, the whale that was being hunted was the right whale, first the Atlantic right whale (Balaena biscayensis) and later its larger-headed cousin, the Greenland right whale (Balaena mysticetus). It was the right whale that flourished in the waters off Cape Cod and which was the prize of the first shore whalers from Nantucket at the end of the 17th century. From the right whale came both whale oil and baleen, the former an increasingly popular illuminant both for streetlights and domestic use in wealthier homes. Baleen, erroneously referred to as "whalebone," was a light, flexible, tough

material that was uniquely suited for umbrellas and corset stays prior to the introduction of the spring steel in 1905.

The sperm whale (Physeter catodon), the largest of the toothed whales, generally inhabited warmer waters than the right whale and was not commercially sought after until the 18th century. Superior to the whale oil rendered from the blubber of the right whale, sperm oil, in addition to its use as an illuminant (by the 1750s it fueled London streetlamps), became widely sought after as a lubricant for delicate instruments and machinery. The large headcase of the sperm whale yielded spermaceti oil, which solidified on exposure to air to become a waxy substance. Carried to port and refined, the oil was used to make spermaceti candles, a more expensive though less smoky substitute for the common tallow candles. Although the sperm whale was found in the Atlantic and Indian oceans in small numbers, its presence in the South Pacific led the British and American whaling fleets to those whaling grounds by the end of the 18th century.

Whales found along the shore were likely the beginning of what became a lucrative industry. Drifting ashore after death, or beaching themselves singly or in large aggregates, sea mammals provided a valuable economic resource for Native Americans and colonials. Once on shore, whales could be processed for blubber, bone, teeth, or oil. The importance of drift whales is indicated in early land transactions between Europeans and natives. When the Plymouth settlers negotiated with the Nauset natives for land rights in that area, native people retained their right to any blubber from whales found on the shore. A similar arrangement was observed in Truro, where a compact was made with Pamet natives whereby the proprietors would have one-eighth of all drift whales on both shores (bayside and Atlantic). On the islands, Native Americans and colonists also had specific agreements regarding the allotment of drift whales specified in deeds.

While Europeans initially acknowledged the right of natives to catch whales and claim those found on shore, this did not last for long. By 1653, the town of Sandwich had assigned the rights to all whales found within the town to three individuals, provided they paid the town £16 for each whale. This agreement not only included whales but also all other fish such as sharks and porpoises that yielded oil. By 1681, Sandwich had removed the right to take whales from individuals and placed the whale fisheries under town control. Proceeds from whale oil sales were used to fund town activities, including a windmill in Sandwich, and the ministry in Eastham. As individual towns sought to control the drift whale fishery, so did the colonial government in Boston. As early as 1661, the General Court sent a petition to Sandwich, Barnstable, Yarmouth, and Eastham requesting that the towns pay to the Colony one hogshead of oil for every whale taken. While drift whales were considered a common right of the settlement's proprietors, they were also considered the "King's whales." Thus the colonial government and the Crown would also receive their share. To enforce this, the General Court appointed two individuals, Mr. Skiff of Sandwich and Captain Lothrop of Barnstable, as whale inspectors for Barnstable County in 1690, one to reside in Sandwich and the other in Eastham.

Whales were also hunted down in small boats after having been sighted from stations on the coast, a system known as shore whaling. It is generally acknowledged that shore whaling was practiced on Long Island (Starbuck 1964: 9), before it was taken up on Cape Cod or the islands. By 1668, a company had been formed in Easthampton to establish manned lookouts on shore and then pursue the whale by boat. The first on the Cape to hunt whales from boats was Lt. Col. John Gorham of Barnstable (1652-1716) in about 1680. His grandson's diary recounted that he was instructed in the craft by a Dutchman from Long Island, "one Lopez . . . accounted a sort of wizard" in the business (Sprague 1913: 7-8). Gorham

made a great success of the whale fishery, and when an expedition was planned against the French in 1690, it was Gorham who led a Cape-manned expedition of forty to fifty whale boats up the rivers of Maine and Nova Scotia for which the vessels were well suited (Kittredge 1968: 103). "Lopez" may well be the same James Loper from Easthampton who was invited to Nantucket in 1672 to instruct the inhabitants there, though he evidently did not accept the Nantucketers' invitation (Starbuck 1964: 16). Instead, instruction was left to Yarmouth's Ichabod Paddock, who answered the islanders' summons in 1691.

Cape Cod Bay abounded in whales, and the sheltered harbor of Barnstable's Sandy Neck, "the cradle of whaling" on the Cape, became the first whaling grounds thrown open to all residents for the purpose of sighting whales. In the three-month winter season, shanties or huts built on the grounds housed a six-man boat crew. A mast was erected from which one of their number watched for whales, while the remaining five lived in a hut at the base of the mast. As soon as a whale was spotted in the bay, the alarm was given and a slim, double-ended, cedar whaleboat set off in pursuit. In each crew was a steersman, harpooner, and several oarsmen. On Nantucket the crews were primarily Native Americans, although the boats were owned by colonists. The whale was killed by harpoons and lances and towed ashore where the blubber was "tried out" at works on the beach to produce whale oil. Nantucket's south shore was divided into four equal parts ca. 1691, with each part assigned to a company. On the Vineyard, shore whaling was begun by 1700, when Edgartown's John Butler (1650-1738) was credited with being the first in the business (Banks 1911: 434). Soon after Barnstable established shore whaling, Yarmouth, Wellfleet, and Truro followed, establishing whaling grounds on the Bay. By 1715, 200 men in Barnstable were shore whalers (Kittredge 1968: 169).

An exceptional group of structures in Siasconset, known as whale houses, are said to have originally sheltered shore whalers in the 18th century. Unusual in their

close association to a specific occupational group, the shore whaling crew, an early source (Macy 1835) attributes their original form to their specific seasonal needs. Each hut was divided into two sections. At one end a hall area, open to the rafters, held the entry and end chimney. At the opposite end, two bedrooms were located on the primary floor, with additional sleeping space in the garret above. The close association of Native Americans with whaling has led one researcher to suggest that these buildings be considered culturally native. With the shift to offshore whaling, many of these buildings were moved to Siasconset, and their current form is the result of numerous additions over the years. The typical order of additions was to add small shed additions on either side of the bedroom end, adding substantially to their size. Later, an addition to the opposite end incorporated a kitchen area to accommodate year-round and later resort occupation.

A radical change in whaling occurred in 1712, when Christopher Hussey, cruising the Nantucket shore for right whales, was blown some distance out to sea and into a school of sperm whales. He managed to kill one and bring it back to shore demonstrating that offshore whaling had great potential. Within three years, Nantucket had three sloops of about thirty tons making six-week cruises. The whales, tied to the side of the vessel and stripped of blubber in a continuous spiral, were cut up at sea and returned in hogsheads to be tried out on shore as before. By 1730, Nantucket sent twenty-five vessels up to fifty tons to the offshore whaling grounds. The first offshore whaling on the Cape, from Truro and Provincetown, did not begin until the late 1720s. The Boston News Letter in 1727 reported the change:

We hear from the towns on the Cape that the whale fishery among them has failed much this winter, as it has for several winters past, but having found out the way of going to sea upon that business and having had much success in it, they are now fitting out several vessels to sail . . . this Spring, more than have ever been sent out from among them. (Starbuck 1964: 31)

By 1737, there were a dozen vessels sailing from Provincetown for the Davis Straits. By the 1750s, Wellfleet, Truro, Harwich/Brewster, and Yarmouth all had vessels at sea. Wellfleet alone by 1770 had twenty to thirty vessels and 420 men at sea and was said to be "almost entirely populated by whalemens" (Kittredge 1968: 172). Not until 1726, when the number of whales close to shore had declined markedly, did shore whaling itself begin to decline, although it did continue up until the Revolution.

Until the 1740s, surplus oil was sold in Boston where it was, in turn, shipped to England. In 1745, Nantucket merchants began shipping oil directly to London with considerably more profit to themselves. The English needed sperm oil for city streetlamps and would pay as much as £18 per ton for it. Sperm oil was also used for making sweet-smelling spermaceti candles, whose manufacture was a closely guarded secret of Obadiah Brown of Providence, who built the first successful candleworks in the colonies in 1753 (Hoyt 1978: 41). Much of their raw material was supplied from Nantucket. The first candle factory on Nantucket was established in 1772. The less valuable oil from other whales was sent to Boston or the West Indies, where it was exchanged for commodities needed on the island.

The reopening of the Davis Straits to the whale fishery with peace in 1763 marked the beginning of an unprecedented prosperity for whaling in general, and in all things pertaining to whaling in the colonies, Nantucket led the way. Between 1770 and 1775, the number of Nantucket whaling vessels rose from 100 to 150. In addition to the new candleworks, William Rotch's great brick warehouse and market was also built. Nantucket vessels were the first to venture farther afield. By 1765 they had reached the Western Islands and African coast. Nine years later, they crossed the equator and reached the coast of Brazil for the first time; Truro whalers were also said to have reached the Falkland Islands that year. In 1775, Nantucket fitted out 150 vessels, of which over half (eighty-five) were engaged in the southern

fishery. Only a third of Wellfleet's thirty vessels went south, while Martha's Vineyard (twelve vessels), Falmouth (four), and Barnstable (two) sent all to the northern fishery (Starbuck 1964: 57). When trying was transferred to the decks of vessels after 1750, and as vessels themselves increased in size, the length of trips increased significantly, from six weeks in the 1750s to four and one-half months in the pre-Revolutionary period.

The Revolution devastated the whaling industry. Of the 150 Nantucket vessels on the sea or at port in 1775, 134 were captured and fifteen more were lost by shipwreck. By the war's end, among the 800 Nantucket families, there were 202 widows (Starbuck 1964: 77). With the return of peace, however, Nantucket whalers were the first American vessels to enter the port of London. The price that they obtained for their oil augured considerable prosperity for the industry, and many communities re-entered the trade. The prosperity was short-lived. A stiff English duty, £18 per ton on sperm oil, virtually eliminated the industry's chief market, and of the study unit communities, only Nantucket continued whaling. The industry survived there in part due to a bounty on whale oil established by the Massachusetts legislature in 1785. In spite of the bounty, the market remained poor; the years of deprivation had conditioned the new nation to doing without whale oil. In the meantime, Nantucket had lost families to Halifax, Nova Scotia, Milford Haven, Wales, and Dunkirk, France, in search of better prices and oil not subject to the duty. Not until the opening of the French markets to American whale products in 1789 was there any significant recovery (Tower 1907: 42-43).

In 1789, American ships reached the Pacific for the first time by way of Cape Horn. Four were from Nantucket, although the Beaver, returning home in March 1793, is generally given credit for being the earliest. By 1803, Starbuck lists the sailings of nineteen Nantucket vessels, though as many as thirty-five to forty may have been at sea that year. The War of 1812 again checked whaling operations.

Only Nantucket, of all the whaling ports, maintained a fleet at sea, though the number of ships was reduced by half, from forty-six to twenty-three, and returns were down sharply. The 844,000 gallons of sperm oil reported in 1811 fell to 48,000 in 1815. At the war's conclusion, the industry rebounded swiftly. By the end of 1815, there were over thirty ships, brigs, schooners, and sloops at sea. English and other European markets provided a large demand for oil, and by 1819 there were sixty-one ships and brigs employed. Until 1818, most of the Pacific whaling stuck close to the west coast of South America. In that year, Capt. George Gardner of the ship Globe discovered what he named the "off-shore ground"—longitude 105° to 125° west and latitude 5° to 10° south—"a cruising ground where the objects of his search seemed to exist in almost countless numbers" (Starbuck 1964: 96). In 1820, the Maro was the first to seek whales on the Japanese coast. In 1815, twenty of fifty Nantucket whalers visited the Pacific grounds; by 1840 all twenty-five did. Voyages increased again in length to as much as two to four years' duration.

The success of the whale fishery after the war once again prompted other ports to enter the business. Because of the shallowness of the bar at the entrance of Nantucket Harbor, Edgartown had already become an outfitting port for Nantucket whalers. The town had had its own small fleet prior to the Revolution, numbering twelve whalers by 1775. Edgartown, however, did not re-enter the business until 1816, when sent out the ship Apollo, followed by the Loan two years later. By 1822, there were seven whaling vessels sailing directly from Edgartown, including the Almira, which that year made first voyage to the Pacific for Abraham Osborn.

The 1820s saw the beginning of the whale fishery in Woods Hole, but unlike Edgartown, it was primarily the investment of one individual, Elijah Swift (1774-1852), already Falmouth's most successful merchant. Although Woods Hole whaling is said to have commenced with the successful return of Swift's brig Sarah Herrick from the South Atlantic in 1822, it was his 350-ton ship Pocahontas (built by

Swift in Wareham in 1821) that was the first Falmouth vessel to reach the Pacific whaling grounds. The Pocahantas made five Pacific whaling voyages before being sold in 1836 to Thomas Bradley of Holmes Hole. Not until 1828 did Swift begin to expand his fleet, with the Falmouth-built ships Uncas (1828), Awashonks (1830), and Hobomok (1832). The last, at 412 tons, was the largest vessel to come out of Falmouth yards. In the meantime, other Falmouth merchants, Ward Parker and Stephen Dillingham, had also commissioned Pacific whalers, the Bartholomew Gosnold and the William Penn (both 1832).

The 1830s also saw whaling rise to prominence in Holmes Hole where, as in Woods Hole, one individual, Thomas Bradley (1787-1873), was largely responsible. In 1835 he purchased the 338-ton ship Delphos from Boston, sending her to the coast of Brazil, and in 1837 to the Pacific and Indian oceans. The Pocahantas became the most successful of the port's whalers and was followed by the Macon (1839, but wrecked five years later), and in 1844, the 458-ton Ocmulgee. Edgartown also expanded its whaling, maintaining its second rank after Nantucket in the business. Eight ships and a brig began whaling careers in that decade, four of which, the Vineyard, Champion, Splendid, and Mary, were Pacific whalers that returned repeatedly to those grounds into the 1870s. In the 1840s, smaller Atlantic whalers were added to the Edgartown fleet, but few lasted out the decade. Seven more Pacific whalers began sailing out of Edgartown in the 1850s, but only one, the Europa, survived the Civil War and was sold soon after bringing home survivors of the Arctic disaster.

Nowhere was whaling more successful than on Nantucket. The 1830s were Nantucket's "Golden Age" of whaling. The 1835 capture by a Nantucket whaler of the first right whale on the northwest coast of America opened up one of the most important grounds in the world for the industry. By 1842, Nantucket had 100 ships and nearly 2,000 men in the whale fishery, almost all of which went to the Pacific.

Thirty-six candle factories, as well as brass foundries, forges, cordage works, tinware shops, block and pump makers, and a flourishing commercial trade were kept busy by this industry. Whaling brought a prosperity to the town unique in the region, and still visible in the streets of fashionable dwellings, high-style residences, and exceptional commercial areas.

Whaling in Provincetown had a very different character than it did in Nantucket, Martha's Vineyard, and Woods Hole. Smaller vessels, largely schooners and brigs, with few exceptions under 200 tons, were used rather than larger ships. Unlike their counterparts on the islands, these whalers rarely ventured out of the Atlantic. Provincetown entered the whaling industry in the 1840s. In 1842, five schooners, four brigs, two bark, and the ship Carter Braxton left port for the Atlantic grounds. In 1845, as many as twenty-six vessels and 520 men were reported on whaling voyages—second highest in the study unit after Nantucket's seventy-seven ships and 1,900 men. Although the 186-ton bark Fairy sailed into the Indian Ocean in 1843, it had few imitators. Not until 1855 and 1856 did five more barks venture that far, and they had no successors. The first and only reported vessel to sail into the Pacific was the schooner Mary E. Nason in 1868. On the outer Cape, Provincetown's success persuaded both Orleans and Truro to send out a small number of vessels in the 1850s, while a single schooner sailed out of Wellfleet in 1867-70. In 1846, Silas Baker altered the schooner March to a hermaphrodite brig and sent it on Atlantic voyages from Barnstable, 1846-47, and from Yarmouth, 1848-50. A few ships were also sent out from ports on Buzzards Bay.

The most substantial of the industry's surviving structures date from this period of prosperity. The most prominent were the candle factories and sperm oil refineries, of which thirty-six are located in Nantucket alone, although representatives are also located in Provincetown, Edgartown, and Falmouth. The Edgartown oil works of Dr. Daniel Fisher (1799-1876) were said to be the largest in

the world; for a number of years his works supplied all the federal government lighthouses. Most prominent of the survivals is the two-story brick structure built for the whaling merchants Hadwen & Barney in Nantucket in 1847. Now the Nantucket Historical Association, it retains the original candle press and much of its structural integrity. Still older is the Woods Hole landmark known as the "Candle House," built in 1839 for Elijah Swift. The same construction was also used for the only identified blacksmith shop surviving making iron fittings for Falmouth ships. Although both are roughly the same size, the latter's stone construction appears unique to Falmouth.

A variety of factors combined to erode the whaling industry. The business at Woods Hole seems to have been the first to decline, probably affected by the Panic of 1837. Between 1838 and 1843, six of Falmouth's ten whaling vessels were sold. In Holmes Hole, a series of reverses and declining yields by 1855 induced Bradley, like Swift before him, to sell the larger ships in favor of smaller vessels. Nantucket's business began a decline after 1842. In 1821, New Bedford had passed Nantucket for the first time in the number of clearances. A great fall in prices beginning in 1842, the limitations of Nantucket's harbor, the Great Fire of 1846, and the exodus of men to California in 1849-51 all figured in Nantucket's decline. By 1843, there were nearly three times as many whalers from the Bristol County port as there were from Nantucket. In addition, Nantucket whalers had grown less venturesome by the early 1840s and were slow to explore new whaling grounds after they had proved profitable to other ports. With the large number of whales in the Pacific, the whales in old grounds declined rapidly, leading to declining yields for Nantucket ships that remained there. By 1855, the number of ships at sea had fallen to forty-four, with 1,100 men, little more than half the figure of a decade before.

The Panic of 1857 brought further ruin to the industry as a whole. As New Bedford was then reaching its peak, the enormous quantities of whale oil soon

glutted the market, and prices fell dramatically. Recovery was compromised further by the discovery of petroleum in Pennsylvania in 1859, virtually eliminating the demand for sperm and whale oil as illuminants. Also, all towns lost vessels to the Confederate raiders. By 1865, only seven whalers remained in Nantucket, the last departing in 1869. Edgartown was the last major whaling port to send ships to the Pacific, especially into the Arctic after whalebone, or baleen, whose price rose steadily in the last half of the century. The ravages of the Civil War and the losses to the Arctic disaster of 1871 (together with the substantial rise in insurance rates that followed) cut sharply into Edgartown's prosperity. Nevertheless, as late as 1882, the town still had eight whalers, and the last did not leave port until 1896. Unlike the other whaling ports, however, and perhaps because of the smaller amounts of capital invested, Provincetown reached its peak year, 1869, long after other ports. In 1860, with twenty-six vessels, Provincetown passed Nantucket; in 1862, it passed New London; and in passing Fairhaven in 1863, Provincetown became the second largest whaling port in the United States after New Bedford. It retained this rank until 1884, when surpassed by San Francisco. As late as 1906, Provincetown still had eight whalers registered. The last returned to Provincetown in 1916.

Fin Fishery

Although it has been practiced from the region's earliest settlement until today, the capture and processing of fish, particularly cod and mackerel, was Barnstable County's chief industry for less than 100 years (1790-1880). Fishing rose to prominence during the first half of the 19th century. Its early development in the 18th century had been as a byproduct of the whale industry; in the 20th century its decline has been associated with the growth of tourism.

It has been argued that the cod fishery was the chief reason for the earliest European interest in New England. In the 17th and early 18th centuries, cod, bass, and other fish were as plentiful in the waters around the Cape as they were in the Gulf of Maine. Fishing "stations" were probably established by Europeans in the outer Cape area soon after Gosnold's voyage in 1602. These shore facilities, often little more than piers to tie up to and stages on which fish were dried, were abandoned at the end of the season when the fleets returned home. Specific sites have never been verified, but English and French 17th-century stations, described in contemporary literature along the Maine and Newfoundland coasts, were often quite elaborate platforms for cleaning fish, drying flakes, and provision for seasonal habitation (Faulkner: 1985).

During the 17th century, fishing the Cape waters appears to have been limited to off-Cape residents and a handful of prominent settlers, licensed by the provincial court at Plymouth. Hull residents practiced mackerel seining off the Cape before 1650, when the Plymouth court limited the fisheries to residents of Plymouth, Duxbury, and Nauset (Swift 1897: 312). The same year, Thomas Prence of Eastham, past governor of the colony, applied for permission to form a company for bass

fishing at Cape Cod, the privilege being granted for a term of three years only. Nevertheless, commercial fishing activity by Cape residents appears to have been slight. In 1671, because the court was advised that as "few or none of ours [local residents] are like to fish at the Cape by seine, and that divers strangers desire the liberty there to fish," it appointed Thomas Paine of Eastham water bailiff to collect fees from the fishermen (Shurtleff 1855, 5:104). These monies were used to support local schools, as well as war widows and veterans.

Paine's experience as water bailiff must have made him aware of the value of the mackerel catch. In 1677, Paine, in association with Thomas Huckins of Barnstable and Edward Gray of Plymouth, purchased the first seven-year license to the exclusive right of the fishing privileges of the head of the Cape (Shurtleff 1855:244). Huckins was a successful tavern owner who already operated his own Boston packet. In granting the license, the court went on to recognize that others might want to fish the waters of the Cape, and gave orders to the deputies of the several towns acquainting them with the terms of their proposed licensing regulation. At the expiration of the license, in 1684, William Clarke of Plymouth applied for the license to fish only for bass. In so doing, he requested that the court prohibit anyone else from catching mackerel with seines, to which the court agreed. The following year the court, to further secure "the farmers of fishing at Cape Cod" from molestation from outsiders, ordered that the vessels, nets, and fish so taken by intruders be confiscated for the colony's use (Shurtleff 1855:244-5). Small boat fishermen and farmers who would spend a day handlining for cod were also an important component of Cape fishing. The gear and tactics of these individual fishermen changed little until the middle of the 19th century. Handlines were used for both schooling fish, like mackerel, and ground fish (cod). Fish that did not salt well, like flounder, were not taken until the introduction of ice. In addition, fish weirs had been used since the first European settlement, when the natives

showed the colonists how to trap alewives and other anadromous fish. The shallops that the mackerel seiners used generally carried four persons. They were good for fishing in the bay or making a run to Boston, but not large enough for longer voyages into deeper water. The status of maritime pursuits in the region was reflected in the number of vessels in the province between 1697 and 1714. Of the 1621 trading vessels registered for the province, only thirty listed Barnstable or Nantucket county ports (Mass. Archives 7: 108ff.). The signing of the Peace of Utrecht in 1713, which freed colonial vessels from the threat of seizure, brought a new stimulus to colonial fisheries.

Offshore fishing probably followed in the wake of offshore whaling, which on the Cape was begun in the late 1720s. One of the earliest to engage in the offshore fisheries was John Gorham (1688-1769), son of the whaling captain, Lt. Col. John Gorham. Gorham became one of Barnstable's most successful merchants with an extensive coasting and West Indies trade. Probably by 1730, Gorham had fishermen making voyages to the Grand Banks for cod from his wharf at Calves Pasture Point. Offshore fishermen continued to employ handlining from their vessels. After salting and drying their catch on local beaches, they would often make a direct run to the West Indies, returning with rum, molasses, salt, sugar, cotton, and other staples that could be sold in Boston, or exchanged on the Cape for fish and agricultural products. Other Grand Banks cod might also be sent directly to Boston on Barnstable packets for transshipment to European markets. By the 1750s, the trade with the West Indies was well established (Kittredge 1968: 184).

Other ports also sent out fishing vessels. In 1727 the General Court ordered that no person in Provincetown should be prevented from erecting wharves, workhouses, or other facilities related to the salting or drying of fish (Mass Archives 113: 702). Siasconset had been supplying Nantucket with cod and haddock since at least 1740, and on Martha's Vineyard both Edgartown and Chilmark are thought to

have had small fleets. Provincetown and Chatham, however, like other Cape towns, were more interested in the whale fishery and only as whales became less frequent did they turn to cod. By the end of the Colonial period the cod-fishing industry had become sufficiently sophisticated for the towns to report statistics to the collector of Customs. Five towns reported from the Cape: Chatham and Yarmouth each reported thirty vessels averaging thirty tons each; Truro had ten vessels, Provincetown, four vessels, and Wellfleet, three (McFarland 1911:112, Kittredge 1968:185). The total number of men employed in the fisheries was given as 553, roughly in proportion to the number of vessels in each community. No figures exist for Barnstable, Harwich, or Falmouth, although we can be fairly certain that these communities also sent out fishing boats.

Fishing vessels grew in size as longer voyages were undertaken. The first identified sloop was out of Barnstable, John Lothrop's coaster, the Hopewell, built in Middletown, Connecticut, in 1686 and first registered in 1698 (Mass. Archives 7: 106). As whales became less plentiful off the head of the Cape and Nantucket, fishermen took in more cod and turned to larger vessels. While two-masted schooners were occasionally used, the sloop was the vessel that dominated Cape fishing and coastal activities from 1700 until the Revolution.

The Revolution devastated the fishing industry as much as the whale fishery. At the war's end in 1783, few towns had more than a small fraction of their original fleet. Chatham, which in 1775 had thirty vessels, had only four or five left in 1783. Compounding the problem, little capital remained to rebuild the fleets. Impoverished conditions meant that it not only took longer to rebuild the fishing fleet, but the boats that were built were smaller. This, in turn, precluded the potential of a direct voyage to the West Indies with their catch. Smaller vessels also meant that fewer boats engaged in deeper water fishing on the Grand Banks, concentrating instead on coastal waters. Furthermore, the Treaty of Paris, signed

in 1782, prohibited Americans from drying fish in Newfoundland, although they were given the liberty of drying fish on any of the unsettled parts of the maritime provinces. As a result, most fishermen had to take their boatload of wet salted fish back to New England and dry it there. Instead of embarking on a fishing campaign of six months or more, they could fish only for a month or so before they had to sail back home (Jensen 1972: 110). In the early years of the Federal period, miles and miles of beach were devoted to fish flakes for curing cod.

Conditions began to change for the fishing industry early in the 1790s. In 1789, Congress took up the deplorable condition of the fishing industry, and a bounty was declared of 5¢ per quintal (about 100kg) of dried fish and on every barrel of pickled fish exported. As Europe became embroiled in the Napoleonic Wars, markets in the West Indies were reopened. Although the fishing industry was momentarily affected by the Embargo and the War of 1812, recovery at the war's end was rapid. Increased tariffs, imposed in 1816, and substantial investment by the federal government to aid the fisheries provided part of the incentives (see Maritime Commerce). Cod fishery expanded farther and farther north along the coast into new territories and towns on the Cape rebuilt their fleets. In 1802, Provincetown had thirty-three vessels at sea, reaching as far as the Gulf of St. Lawrence, Newfoundland banks, and the coast of Labrador, where there were ample beaches to salt their catch for the voyage home. Nonetheless, half the catch was still cured in Provincetown. In Barnstable, nearly 100 men were employed in the cod fishery.

The new importance of the fishing industry was most in evidence in the economic rise of "the South Sea," the area of the south shore between Hyannis and Dennis Port. The 1795 map of Yarmouth identifies a ropewalk, a large "fishworks," a potter, and two of the town's five windmills, in South Yarmouth. On Lewis Bay, across the water from Hyannis, are marked "Gages Wharf," and another large fishworks. Freeman in 1802 commented on the "present flourishing state of the

South Shore," noting that in Yarmouth there were six wharves on Bass River for ten coasters and ten fishing vessels, and on Lewis Bay were another ten fishing vessels. The success of Dennis Port, an active fishing station in the 18th century, was still evident at the end of the Federal period, when Dennis reported twice the amount of cod and mackerel than Yarmouth. In Harwich, in 1802, there were between fifteen and twenty vessels in shore fishing, while four others, of 100 tons each, were engaged in cod fishing at Newfoundland and Labrador. From Chatham, twenty-five schooners sailed the Nantucket shoals and waters off the maritime provinces in 1802 in the cod fishery with 200 men and boys (Freeman 1802: 141). This activity reflects a pronounced movement of the industry away from the north shore, noted by 1806 in Brewster:

The sea-faring men in the south almost universally devoted their attention to the fisheries, while a great proportion of those in the north were employed in foreign voyages, and even many of the fishermen in the winter sailed either to the southern states, or West Indies. . . . [In Brewster] there are but two fishing vessels owned here, though some of our fishermen sail from other places. The fishery has given way to merchant voyages, and the erection of salt-works. [Simpkins 1809: 77-78]

At the same time, the markets for the region's fishing were shifting. Since the Revolution, Europe had been taking an ever smaller percentage of New England fish. By 1821, over 80% was being sent to the West Indies, while 16% was sold in the Catholic countries of Europe. With the opening of the Erie Canal, New York and Albany began to take up much of the demand as communities to the west began to expand rapidly. By the early 1830s, while the West Indies still consumed as much as dried cod as formerly, virtually all of the fish formerly marketed in Europe was now taken up by the home market (McFarland 1911: 168).

During this period of expansion, important changes in fishing technology brought mackerel to the market, as well as more cod. Mackerel was usually used as

bait fish or sent to the West Indies. The first fishing voyage specifically for mackerel was made in 1818 from Gloucester, but it was not until the 1830s that mackerel fishing became a serious business. Whereas the locations for catching cod were predictable, the mackerel, a school fish, was unpredictable and had to be sighted before it could be caught. To help counter this unpredictability, Cape Cod fishermen developed one of the key inventions in 19th-century fishing, the purse seine, credited to mackerel fisherman Capt. Isaiah Baker, of Chatham, in 1853. Although the purse seine did not come into general use in the mackerel fleet until the early 1870s, it quickly had an effect on the Cape's fishing industry since mackerel, unlike cod, was not dried on flakes, but was salted and barreled on board the vessel, and so larger vessels resulted. Another innovation of the mid-19th century was the line trawl, which could carry as many as 100 hooks. Line trawling was first introduced for halibut in 1843 and then used for cod two years later (Pierce 1934: 64). This system, which depended on dories for baiting and setting the lines, actually allowed a larger area to be fished than a single schooner could cover on its own.

New fishing grounds further stimulated the fishing industry of the region. The opening of the Georges Banks, located 150 miles off Nantucket, in the 1820s brought the fishing grounds hundreds of miles nearer than the Grand Banks. The catches were mostly large cod and halibut, a fish which became popular about 1835. Provincetown, closest of all to the banks, was busier than ever (Kittredge 1968: 189). As the Georges Bank fishery developed, Provincetown, Truro, Orleans, Chatham, Harwich, and Dennis all brought back large quantities of cod from the banks. Coastal schooners carried mackerel, halibut, and cod to ports up and down the coast. By the 1850s, this trade gave to the Barnstable Custom District the highest coastwise tonnage of any custom district north of New York. The peak of the fisheries was reached in 1851, when Barnstable County reported the largest

catch in the state, 45% of the state's total tonnage. Five towns made up nearly 80% of this amount: Wellfleet, Provincetown, Truro, Harwich, and Dennis (in that order), which together employed over 3,200 men (Swift 1897: 316). In Wellfleet, as in Dennis and other towns, it was the new increased mackerel catches that made up the bulk of this fleet.

While the new technologies for catching fish raised efficiency, they were expensive and required larger vessels to be used effectively. Larger boats also required deeper harbors, and by the third quarter of the 19th century many of the traditional harbors had silted in. The new fishing technologies also brought about a change in the workforce. While local boys could hand line fish, they were not able to handle the heavier work that seining or trawling required. Returns from the 1850 Census of Manufactures suggest that the mid-Cape fishermen were faster to organize into corporate structures than those on the outer Cape. The fishing industry there was soon concentrated in a handful of large companies. In 1850 the two largest companies in the study unit, the Commercial Wharf Company and the Marsh Bank Wharf Company, were located in Harwich. Together they sent out fifty-six vessels, primarily after mackerel, employing over 760 men. In the decades immediately prior to the Civil War, average boat crews for both cod and mackerel vessels varied between eight and thirteen men. On the outer Cape, however, boats continued to be owned by separate individuals.

Fishing began to decline in many Cape towns after the Civil War. The exception was Provincetown, which saw its greatest success during this period. Between 1870 and 1890, Provincetown's salt cod fishery was second only to Gloucester in successfully exploiting the resources of the Grand Banks. Several factors helped to account for this success. The newly arrived Portuguese population provided needed and experienced manpower. The advent of the railroad, which reached Provincetown in 1873, made the economics of the fresh fish industry

even more attractive. With nearly fifty active wharves, three marine railways, and several outfitting stores, Provincetown was the center of maritime activity within the study unit during the Late Industrial period. The depression of the early 1890s, however, brought ruin to many of the fishing firms. The cod fishery suffered severely due to the low price of Nova Scotia cod. "For the past few years," one observer wrote,

the fisheries have decayed very rapidly, owing to small fares and inadequate cash returns. This has brought the vessels in debt, pushing the fishing firms into bankruptcy, and resulting in the sale of the fishing craft and their removal from the town. (Wadlin 1897: 58)

Between 1885 and 1895, the number of schooners in Provincetown fell from 114 to forty-seven. In 1900, of the sixty two vessels, only six went salt-fishing to the Grand Banks, while the rest fished on George's Bank and other nearby grounds. By the end of the period, in 1914, there were only fifteen vessels over thirty-five tons, fourteen of them schooners.

In the meantime, while weir or trap fishing had become more profitable along the entire New England coast, it was especially successful in Cape Cod Bay. By the 19th century, weirs had become big business as towns began to lease out the rights to herring streams. Companies were organized to construct and operate these weirs. The earliest to be incorporated by the General Court was the Skinnaquits Fishing Company in 1831 in Chatham and Harwich, quickly followed by similar companies in Harwich, Orleans, and Eastham in the same decade. At first, most of the fish taken were used for bait. The weirs, like the seines, were indiscriminating in their choice of fish they caught, and probably would not have been economical without the new markets for fresh fish. The popularity of fresh fish brought new species to the dinner table. Both haddock and flounder, which salted poorly, were superior to cod when fresh, and whiting had been unknown except as a

bait fish. After 1900, the number of many species with commercial value grew sharply.

By the early 1890s, Barnstable, Brewster, Wellfleet, Truro, and Provincetown had all built large numbers of these traps and weirs to supply both fish for market as well as bait for fishing vessels. Extensive trapping, however, had a severe effect on fish populations. When the mackerel disappeared from New England waters in the mid 1880s, many blamed the use of these traps. One writer noted in 1896 that the traps lined the shore so thickly that no fish escaped (Wadlin 1897: 57). In the 1920s and 1930s, as the number of larger vessels continued to decline on the Cape, more and more traps and nets were employed. The number of gill nets rose from twenty in 1928 to 300 by 1938, while pound nets rose from ninety-four to 118. Of the nearly thirty million pounds of fish landed in 1935, twenty million pounds were from nets staked off Cape Cod (Ackerman 1941: 167, 224). After World War II, fishing declined as the fish traps were replaced by large boats with sophisticated electronic fish-finding gear. This renewal of close inshore fishing had contributed to a dramatic reduction of the fish stocks.

To handle the catch from of these fish traps, the first cold storage freezers were built in 1893 in North Truro and Provincetown. This was made possible by the introduction, only the year before, of the first ammonia freezers in the U.S. The cold storage companies would buy all the fish that the traps caught, and then hold them till the market was right. In time, they came to own and operate many of the traps themselves. In the succeeding three decades, other freezers were built in Sandwich, Barnstable, Yarmouth, and Dennis. The introduction of quick freezing in 1923 by Clarence Birdseye further expanded the market for frozen fish. By 1922, there were seven freezers in Provincetown, the largest number in the United States. They were filled with herring, whiting, squid, and mackerel, largely caught from traps and weirs. Flounder also became one of the chief products of the

Provincetown fishery, about 87% of which was shipped to the New York market, and the rest to Boston.

By cutting away a large amount of bone, filleting helped to increase the popularity of fish. Haddock was the first species to be filleted, and because it was abundant, it soon cut into the market for cod. In 1927, haddock replaced cod for the first time as the leading food fish in New England. By the 1920s, the remaining cod fleet had shifted entirely to Boston, where it could market its catch fresh, while inshore fishing was the principal source of the Provincetown catch. Whiting, or silver hake, was most abundant, and could be caught in large amounts all over Cape Cod Bay. Although it did not keep well, the new freezing techniques meant that it could be shipped long distances. Motor transportation dramatically expanded the markets of New England fish. The greater part of the catch, especially mackerel, scup, and butterfish, were sent fresh to New York. Boston and northern New England had enough fish and were not regular markets for Provincetown fish.

A smaller, but nonetheless substantial, part of the fisheries was the harvesting of various forms of shellfish, including oysters, clams, scallops, mussels, and lobsters. Economically, the most important mollusk has always been the eastern oyster (Crassostrea virginica), which, like clams, both natives and colonists could readily harvest by hand from beaches of the region. Thoreau, after meeting the Wellfleet oystermen, comments that "the Cape was at first thickly settled by Indians on account of the abundance of these and other fish. We saw many traces of their occupancy after this, in Truro, near Great Hollow, and at High-Head, near East Harbor River, oysters, clams, cockles, and other shells." (Thoreau 1984: 97). As early as 1666, Nicholas Davis built an oyster warehouse on Lewis Bay, at what is today Hyannis. In the 17th century, the ready availability of oysters, prevalent from Bass River to Popponesset, was the magnet that attracted settlers to the "South Sea"

area of the south shore (Kittredge 1968: 205). Lacking ice, they were originally pickled in barrels of brine.

In the 19th century, however, it was the Billingsgate oyster, from the western shore of Wellfleet, that dominated the New England oyster business. The native oyster died in an epidemic in 1775, but the business was successfully restored by transplanting seed oysters raised in Virginia's Potomac River. Annually schooners carried young oysters from the Potomac to Wellfleet, and later from Wellfleet to Boston and Portland, Newburyport, and Salem. Between 1830 and 1870, Wellfleet maintained a virtual monopoly on oystering in New England. One oysterman to survive in contemporary literature is Henry David Thoreau's host, the garrulous John Newcomb (1760-1856), whose house still stands not far from Newcomb Pond. By the turn of the century, however, the Wellfleet oystermen were increasingly being cut out of the Virginia beds; in addition, the competition of Chesapeake bay oysters was hurting the local industry. In part to resist the decline, L. D. Baker introduced the first gasoline-powered oysterboat, the Cultivator, in 1902. But while the powerboat and the oyster dredge temporarily increased the yield, it reduced the size of the producing beds. By 1926, the Wellfleet oyster harvest had been reduced to 1,800 barrels annually, a mere 10% of what these harvests had been a decade earlier.

Although oysters were commercially harvested in Barnstable for much of the 19th century, the real prominence of the business in Cotuit dates to the late 19th and early 20th centuries, when several firms were organized to market the Cotuit oyster. In 1912, the Cotuit Oyster Company was formed by the merger of several individual oystermen, and by 1930, "Cotuit" was "a name synonymous with oysters everywhere" (Kittredge 1968: 205). However, unlike the larger business on Long Island and Connecticut, the Cotuit industry was small and poorly organized. When the price of Long Island seed oysters went up, many of the small oystermen were forced out of the market.

Clams, particularly the quahog (Mercenaria mercenaria), were also widely known to the Native Americans and early colonists, though they were primarily sought after for bait. In the early 19th century, clam diggers were often older veterans of the fishing fleet, too old for livelier work. Kittredge reported that in 1802, more than 100 Orleans men were being paid 75¢ per day to dig clams for the fishermen (1968:201). By the early 20th century, quahogs, favored especially by New York hotels as "littlenecks" and "cherrystones" (in reference to their younger stages of development), had risen to a par with the oyster industry. In Barnstable, clamming reached its peak between 1910 and 1925; farther out on the Cape, in Wellfleet, Orleans, and Eastham, it continued longer. Throughout the region, however, exhaustion, or the fear of it, limited the industry. The clam of Massachusetts waters, the soft-shelled clam (Mya arenaria), the "steamer," prefers a colder environment, and though a few are taken on Cape Cod, they are most numerous along the coast north of Boston.

Scallops were slow to find a mainland market in the U.S. Not until the 1880s did the "aristocrat" of shellfish find a niche in American eating habits. For many years, the bay scallop (Pecten irradians) was the favorite. These favor warm, shallow waters, and in the region they are most prevalent on the Cape's south shore and in protected harbors like Madaket on Nantucket. In the early 20th century, as demand rose and the bay scallops began to be depleted, the larger sea scallops began to be harvested. The sea scallop (Pecten grandis) prefers colder, deeper waters and is known chiefly along the coast of Maine and on George's Bank. Mussels (Mytilus edulis) are the last major form of edible shellfish in the region. Like scallops, however, their use as seafood has been limited to the 20th century.

Lobster was also a late addition to popular American gastronomy. Commercial lobstering did not begin until the last quarter of the 19th century, and never achieved the economic importance of the other shell fisheries. By 1915, the lobster

from the Cape and Islands accounted for less than 15% of the value of the statewide catch. The majority of lobster came from four towns: Gay Head, Chatham, Chilmark, and Goswold.

Shellfish made up over 15% of the \$17.4 million fish supply in 1935 (Ackerman 1941: 63). Of this amount, the oldest harvested edibles, oysters and soft-shelled clams, made up nearly 65%. The catch of bay and sea scallops each amounted to slightly more than one million pounds and together accounted for 18%, by value, of the total shellfish harvest. Despite the early efforts of the U.S Fish and Wildlife Service, as late as 1935, the mussel harvest in New England amounted to a mere 100,000 pounds by value, less than one percent of shellfish harvested in New England (Ackerman 1941:55).

Workplaces associated with the fishing industry are even rarer than those discussed earlier. Two factors contribute to this scarcity: the movement of preparation tasks from land to shipboard, and the small size and simple form of the majority of the structures. Like the waterside buildings associated with other maritime activities, fishhouses apparently had no formal attributes related to their function. Instead, small frame, gable-roofed structures were used to store gear on land. Fish were initially dried on shore-based flakes, frames that allowed for the laying out of the fish so air could circulate on all sides. Later, when barrelling took place on board, the harbor villages' ubiquitous flakes, as well as their pervasive odor, were outmoded. Additional buildings may have been used for the distribution of caught fish, but no further information is available on them. With the shift to freezing in the 20th century, large buildings were required, and freezers survive in Sandwich and Barnstable, as does the 1893 Cold Storage Plant at 505 Commercial Street in Provincetown. A fish pier is documented in Chatham. Like so many structures related to economic activities, however, the primary factor behind this apparent scarcity is the lack of identification and evaluation of this category of

building. While changing industry location has influenced the survival rate of these buildings, far more may survive unrecognized due to their changing functions as harbors became increasingly oriented to tourist-based retail and service functions.

Maritime Industries

Maritime industries include ship building and repairing, the manufacture of small boats, ships' hardware, sails, masts and spars, tackle blocks, cordage; barrels, and nets. Nearly all New England fishing towns made their own sails, rigging, and cordage; therefore, a contract for a new vessel meant work for nearly all shops in town. Like the salt manufacture, the prosperity of maritime industries fluctuated with the fishing industries.

In spite of the preeminence of maritime pursuits, boat and ship building remained small-scale, localized industries throughout the historic period. Small boats, open craft, usually propelled by oars rather than sails, had been constructed in the study unit since its first settlement. The business of making boats was a function of the whaling and fishing industry, and to a certain extent, both were related. Both were hand operations requiring few men. Materials, cedar and oak, often came from elsewhere in New England. Conducted on so small a scale, few accurate statistics are available. In 1831, Nantucket, then at the height of its whaling prosperity, was the leading boat-building community, building 135 whale boats valued at \$6,750, and thirty men were employed in this business. The next largest community was Provincetown, probably constructing both fish and whale boats, numbering fifty-four. Sandwich produced forty, while Orleans and Barnstable both produced about twenty, and Chatham another twelve whale and fish boats. In 1855, Nantucket was still the leading producer of boats, followed by Provincetown, Harwich, Edgartown, and Chatham.

The construction of larger vessels is frequently more faithfully reported in secondary sources. As early as 1627, a shallop, a small single-masted sailing vessel,

may have been built at the Aptuxcet Trading Post in Bourne for travel to Plymouth. Thomas Bourne of Sandwich constructed a small sloop, a single-masted, fore- and aft-rigged vessel, in 1717, for packet service to Boston. Barnstable's Thomas Agrey is the first professional builder of whom we have record, and after his departure for Maine his apprentices successfully continued the shipbuilding tradition of constructing sloops and schooners at locations throughout the Cape (Kittredge 1968: 146). This activity reached its peak in the Federal period. Along the western shore of Bourne and Falmouth vessels of all sizes and types were constructed. In the late 1820s, much of this activity focused in Woods Hole, where merchantmen, whalers, and many smaller vessels were built.

On Nantucket, small whaling and coasting vessels were built at Brandt Point between 1810 and 1840, but the limitations of the harbor discouraged construction activity after that date. Some large vessels continued to be built in Falmouth, Bourne, and Chatham, and in 1855 Tisbury had a small shipyard that produced one 192-ton vessel. As the need for larger vessels began to exceed the capacities of the small yards, many dropped out of the business or took up work as ships' carpenters repairing vessels.

The most famous of the Cape shipyards was the East Dennis yard of David and Asa Shiverick. Although born in East Dennis where his father had been building schooners and sloops, Asa Shiverick (1816-1894) obtained most of his experience from yards in Maine and Boston. He returned to East Dennis in 1837, and between 1850 and 1862, the Shiverick yard turned out eight ships, including two full clippers, the Belle of the West and the Wild Hunter. Three more shipbuilders should be noted: Henry Rogers, a Boston shipbuilder, was apparently active in both Truro and Wellfleet. Between 1837 and 1851, he built fifteen brigs and schooners at the mouth of the Pamet River (Deyo 1890: 929). Between 1848 and 1853 Rogers is also credited with building in Duck Creek Harbor eight more mackerel schooners of sixty

to 100 tons burden (Deyo 1890: 793). Anthony Thatcher, son of Chatham shipbuilder William Thatcher, worked in both Chatham and Harwich. Probably the last active shipbuilder on the Cape was the Maine native John G. Whitcomb (1834-1901), who between 1865 and 1875, constructed five whaling schooners and a 166-ton brig in Provincetown.

There seems to have been no uniform practice with regard to building material. As the coasting trade and Cape timber was reduced, increased amounts of lumber were imported from the southern colonies and Maine. Locally cut oak timber was occasionally used to frame vessels, although imported yellow pine and live oak made up the rest of the material. Many Truro vessels were framed from locally cut oaks, and several of the schooners Thatcher built for Harwich merchant Job Chase were also framed from local timber.

Ship repairing was undertaken wherever vessels docked. Evidence of the importance of repair work was indicated by the location of marine railways. The first American marine railway was built in New York about 1826 by John Thomas (Sullivan 1827: 70), and within four years, one had been constructed at Brandt Point, Nantucket, for the repair of whaling ships, probably the earliest instance of its use in the region. After 1830, several such railways were built by the wharf companies to aid their own outfitting business. In Provincetown, both the Central and Union wharves built marine railways between 1848 and 1852, as well as blacksmith shops, ships carpenters' shops, and other facilities for the fitting and repairing of vessels. A third, the Eastern Marine Railway, was in operation at Look's Wharf from 1864 to 1874 (Deyo 1890: 969-70). Nantucket's was moved to Chatham's Union Wharf in 1863. Most were operated by pairs of horses driving a revolving capstan in the railway house, hauling a vessel up the ways to be caulked or otherwise repaired.

Prior to the Revolution, sailmaking may have been a cottage industry, whereby sails were made up in the home, probably by women, from sailcloth imported from

England. Very little sailcloth was produced in the study unit. However, soon after the Revolution and encouraged by a bounty on Massachusetts-produced cloth, several duck factories were started in Massachusetts. Duck factories were started in the 1790s in Yarmouth and Nantucket, but neither survived the ending of the bounty in 1795.

In the 1830s, most of the sails were still made with foreign fabric, probably imported from England. Sailcloth was imported into the study unit in large bolts, and cut and sewn together in a sail loft, of which there were large numbers in the first half of the 19th century. Most towns reported sail lofts in 1831, though the largest were in Provincetown and Nantucket. By 1855, there were nineteen sail lofts in Barnstable County, three in Nantucket, and one in Edgartown. Provincetown contained seven, with four in Harwich and two each in Barnstable, Truro, and Wellfleet. On average they employed two to three persons each, though those in Nantucket were larger, employing on average five hands. In 1855, only Nantucket still made sails with foreign fabric. Of the 359 sails made by Nantucket sail lofts, nearly half were made of foreign-made fabric, a characteristic shared only with New Bedford, though the sail lofts of the latter city were nearly twice as large and the percentage of foreign-made fabric substantially smaller. Perhaps typical of the sail lofts was the Provincetown loft of Benjamin Alstrum, whose three-man shop occupied the second floor of the store at Market Wharf in 1850 (Jennings 1890: 160).

Until the mid-19th century, fishing nets were made at home during the winter months by women and girls for the fishermen of their own households, or for others (McFarland 1911:89). Hemp fiber ("twine") was the material generally used. James S. Shepard of Canton was the first to manufacture cotton twine for netting, eventually displacing hemp completely in the American fisheries (Gilman 1896: 377). After the formation of the American Net and Twine Company (Canton) in 1842, the company introduced machines for knitting. Provincetown historian

Nancy Paine Smith wrote that everyone in town then took stock in the new knitting company and did very well with it (Smith 1922: 89).

Like nets, cordage at first was made of hemp, and, like cotton duck, it was given an early boost by state bounties offered in the 1790s. The earliest ropewalk identified was one established by 1772 on Nantucket; by 1807, Nantucket boasted ten. In Yarmouth, there were two ropewalks established by 1794. The longest-lived was that built by David Kelly and Sylvanus Crowell in South Yarmouth, probably about 1802.

At the head of Bridge street stood its most imposing part—a two-story building containing spinning and other machinery. Close to the Friends meeting-house lot, a one-story structure, nearly square, contained the horse power. These were connected by a long, low building with a shingle roof, rough board sides, having numerous openings fitted with shutters for ventilation and light, and an earth floor covered with clay imported from Martha's Vineyard. (Wing 1901: no. 10).

In 1831, the two Yarmouth ropewalks produced twenty tons of cordage and cables. Hemp and manila at that time was all imported. All ropemaking activity on the Cape had ceased by 1850.

The making of blocks, the wooden pulleys used for hoisting or hauling tackle, was carried out in several towns in the early 19th century. In 1831, Yarmouth, Chatham, and Dennis all reported activity. Though none employed more than one person, the Yarmouth shop was the largest, producing \$600 worth of blocks. All were sold in Massachusetts, though all required imported *lignum vitae* in various quantities. The first to patent block-making machinery in the U.S. was Thomas Blanchard in 1836. Isaac Young of Chatham is credited with being the earliest on the Cape to mechanize the process, in 1847. Blockmakers were last reported in Provincetown and Wellfleet in 1855.

Most of the cooperage in the study unit was done for the whale industry. The largest consignment came from Falmouth, which produced 9,000 oil casks, by ten

men, valued at \$12,000. Edgartown sold 3,000 barrels to the whaling ships. By 1855 Nantucket was the leading manufacturer of oil casks. Twenty-six men employed by nine shops produced over 20,000 casks. Provincetown, Yarmouth, Edgartown, and Tisbury each produced 1,000 casks, while Falmouth's single shop turned out 2,600. The rest of the barrels appear to have been made primarily for the mackerel fleets. Barnstable, Chatham, Harwich, Provincetown, Wellfleet, and Yarmouth all produced anywhere from 100 to 500 barrels.

Some ships' hardware was also produced in the study unit. Every town in the county had its local blacksmith shop in 1831. All did "country work," but five specified vessel or ship work as well. Of these, the largest operations were in Falmouth, which employed fifteen men at the work. One of these was probably Braddock Gifford, Quisset blacksmith to the shipbuilders, who moved to Woods Hole in the early 1830s. Blacksmith Road in West Falmouth marks the location of one of these old stone blacksmith shops (Deyo 1890: 674). Other ships' hardware was also produced in Chatham, Provincetown, Wellfleet, and Dennis. The removal of ship building to larger ports, however, brought a decline to sail and rigging lofts, anchor shops, chandelery stores, as the outfitting business was done increasingly in the large cities, like Boston.

Few surviving examples of these cultural resources are known. Many of these activities were housed in the outbuildings associated with residences, or lined the wharves and shore. These structures seldom took a distinctive form associated with their function. Indeed, many of these activities were conducted outside. Waterside shipyards had few permanent buildings, and the majority were dismantled or abandoned, leaving only archaeological remains, most probably at the Shiverick Yard in Dennis. Small gable-roofed structures characterized the shops associated with block-making, cooperage, and blacksmithing, many of which were short-lived, or served a multiplicity of functions through the years. More distinctive were the

ropewalks, requiring long narrow structures that no longer survive. Sailmaking also required large spaces, often in the open garrets of structures near and on wharves in harbors. These structures, like others associated with fishing and commerce described above, have been greatly changed by subsequent resort-oriented use.

Salt Manufacture

In an economy which otherwise left little room for land-based industries, the manufacture of salt by solar evaporation was the study unit's chief "manufacturing" industry in the Federal and Early Industrial periods. Its success on the Cape was closely linked to the importance of the salt-cod fisheries, which demanded much of the products of the saltworks, but the shore location also gave virtually every town long periods of bright sunlight. The damper climate of Nantucket discouraged the success experienced by the Cape towns. Like other period manufacturing industries in the state, the salt manufacture evolved its own significant technology, and it benefited from the realignment of capital caused by the Embargo and the War of 1812. It was an important export of the antebellum coasting trade.

The earliest salt for the fisheries had been imported with the European fishing fleets from the Cape Verde Islands and southern Europe. However, with the opening of the West Indies trade from Boston about 1640, a new source of salt was discovered in the "Salt-Tortugas" (today, the Caymen Islands). As the trade with the West Indies expanded, salt came to play a larger and larger role among imports (McFarland 1911: 95-96). By 1768, salt was being imported into the American colonies in nearly equal amounts from the West Indies and from southern Europe. Nearly half of the total salt imports, however, were directed to New England, and of this amount, 458,280 bushels, or 62%, came from the West Indies, while most of the salt from southern Europe was sold to the middle colonies (Shepherd and Walton 1972: 228-233). Thus the New England fisheries were dominated by salt from the West Indies.

Because of the importance of salt to the early colonists, repeated efforts were made to manufacture salt. John Smith reported that the Plymouth Colony settlers

had constructed a saltworks about 1624 "wherein they preserve all the fish they take." John Winthrop, Jr., was granted a patent for making salt by his own process in the 1650s. In 1696, Elisha Hutchinson was granted a monopoly for the manufacture of salt, on the condition that he produce 100 hogsheads by 1701. There is no evidence that he was successful in accomplishing this (Weeden 1890: 148, 398).

Salt generally could be manufactured by one of two processes: either by boiling sea water, requiring large amounts of fuel, or by "solar evaporation," using the sun to evaporate sea water in large flat pans, or vats. Solar evaporation had been practiced in Europe by the French, who used large salt ponds filled by the tides. Boiling was the most common way of making salt. Prior to the Revolution, this method had been used on the Cape for more than a century. In the 1770s, the restrictive acts of Parliament made the importation of foreign salt exorbitantly expensive, and its cost climbed to two to three silver dollars per bushel. In 1775, in one of its first acts designed to encourage infant industries, the Massachusetts General Court placed a bounty of three shillings per bushel on its manufacture. These factors encouraged the construction of many small saltworks for boiling sea water. In Harwich, Job Chase and Obid Smith had twelve 16-gallon kettles set in masonry protected from the weather, and similar works were located in Falmouth, Barnstable, and other Cape towns.

Ammiel Weeks of Harwich is credited with being the first to test the practicality of making salt by solar evaporation, about 1775. Weeks used a vat six feet long by two feet wide, divided into two or three compartments. But the first successful commercial works by solar evaporation on the Cape, and the man to whom its subsequent success has been largely credited, was John Sears (1744-1817) of Dennis, in 1776. Sears had been a fisherman before the war, and to secure financial support, he engaged as partners his cousin Edward Sears, and Christopher and William Crowell, who had observed the process in Labrador. The works were to

be located on Sesuit Neck in East Dennis. Amos Otis described the original works as being

one hundred feet long, and ten feet wide, and all on the same level. The flooring was of white pine plank, laid on oak sleepers, the latter running crosswise. The gunnels were of plank, eight inches deep, and secured by upright pieces, mortised into the ends of the sleepers, and by knees passing under the flooring and on the outsides of the gunnels. The corners of the vat were also secured by knees; the roof was curiously fashioned; rafters, grooved on either side, were permanently fixed to the gunnels, at the distance of five or six feet from each other; the doors were made of a corresponding width, and consisted of several boards of the same length, with the rafters clamped together. These slid obliquely upwards and downwards in the grooves of the rafters, and were prevented from swagging in the center by board rafters placed between the principal ones. It was soon found necessary to have a separate vat to chrystalize the salt, and a partition was placed across, and the brine boiled over. . . . A little before the close of the war [1780], Mr. Sears procured one of the pumps of the British ship-of-war Somerset, wrecked on the coast of Cape Cod, and erected it for the supply of his manufactory, and to avoid the labor of bailing water. (Otis 1832: 90)

Sears's first attempt in 1776 produced only eight bushels of salt, and the works were promptly labeled "Sears's Folly." The second year Sears caulked the seams and obtained thirty bushels. In 1785, at the suggestion of Major Nathaniel Freeman of Harwich, who had seen a similar pump, Sears attached a small windmill with canvas sails to his pump. These small windmills became the most distinctive feature of the Cape Cod saltworks. As every 2,000 feet of works required a mill and pump, this meant that by 1831 over 700 such mills were needed (Thatcher 1804: 114-115). Vats measured ten feet in width, and saltwork capacity was subsequently measured in linear feet of units of ten foot widths long after wider vats were constructed.

The other invention was the roof, designed to cover the vats quickly in case of rain. Two forms came into use in the 1790s. The earliest was the "gable roof," invented in 1793 by another Brewster cousin and carpenter, Reuben Sears (1753-1844). The gable roof moved on rollers or small wheels along tracks on each

side of the vat, so arranged that the roof could be pulled beyond the vat in dry weather. The second type, the "crane works," was invented in 1798 by Hatsel Kelley of Dennis. Sears had arranged his vats in a direct line or string; Kelley placed the vats like squares on a chessboard. The square covers for these vats, shaped like hipped roofs, were all lifted together by horizontal and perpendicular beams (Freeman 1802: 136). Although the crane works were more typical in Bristol County, the gable roof appears to have been the most common on the Cape (Rich 1883: 460).

The building and repairing of works gave employment to a large number of mechanics and spawned its own support industry. A block maker in Chatham also produced pumps and rollers for the saltworks. As a rule, one man could attend and repair 5,000 feet, providing him full-time employment. This labor cost the owner about one-quarter of the gross proceeds of sales. In 1831, about 283 men were employed full-time in the works across the Cape (Otis 1832:90). The season generally ran from the beginning of March until the beginning of November, though the process of making Glauber salts (medicinal sodium sulphate), requiring cold weather, carried the manufacture into the winter (U.S. Congress: 103). The time required for the salt manufacturing process was generally three weeks, after which the salt was raked off the floor of the salt room and deposited in a dry warehouse.

By 1802, there were saltworks all over the Cape, though two-thirds of the works were in the four bayshore towns of Barnstable, Dennis, Yarmouth, and Brewster. Dennis's north shore alone had forty-seven of the 136 separate works, about equally distributed between Suet (East Dennis), where Sears had his works, and Nobscusset Point. The town's nearest rival, credited with twenty-one works, was probably what is today the town of Brewster, though in 1802 Harwich was credited.

Jefferson's Embargo proved an important stimulus to the saltworks. As in the Revolution, the closure of foreign trade forced the price of salt to seven dollars

a bushel. Capital prevented from going to sea was put into the construction of saltworks, and between 1802 and 1809 the capacity of the saltworks in Barnstable County rose by over 150%. By 1810, the county had over 327,000 feet of saltworks--70% of the state's total. Bristol County followed with another 24%, while Martha's Vineyard accounted for 5%. Between 1810 and 1831, the capacity of the works in the county rose by 332%. On average, every thousand feet of saltworks produced about 268 bushels (seventy-five pounds) of salt annually, prices in 1831 ranging from 40¢ to 46¢ per bushel. Although much of the salt was used on the Cape itself, the production was far above what the Cape fisheries required. In 1837 the cod and mackerel fisheries in the county required 257,628 bushels of salt, while the county produced 699,264 bushels, and much of the excess was exported on coasters.

Interest in the saltworks was not confined to the Cape, and many contemporary writers went to great lengths to describe not only the technology but also the capacities. Thus we are indebted to the Rev. James Freeman for a list of the capacity of the towns in September 1802 (p. 138). In his Travels, in 1809, Edward Kendall also provided a comparable listing (pp. 135-136), as did Amos Otis in 1831 (p. 94). See Table 12.

The average size of a saltworks operation in 1831 was between 200 and 2,000 linear feet. It was very rare in any of the towns that works exceeded 5,000 feet. In the county there were eight owners whose works measured 8,000 feet or over, and of these, three were located in Yarmouth, which climbed to the head of the list with more than 200,000 feet of works and seventy-five separate establishments. Much of this activity was probably in South Yarmouth, which contained more feet of works than any other village in the town (Deyo 1890: 483). Of these the largest in the study unit (and state) was that of Stephen Smith & Co., with 12,000 feet. Robert Wing's works amounted to 8,600 feet at the Lower Village, a plant that was still extant in 1890. The third Yarmouth owner was Job Otis of New Bedford, who

Table 12

Saltworks Capacity on Cape Cod, for Selected Years, 1802-1831

Town	1802		1809	1831	
	Number of Works	Capacity	Adjusted Capacity	Number of Works	Capacity
Barnstable	14	11,717	41,558	53	126,550
Brewster	21*	18,600*	62,330	76	104,717
Chatham	6	11,500	40,836	93	147,201
Dennis	47	33,800	65,080	130	191,690
Eastham	12	9,100	15,256	56	88,446
Falmouth	4	1,900	Not Given	139	184,904
Harwich	--	--	6,000	10	11,350
Orleans	11	3,080	14,650	78	88,558
Provincetown	10	11,404	15,961	76	147,895
Sandwich	4	2,702	Not Given	10	20,500
Truro	1	700	9,850	50	66,450
Wellfleet	2	180	6,005	35	35,520
<u>Yarmouth</u>	<u>4</u>	<u>16,630</u>	<u>30,750</u>	<u>75</u>	<u>200,827</u>
TOTAL	136	121,313	308,276	881	1,414,608

*These figures were given for Old Harwich, prior to the separation of Brewster. Statistics have been placed in Brewster's column to reflect Brewster's dominance in salt manufacture. Kendall's original 1809 figures appear to be off by a factor of ten, probably accountable to confusion over the "saltwork measure." The U.S. 1810 Census figure for Barnstable County, 327,000 feet--including the figures for Falmouth and Sandwich omitted from Kendall's reckoning--is quite in line with an adjustment in this direction.

operated 8,200 feet. Barnstable's thirty-four saltworks were dominated by those of Loring Crocker (10,000 feet) and the heirs of Russell Sturgis (11,483). By the 1830s, the manufacture of salt had spread beyond its original core. Falmouth and Provincetown became important producers. Falmouth ranked third in capacity among the Cape towns after Yarmouth and Dennis, and Elijah Swift was the third largest owner of saltworks in Barnstable County, operating 10,000 linear feet. Fourth was Provincetown, where Jonathan Nickerson operated 8,365 feet and Joseph Atkins, who would build the Central Wharf eight years later, had 8,000 feet of saltworks.

A variety of reasons are given for the decline of the saltworks. The cost of Maine pine, used almost exclusively in the vats, increased, thus making it uneconomical to repair the works. Competition from the rapidly developing domestic saltworks was given as another reason. As early as 1810, when Barnstable County produced 70% of the state's salt, Massachusetts-produced salt accounted for less than 6% of the product then being produced in the U.S. The salt springs of Virginia and Kentucky produced nearly ten times the Massachusetts quantity, while New York already produced three times as much. A third reason was the withdrawal of the state bounty in 1834. Probably the chief reason for the decline in production, however, was the lowering of the duty on imported salt. Ever since 1790 there had been a duty of at least ten cents a bushel. In February, 1840, a joint special committee to the legislature reported on the effects of the proposed lowering of the salt duty by Congress.

The manufacture of salt in this Commonwealth is thought to be on the decline--present prices not being sufficient to induce new investments of capital. The further reduction of duty which is yet to take place, and the apprehension of a further decline in price, has induced many to neglect their works, and where extensive repairs have been deemed

necessary, to break them up. It may confidently be predicted, that any measure effecting a further decline in prices, will in a few years, insure the entire destruction of the whole; and thus occasion the loss of an outlay of not less than two millions of dollars, and an annual product, of not less than eight hundred thousand bushels of salt. (Sprague 1840: 2-3).

In 1842, the duty on imported salt fell to 8¢ a bushel, and in 1846 it was changed to a 20% ad valorem scale, greatly to the advantage of foreign sources (McFarland 1911: 138, 165). Shebua Rich, the Truro historian, wrote that the dismantling of saltworks in Truro began as soon as the reduction of salt duty went into effect. When the gale of October, 1841, struck the bay shore, many of the works destroyed were not rebuilt.

As early as 1837, towns with declining capacities outnumbered those with rising capacities. Those towns still rising were Yarmouth, Provincetown, Harwich, and Brewster. By 1845, however, all were falling, though Yarmouth, Dennis, and Provincetown still led the group of salt-producing towns. Between 1837 and 1845, the county salt production had fallen 60%, from nearly 670,000 bushels to 270,000. By 1865, the output of Barnstable County saltworks had fallen another 64% to 95,350 bushels. By this time, only Brewster, Dennis, and Yarmouth were producing significant amounts.

In the end it was Yarmouth that held onto its saltworks the longest. Not until 1888 did the salt mills along the shore of Bass River cease to revolve. One of the reasons for the longevity of the saltworks in Yarmouth may have been the specialization that took place in the production of medicinal salts: two sulfates known as Glaubers salt (sodium sulfate) and Epsom salts (magnesium sulfate). Both were also used in textile dyeing. The first manufacture of Epsom salts was credited to the Rev. Ephraim Briggs (1769-1816) of Chatham. In 1831, the county produced 4,200 bushels of Glaubers salts, and 600 bushels of Epsom salts. A third medicinal salt was "magnesia alba," a carbonate of magnesium formed from the further

decomposition of Epsom salts (Thatcher 1804: 119-120). Its manufacture was begun about 1850 in South Yarmouth with the erection of a factory on Clapp's Point under the direction of Roxbury chemist Franklin Fearing and Yarmouth native Abiel Akin. The factory remained at South Yarmouth into the 1880s, when the diminishing production of the regular saltworks made the operation unprofitable.

No authentic saltwork-related resources are known in the region, but two reconstructions are known, at 467 Commercial Street in Provincetown, and the Hockanom Saltworks in Yarmouth.

Manufacturing

Land-based (as opposed to maritime-related) manufactures played a relatively minor part of the overall economic activity of the Cape. Nevertheless, examples of most other major industries that appeared in the state were represented in the study unit. The towns closest to Plymouth County, Sandwich and Bourne, were dominated more by the manufactures (glass and iron), while maritime industries characterized the remainder of the unit. Nevertheless, the manufacture of the shoes, cotton and woolen cloth, silk fabric, straw bonnets and hats, and clothing also appeared, either as a response to regionwide economic events (a tariff or "craze", for instance) or in a conscious effort to bring in a successful off-Cape industry to revive a failing maritime economy.

Home Work

The principal manufactures of the study unit prior to the Revolution, as in most other areas of the country, were "home manufactures": essential household items used within or traded outside domestic units. Of these, the leading domestic activity has been traditionally described as the spinning and weaving of woolen cloth. The women and children in a household were responsible for the spinning of yarn and the weaving of cloth, as well as the auxillary tasks of carding. That wool and flax were being grown and that cloth was being made is unquestioned, but it seems likely that its extent was by no means as widespread as originally supposed. One measure of woolen cloth production comes from the incidence of fulling mill construction and wool production. In the 17th century, the production of woolens appears to have been slow in the region. Not until 1689 was the first fulling

mill erected in the study unit, when Thomas Marcy was put in charge of the Barnstable mill on "Goodspeeds River," later Marstons Mills. A second fulling mill was erected sometime prior to 1694 in Chilmark by Benjamin Skiffe (1655-1718).

The principal impetus to the home manufacture of cloth appears to have been the Wool Act of 1699, prohibiting the export of locally made wool cloth and its intercolonial transportation. Its sale outside the colony had hitherto been an important source of income with which the colonist purchased imported clothing of finer materials. The cutting off of this source of income by the Wool Act forced many New England residents to rely increasingly on homespun cloth. Sheep raising was given a large boost. The surveyor of New England customs reported that some towns, which prior to the Act had fewer than 100 sheep, reported 1,000 animals in 1704. Even before passage of the Wool Act, two major sheep-raising areas were Nantucket and Martha's Vineyard. They had supplied neighboring towns with wool before 1699, but now began to focus on their own needs (Tryon 1917: 76-77). The construction of additional fulling mills early in the 18th century was probably a function of this new supply of wool. Mills were built in Yarmouth (1706), Nantucket (1708), and Brewster (by 1708). Soon after 1716, the Taunton clothier Benjamin Marston (1693/4-1769) came to Barnstable and took over the mill that now bears his name. A fulling mill was also constructed on Blackfish Creek in Wellfleet in the 18th century, and in Sandwich in 1788. The post-Revolutionary period saw the introduction of carding machines in most of the fulling mills in the study unit.

Woolen cloth was not the usual product of the region's wool. Instead, wool stockings, often for sale, dominated the region's households. In 1810, Barnstable and Nantucket counties produced less woolen cloth per capita than anywhere else in New England (Tryon 1917: 170). In contrast, wool stockings were valued at \$8,850 in Barnstable County, the highest value of any in the state. In order of stocking value, Barnstable was followed by Middlesex County, Dukes County (\$4,448), and

Nantucket (\$4,000). As late as 1831, Tisbury and Edgartown reported inhabitants knitting coarse woolens, including stockings, of which both towns sent over 1,000 pairs to Boston and New Bedford for sale. Orleans also reported \$1,500 worth of stockings as its household manufactures that year.

The amount of cloth being woven seems to have varied according to the economic or political climate and how readily finished goods could be obtained from Europe. The wearing of homespun fabrics by Barnstable women was sufficiently rare to rate a letter in the Massachusetts Gazette in 1768 (Freeman 1858-1862: 756n). Although Obed Macy in his History of Nantucket (1835) describes the domestic manufacture of cloth by Nantucket women during the Revolution, it appears to be almost entirely due to the privations caused by the war.

For immediately, on being cut off from the use of English manufactures, the women engaged within their own families in manufacturing of various kinds for domestic use. They thus kept their household decently clad, and the surplus of their labors they sold to such as chose to buy rather than make for themselves. (quoted in Tryon 1917: 60)

Similar privations resulted during the Embargo of 1807 and the War of 1812. With the rise of mechanized factory production, home textile manufacture and local fulling became outmoded. Probably the last of the small fulling mills to remain in operation on the Cape was that at Marstons Mills, which as late as 1831 was still providing an 18th-century service for farmers in the immediate vicinity.

The home manufacture of boots and shoes, as well as the "putting out" of portions of the production process was as common here as elsewhere in the Commonwealth, and is described below. In addition to shoes, the "putting out" of products remained an important aspect for those women (and some men) who were not employed at sea. On Nantucket, the manufacture of straw hats was put out to women in the town by the 1850s. In 1855, 237 women produced 9,000 bonnets and 138,000 straw hats. The Atlantic Straw Works remained in operation through the late 1870s. The putting-out business that covered the widest area was probably

the business of stringing tags. The business was begun about 1859 in Falmouth when Framingham's Dennison Company established a local operation for stringing tags. All the stringing of tags done on Cape Cod, Martha's Vineyard, and as far north as Wareham, was managed from this shop. By 1890, the payroll for girls engaged in tying was said to sometimes average \$12,000 per year (Deyo 1890: 674).

Boots and Shoes

Virtually every town in the study unit had small amounts of boot- and shoemaking activity, probably by the end of the 18th century, and certainly by the end of the Federal period. Shoe uppers were bound or sewn by women within the system of homework while men bottomed, or added soles to the shoes. For the most part, this last activity was carried on in small shops or kitchen ells by 1831, generally averaging between six and twelve persons per town. Sandwich was unusual with seventeen shoemakers employed full-time, producing \$9,000 worth of boots and shoes, about twice the normal average. Most towns were self-sufficient in shoes. Truro and Wellfleet were the exceptions: Three-quarters of Truro's shoes and five-sixths of those worn in Wellfleet were made in other towns. Brewster, Chatham, and Eastham each reported that about one-tenth of their shoes were sent to Maine, while the other nine-tenths remained in Massachusetts. In Edgartown, the product of the shops was sold to the inhabitants as well as to whalemens; no shops were reported in Nantucket. Only Falmouth sent shoes out of New England: In 1831, shoemakers made \$600 worth of "Negro shoes," and in a note the enumerators explained that six of Falmouth's fourteen shoemakers worked in the southern states for eight months of the year, like the town's house carpenters (U.S. Congress 1833: 125).

The region's shoe industry also experimented in "factory" management. In 1829, two shoe "factories" were built in Barnstable County, in Orleans and

Yarmouth. A third operated in Chatham between 1856 and 1863. Probably these were "central shops," in which stock was cut and portioned out to workers in their own shops, returned again, and given out with roughly cut soles to "makers." But shoe factories, as large employers of labor, never caught on until the decline of maritime industries in the last half of the 19th century. Then several towns turned to shoe factories to employ out-of-work mariners. The large shoe factory of Hayden & Mitchell was in operation on Nantucket only two years, 1871-1873. In 1875, the largest maker of boots in the study unit was the boot factory of Jonathan Buck in Harwich, employing twenty-eight men, with 80% of the county production. About four times the size was the Casey Brothers shoe factory (1886-1891) in West Dennis, employing 100 men and women. Wellfleet, in 1887, voted money for the construction of a shoe factory, though the company lasted only a few months. Subsequently, a branch of the Orleans firms, Cummings & Howes, occupied the building for six months before they were taken over in 1889 by a Boston firm. The West Dennis Shoe Company, begun in 1892 by a group of retired sea captains, was even more ambitious. Scheduled to employ 200 hands, it lasted less than nine months. About the same time, a shoe factory was begun in Provincetown, though it ran for only a year.

Textile Mills

The cessation of maritime commerce during the War of 1812 forced investment hitherto tied to shipping into land-based manufacturing activities--particularly new spinning mills. The earliest cotton spinning mill in the region was built in Sandwich in 1814. Nantucket merchants built a woolen mill on New North Wharf two years later, though it lasted only a short time after the conclusion of the war. Also in 1814, the Winslows established a "factory" in Brewster on Stony Brook, though it does not appear to have been anything more than an enlarged carding and fulling

mill, perhaps with a "central shop" type of operation that arranged for spinning and weaving in local homes. The only company to incorporate in this period was the Wellfleet Manufacturing Company, to manufacture cotton and woolens, but it never appears to have gone into operation. The return of British goods into the American marketplace in 1815 discouraged further local textile production until the late 1820s, when tariffs provided some protection for these small companies. One of the earliest to organize in this period was the Chatham & Harwich Manufacturing Company, in 1827, which, like the Sandwich factory, produced cotton shirting.

More popular, however, were the woolen factories. Stimulated by the Tariff of 1828, woolen mills were erected across the state as the new demand for American-produced woolens made the woolen industry a lucrative prospect. Marstons Mills were enlarged in 1829; and in 1831 a small woolen mill, the Herring River Woolen Manufacturing Company, was constructed at Sagamore, producing small quantities of satinet. Two woolen mills, the Lewisville Woolen Manufacturing Company and the Pacific Woolen Manufacturing Company, were both begun about 1830, and for much of the Early Industrial period they were Falmouth's single largest industry. The latter supplied woolen kerseys for Falmouth whalemens, and Falmouth jeans and kerseys became well known across the Cape (Deyo 1890: 486, 498). Another mill to produce for the whalemens was the Look woolen mill in West Tisbury. In 1845, Holmes Hole whaling merchant Thomas Bradley purchased the mill and began turning out a popular brand of satinet ("Vineyard satinet"), favored by whalemens. This mill was still turning out "the real old-fashioned Vineyard satinet" in 1873, though it closed not long afterward. Bradley's mill was one of the longest-lived. The competition from large mills in other parts of the state made woolen cloth increasingly unprofitable after the Civil War.

The silk craze that struck the rest of the state in the 1830s also affected towns in the study unit. While several towns set out mulberry trees in hopes of

capitalizing on their rapidly rising value, Nantucket was the most directly affected. In 1836, the Atlantic Silk Company was organized, and that year laid out thousands of mulberry trees. The Providence inventor of silk machinery, Gamaliel Gay, came to Nantucket to help set the works up. For several years the factory employed about twenty persons, mostly girls, before closing about 1844.

Glass

The most famous manufacturing concern in the region was the Boston & Sandwich Glass Company. Deming Jarves (1790-1869), its founder, was one of the early organizers of the New England Glass Company, the Cambridge firm that developed into one of the largest in the country. Jarves was attracted to Sandwich by the extensive tracts of pine timber for fuel. By 1830, the firm's 130 employees already outnumbered the total number of persons engaged in manufacturing in the rest of the county. With housing provided by the Boston-oriented company, the village of Sandwich became the earliest and one of the only factory communities in the study unit. Jarves originated a method of pressing melted glass into molds, using steel instead of the original wooden molds. Pressed glass tableware, including elaborately formed lamps and candlesticks, became its most celebrated products. In the 1840s, as the supply of local firewood began to decline, Jarves designed and patented a furnace designed to burn anthracite coal. His greatest achievement, however, was in compounding new coloring for glass, with new shades of "golden ruby, sapphire blue, jade green, purple, and opalescent" that were said to be unmatched for beauty (NCAB: 1939: 173).

The fame of Sandwich glass became worldwide and specially manufactured pieces were presented to reigning sovereigns and other distinguished persons. The prominence of the glass works was also a major reason for the extension of the Cape

Cod Railroad to Sandwich in 1848. By 1855, the glassworks employed 500 men with a glassware product valued at \$600,000, more than the total value of manufactured products for the rest of the county. In the 1870s and 1880s, the company's success diminished. By the time the factory closed at the beginning of 1888, there were 275 men on the payroll. Although the immediate cause was a strike by glassworkers, its timing was symptomatic of glassworks throughout New England in the 1880s, as cheaper Midwestern fuel and cheaper labor made continued operation of Eastern glass furnaces prohibitive. There were several attempts to restart the glassworks, mostly characterized by insufficient capital. The United States Glass Company operated in Falmouth for a few years in the early 1850s.

Iron

Small-scale mining of iron took place where local deposits were available. Bog iron deposits in Chilmark, however, were worked in the 18th century, and as late as 1812 the ore was shipped across the Vineyard Sound to the forges of Bristol and Plymouth counties. In the early 1820s, under the influence of the successful Wareham examples across the bay, two ironworks were established in Bourne to utilize local bog ore and the plentiful supply of wood. In North Sandwich in 1821, a triphammer and axe factory were erected, and the following year Hercules Weston built a blast furnace in Pocasset on Barlows River. These factories, and a later nailworks, went through repeated changes of hands, but all continued throughout the century as active and prosperous businesses, often under ownership outside the Cape.

Another industry that had its origins in Plymouth County was the manufacture of iron and copper tacks, in Sandwich, probably in the 1840s. The business expanded in the 1880s in both Sandwich and West Dennis, and failed in the financial depression of the early 1890s. One of the most unusual industries to be initiated on the Cape in this period was the American Metallic Fabric Company, in 1886, by the Yarmouth

native and Boston architect, Samuel D. Kelley. Kelley reputedly developed the first loom to weave wire, and its earliest product was woven brass mesh for the paper industry. The factory Kelley began is the only identified 19th-century manufacturing activity that remains in operation in its original quarters.

Related to this was the Keith Manufacturing Company at Sagamore, Bourne's chief manufacturing activity, and, after the closure of the Sandwich glassworks, the business made Bourne the leading industrial town in the study unit. The business had begun as a wheelwright and blacksmith business in 1829, and was aided by the arrival of the Cape Cod Railroad in 1848. The company did a substantial business in miners' tools in 1849, but its real growth appears to have been in the post-Civil War period. In 1867, Isaac Rich (1838-1899) began the manufacture of railroad boxcars, originally under the name of Isaac Keith & Sons, later achieving dominance as the Keith Manufacturing Co. By the 1920s, the company still employed over 300 men in an extensive plant at the edge of the original Cape Cod Canal. Its employees outnumbered by several times the entire manufacturing force of the rest of the county, and was "a constant source of wonder to motorists who passed it as they crossed the Bourne Bridge." (Stone 1930: 100-101). A victim of the 1929 Depression, the company closed in the early 1930s, and the land was taken by the federal government for the 1935 widening of the canal.

Other Manufacturing Activities

The shore of Buzzards Bay was witness to the establishment of several guano companies in the last half of the 19th century. In South Dartmouth, the Clarks Cove Guano Company operated between 1881 and 1891. Perhaps the most famous was the Pacific Guano Company, organized in 1859 by New York and Boston shipping capitalists. The company produced fertilizer from Chilean nitrates, Silician sulphur, German potash, and Pacific guano, blended with oil from locally caught menhaden.

Works were erected at Woods Hole in 1863, but in 1867, after the supply of menhadden scrap had diminished, they began the manufacture of sulphuric acid. Although the guano company was responsible for the extension of the railroad to Woods Hole in 1872, the ensuing summer development led to the replacement of the company itself by summer homes in 1888. In the 1870s and 1880s, two factories were built to refine whale and menhadden oil in Wellfleet and Provincetown. The earliest was built on Billingsgate Point in 1873, producing watch oil from blackfish. Nickerson's Whale and Menhadden Oil Works was established on Herring Cove in Provincetown in 1886.

The introduction of the sewing machine in the 1850s gave a considerable impetus to the growth of ready-made clothing manufacturers around the state. The business reached the Cape in 1865, the same year that the Cape Cod Central Railroad reached Harwich. Mrs. Hannah Church Stokes (1820-1906), keeper of a variety store in South Harwich, is credited with being the first to make overalls, a business later taken up by other towns on the Cape. Mrs. Stokes, whose husband had died in 1849, became one of the most prominent businesswomen on the Cape. By 1875, however, the E. L. Stokes & Co. had taken on her son's name. That year they employed fifty in the shop and 250 outside doing piecework. By 1875, however, the largest of the overall manufacturers was that of Cummings and Howes, formed in Orleans in 1873. By 1890, they employed between 125 and 200 people. Successively they produced the pants for the Plymouth Rock Pants Company and the Bunker Hill Pants Company, as well as for clothing jobbers for nearly every state in the country (Deyo 1890: 762). In 1875, four clothing shops were located in Nantucket, producing clothing valued at a quarter of that of the entire study unit. Yarmouth had seven shops producing nearly \$70,000 worth of clothing. Two clothing manufacturers of the 1880s represented investment in the Cape from outside. The Puritan Shirt Company (1886-1896) was a branch of the Leominster Shirt Company, and in

its ten years of operation employed 100-200 women in Provincetown. The Nickerson family appears to have been connected with the parent firm at various times, and the company's presence in Provincetown may have been due to their influence. In operation about the same time was the knitting factory of Robbins & Everett.

Although brickmaking had been begun in Chilmark as early as 1831, the two major brickyards on the Cape, in West Barnstable and West Falmouth were phenomena of the Late Industrial period. In West Barnstable, the works were begun in 1878 by Benjamin Crocker and others, and remained in operation well into the 20th century. Thompson's brick kiln in West Falmouth was built in 1880, though its life is unknown at this time. Through the 19th century, Gay Head Indians mined the white clay from the Vineyard Sound cliffs for firing off the island. Much of this clay found its way to Pottersville in Somerset, where the Indians bartered it for other necessities. Vineyard clay deposits also provided the raw material for the Chilmark paint mill of Hiram and Francis Nye of Falmouth, who in the 1850s and 1860s turned out red and yellow "carpet paint."

In the Early Modern period, modern chemistry joined the traditional maritime interests in the production of artificial pearls. French amateur chemist Edward L. Petow in 1917 invented a fish-scale essence ("essence d'Orient") made from the stomach oil of the local herring, with which he produced artificial pearls. Accordingly, his Cape Cod Products Co. acquired numerous streams on Cape Cod to catch the needed raw material. His elaborate laboratory was located in Hyannis, and the chemical product he developed was an important factor in the development of the artificial pearl industry (Stone 1930: 95). In Edgartown about the same time, an Attleboro jeweler who had patented a process for making pearls from herring scales established a business near Herring Creek.

Tourism

The dominant industry of the Cape and Islands region in the 20th century has been tourism, broadly defined as all aspects of economic life based around seasonal recreation. Although this industry did not become a significant part of the region's economy until the Early Modern period, it has existed since the mid 19th century. Three main population groups characterize the industry: owners (and renters) of summer residences, hotel patrons, and the most recent phenomenon, "day trippers." No factor affected the development of the region as a resort more than changes in transportation facilities. The advent of the passenger steamer, the railroad, and finally the automobile, made radical changes in the numbers of people able to take part in the industry, the sites chosen, and in the corporate and social organization that developed to serve (and be served by) the industry.

There were three major periods in the development of tourism within the region. Prior to 1870, the railroad had made relatively little impact on resort development, which was characterized chiefly by the individual purchase of second homes and the adaptive use of large homes and inns for seasonal guests. Between 1870 and 1920, the popularity of railroad travel encouraged the construction of large resort hotels, frequently oriented toward the railroad customers. After 1920, the tremendous increase in automobile usage permitted seasonal visitors to build anywhere they chose, as well as reoriented the hotels and other service facilities toward the rapidly expanding highway network. In the essay that follows, these three successive periods and the impact on the economic life of the region are examined.

In the pre-railroad era, prior to the advent of the Cape Cod Railroad in Sandwich in 1848, tourism played a negligible role in the economic life of the region. Nevertheless, a nascent tourist industry existed in several parts of the region. Most prominent were two island communities, at Siasconset (Nantucket) and on the Elizabeth Islands (Gosnold). Of these examples, the largest and earliest was the hunting estate established on the Elizabeth Islands in the 17th century by Major General Wait Still Winthrop of Boston. Naushon, Uncatena, and Nonamesset were stocked with game and staffed by a handful of tenant farmers who cultivated what farmland existed. The islands remain a vacation retreat to this day. The community at Siasconset on Nantucket is probably the earliest collection of seasonally occupied dwellings. As early as 1792, the "bracing air [and] excellent water" attracted the infirm and invalid to the seasonal cottages erected initially for those manning the whale-boat stations. Unlike the more fashionable spas of Saratoga or Richmond Springs, which were modelled after the European spa tradition, Siasconset seems to have been slow to attract off-island visitors. Nevertheless, the first identified seasonal hotel in the region, the Atlantic House, was constructed here in 1848. By the last quarter of the century, the "Newport of Nantucket" had the earliest water-supply system in the region, and after 1884, was connected to Nantucket village by its own rail line.

Other visitors came to the region to hunt and fish, arriving on stages or packets. By the 1820s, the inner-Cape towns had a reputation for hunting and fishing, and a variety of inns supplied the needs of these travelers. Sandwich, which for many years served as the terminus of the Plymouth stage, had two hotels, Daniel Webster is said to have visited the town regularly between 1817 and 1825 to hunt. Deming Jarves, founder of the glassworks in Sandwich in 1826, is said to have initially become acquainted with the town for its hunting.

Steam transportation had a major impact on the evolution of tourism to the Islands during the second quarter of the 19th century. The first steamboat in the region was probably the New London-built Eagle, which made its first trip between New Bedford, Nantucket, and possibly Martha's Vineyard in 1818. The first voyage carried Friends to Quarterly Meeting in the Bristol County port. The existence of a regular and dependable service made possible the successful camp meetings at Wesleyan Grove, now Oak Bluffs, beginning in 1835. In its second year, steamers brought Methodists from New Bedford, Falmouth, Nantucket, Fall River, Bristol, and other places both in and outside of the region. By the 1850s, the popularity of "Camp Meeting Sunday" brought the first "day trippers." Cottages replaced tents, and an administrative building and tabernacle were built along a radial network of streets and parks by the Martha's Vineyard Camp Meeting Association. In 1866, the pattern was adopted to secular purposes by the Oak Bluffs Land and Wharf Company. On the Elizabeth Islands, in the 1860s, steam service made possible the establishment of fishing clubs on Pasque and Cuttyhunk. On the Cape itself, steamboat service appears to have been much slower to develop, most of the Cape towns retaining a sailing packet service until the advent of the railroad.

The appearance of the railroad on the Cape is closely linked to the first appearance of summer residents in Falmouth and Barnstable. Perhaps the earliest visitor was Samuel Hooper, the Boston congressman, who is said to have come down to Cotuit (Barnstable) in 1849 to find a captain for one of his ships. Picked up at the railroad terminus in Sandwich by a local resident, Hooper was so entranced by his visit that he bought the house where he stayed the night (Lowell 1939: 402). In the succeeding decade, he was joined by Boston friends and their families. In Falmouth, a similar story is told of Joseph Story Fay, who bought a farm in Woods Hole in 1852. Three Beebe brothers bought farms in and around Falmouth village not long after. These families purchased existing houses and converted them to seasonal

use. Not until after 1870, when the railroad made travel easier, did seasonal use encourage new construction.

The establishment of seasonal hotels, however, combined conversions and new construction, setting the precedent for the resort boom that followed the Civil War. In 1847, the Nantucket Steamboat Company purchased the recently constructed brick Jared Coffin House, converting it into the Ocean House. As the purchase took place only a year after the fire that devastated the surrounding blocks, it is unclear whether the management intended a seasonal or year-round use. The earliest seasonal hotel was the Atlantic House at Siasconset. On the Cape, the Webster House at Woods Hole (1858) and the Santuit House at Cotuit (1860) both were operated primarily for the benefit of summer visitors.

One of the most significant phases in the development of tourism occurred with the completion of the railroad network after the Civil War. In 1873, the Old Colony's Cape Cod Branch was completed to Provincetown. A year later, the Martha's Vineyard Railroad connected Oak Bluffs and Edgartown. By 1881, the Nantucket Railroad opened to Surfside, and in 1887, the Chatham Branch brought resort traffic to that Cape town. None, however, were more prominent in their resort success than the Woods Hole Branch, opening in 1872. Although organized initially to serve the guano works at Woods Hole, the line quickly became instrumental in the development of Bourne, Falmouth, and, through the ferry terminal at Woods Hole, Martha's Vineyard and Nantucket. Small villages from Buzzards Bay to Woods Hole sprouted hotels and resort communities almost overnight. The "Dude Train," introduced in 1886 between Boston and Woods Hole, was the region's premier resort service.

Even before the Woods Hole line was completed, land companies were organizing and selling choice seaside real estate. The earliest land company on the Cape was probably the Falmouth Heights Land and Wharf Company, organized in 1870 by three Worcester men who hoped to capitalize on the success of the Oak

Bluffs Land & Wharf Company. These early land companies were often based off the Cape, thus drawing for their primary clientele from the residents of their home-base city. Building lots were usually sited around centrally-located parks, an amenity retained by the company, and often included both a wharf and a hotel. The Panic of 1872 delayed many other developments for nearly a decade.

Not surprisingly, the Oak Bluffs Land and Water Company's Sea View Hotel was preeminent in the region. This hotel, built in 1872, was five stories in height with tall towers at each end, and included 125 rooms, but burned in 1892. Nearby, smaller scaled hotels proliferated. Surviving examples follow the common form of four stories under a mansard roof with full front porch, as well as the Attleboro House, Hartford House, New Seaview, and Searells, now known as the Lamp Post, and the much modified Island House and Pawnee House, both now minus their upper stories. At Edgartown, a resort complex was attempted at Katama, centering around the "chateau style" Mattakeeset Lodge of 1873, but was unsuccessful. Nearer the harbor the Colonial Inn and the Harbor View succeeded on a smaller scale. When resort construction began again in the 1880s and 1890s, it had a new dimension. Typically, large blocks of seaside were acquired by an individual or a small group of men who then sold to acquaintances. Famous landscape architects were often involved, such as Earnest Bowditch, the designer of Tuxedo Park, who designed Chappaquoit Point in Falmouth. Soon large, private estate developments had been built along both the Buzzards Bay and Vineyard Sound coasts, as well as on the islands.

Resort hotels also took on a more expansive appearance in the 1880s and 1890s, often as self-sufficient as their proprietors could make them. Of these, the largest was the Sippewissett House in West Falmouth, now the Cape Codder. Constructed in 1898, the resort hotel had its own lighting plant, laundry, bowling alley, swimming pool, paid ball team, and eight-horse coach to ferry visitors to the nearby train

station (Faught 1945: 29). Though later modified, the hotel rises three-and-a-half stories with two cross gambrels and belvederes. Not surviving but reflecting the importance of Falmouth were the Towers, Menauhant, and Breakwater Hotels. In North Dennis, the facilities of the Nobscusset House, with 125 acres of grounds, included an 800-foot marine pier and terminal pavilion, on its extensive list of athletic or other facilities to keep their guests amused or busy. With the development of the summer vacation trade on Nantucket came increased numbers of hotels. As in so many other instances, the earliest began as new uses for older buildings. Large homes such as the Coffin House were converted to serve as early hostelryes. In other instances, the transformation was greater, as in the Veranda House, White Elephant, and Springfield, which expanded earlier houses with additions, porches, and in the latter, mansard roofs. The Nantucket House at Brandt Point used a former Friends meetinghouse as its base; this hotel opened in 1884, was three-and-a-half stories in height with a five-bay center entry pavilion and large wings and porches, and distinctive open belvederes, one pyramidal, the other ogee in roof form. Farther from the town, new buildings were constructed, including the Surfside, three-and-a-half stories in height, with first-floor porch and mansard roof (1883), simple in overall form and prefabricated on the mainland. The Point Breeze, also three-and-a-half stories with first-floor porch and corner tower has a surviving annex that serves as the Gordon Folger Hotel. The Sea Cliff Inn rivaled the Nantucket in size and complexity; it began with a gambrel roofed, Shingle Style core and added several wings, including an enormous four-storied, towered addition. Also constructed during this period were resort-related bathing houses and fairground buildings; at Cliff Shore, low buildings were divided into cubicles for changing, and a high open stand for viewing. Just out of town a judges' stand and grandstand were built in 1879 and 1894, respectively; all of these structures were ornamented in the bracketed Stick and Chateau motifs. Another building type developed in connection

with the squantum, a boat trip to a remote location for a picnic and dancing. These featured a one-and-a-half-story structure with wide porches around the full first-floor entertainment area; these were built at Wauwinet and Cedar Beach. Other tourist-related institutions that appeared on the Cape during this period included golf courses, yacht clubs, and the Episcopal Church.

While the economic impact of this new industry varied from town to town, the most pronounced effects were on the Islands and on the inner Cape. Although new employment opportunities existed, they were modest and seasonal. Most families requiring domestic help brought their own staffs with them for the season. Instead, it was through fiscal and physical improvements that most towns gained in this period. Falmouth's land valuation rose over 220% in the years 1863-1920. By the latter year, over 50% of the town property taxes were paid by nonresidents (Faught 1945: 176). The prosperity of this new class of summer residents had a major impact on many permanent institutions. In Falmouth, the Fay family donated land for the Bureau of Fisheries at Woods Hole, while Charles Crane, the Chicago manufacturer and diplomat, was a key figure in the operation of the Marine Biological Laboratory and the establishment of the Coonamesset Ranch. On Cutty Hunk, William Wood built the island's water and sewer systems.

By the end of the 19th century, the glacial ridge separating Bourne and Falmouth from the rest of the Cape had become also a social divide. Many of the summer residents who made their homes on Buzzards Bay or Woods Hole had permanent homes outside of Massachusetts, especially in New York. Particular social prominence came to Bourne when Grover Cleveland in 1890 purchased a fishing lodge at the mouth of the Manomet River. Much of the rest of the Cape was oriented toward Boston. In Brewster, the two largest estates were built by returning natives who had been successful in business in Boston and Chicago.

Automobiles had appeared on the Cape prior to World War I, although for short periods they were banned from parts of the islands. The rapid increase in their use did not occur until the 1920s. This impact had less of an effect on the permanent summer residents than on those who came for shorter stays. Most prominent was the appearance of the "day tripper" who, as roads improved, became more common in the mid-Cape area. This area experienced a tremendous boom in real estate and commercial sales, with Hyannis becoming the region's chief metropolis. Commercial development also followed the expanding and improving highway network. All across the Cape, cottages, overnight cabins, and tourist homes appeared, with roadside restaurants, gas stations, museums, antique barns, and summer theatres following in their wake. With the success of the new highway-oriented hotels, the old railroad-oriented resort hotels lost their prominence and gradually disappeared. By 1940, tourism dominated the economic life of three-quarters of the towns in the region. Falmouth alone depended on the summer resort business for almost 75% of its normal town income.

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CHAPTER 6
SUMMARY OF HISTORICAL DEVELOPMENT
Michael Steinitz and Leonard Loparto

Introduction

This chapter summarizes and synthesizes the process of historical development that has produced the distinctive regional landscape of Cape Cod and the Islands. The chapter has two parts. The first reviews the process of historical development on a period-by-period basis using three subsections: Core-Periphery Relationships, Survivals, and Research Topics.

Core-Periphery Relationships constitutes an analysis of the dynamic interactions of a range of human activities within the study unit. The analysis is based on a geographic model of the human spatial organization, and requires some explication. A core is defined as a focal point of an integrated set of activities within a region. Cores develop as the result of demographic, social, economic, and political processes operating over time. They represent concentrations of people and institutions which may find expressions in a relatively dense pattern of dwellings, workplaces, and culturally symbolic locations set within the humanized landscape. Cores may have their origins in the perception and use of a significant local resource, or they may develop as points of convergence in the movement of people through a region. Within an area, cores may be ranked according to the extent of their spheres of influence and the level of specialization, intensity, and

complexity of their functions. A local core is defined by activities that have an influence on and significance to the population of its neighborhood, district, or town area. This area is, however, not necessarily limited to the boundaries of the incorporated town unit. A regional core contains more specialized activities that serve or affect a wider area, including local cores and their surroundings. A regional core may have significance for a large segment of the study unit area, or for the entire region. Above this level, the importance of a core may extend beyond the study unit to a rank of state, national, or international influence.

Peripheries are the larger, surrounding areas of lower density and intensity in activities that occupy the areas between the cores of a region. Composed of more dispersed, extensive patterns of human occupance, peripheries may be highly specialized, but the range of activities is usually more limited than those in the cores. Accordingly, peripheral areas are characterized by settlement forms and landscape features distinctive from those of cores. The model posits an unequal distribution of power between cores and peripheries, but suggests that they are mutually interdependent. The interrelationship of cores and peripheries is complex, with the flow of people, ideas, and economic development moving in a variety of directions in any given period. (Note: Expanded definitions and suggested readings on the core-periphery model may be found in: Johnston, R. J., ed. Dictionary of Human Geography. New York, The Free Press, 1981; Larkin, Robert P. and Gary L. Peters. Dictionary of Concepts in Human Geography. Westport, Conn., Greenwood Press, 1983.)

Core-Periphery Relationships is followed by a section on Survivals, which describes and locates the historic period resources that survive in the Cape and the Islands study unit. This includes a description of the relative survival of resource types, an evaluation of our knowledge and understanding of these resources, and a chart summarizing the survival of significant clusters of resources.

As in earlier regional reports, this chart of survivals focuses on clusters of associated activities and structures rather than on isolated sites or individual buildings. A typology of period survivals is presented, first considering the archaeological potential for period activities, followed by successively more complex associations of landscape features. For each period the towns are listed within the core-periphery hierarchy of that period. In contrast to some of the earlier regional reports, however, all towns find a place in this presentation to allow users to trace individual towns through time. Three symbols are used on the charts: an "X" indicates high potential or that survivals of importance are known; a "?" indicates that important period survivals may be present; a blank indicates little likelihood of significant period survivals.

The Survivals section is followed by Research Topics, which lists a range of questions related to settlement and population in the study unit, based on both the literature and the investigations of the MHC survey team.

The second, and final, part of this chapter is titled Changes in the Landscape. This section identifies and discusses those factors that have continued to change Cape Cod and the Islands between 1940 and 1985. Many of these processes derive from the same forces that historically created the study unit's cultural landscape. However, given the rapid change in both the pace and scale of development, especially since 1950, many of these forces now constitute major threats to the surviving cultural resources on the Cape and the Islands.

Contact Period (1500-1620)

Core-Periphery Relationships

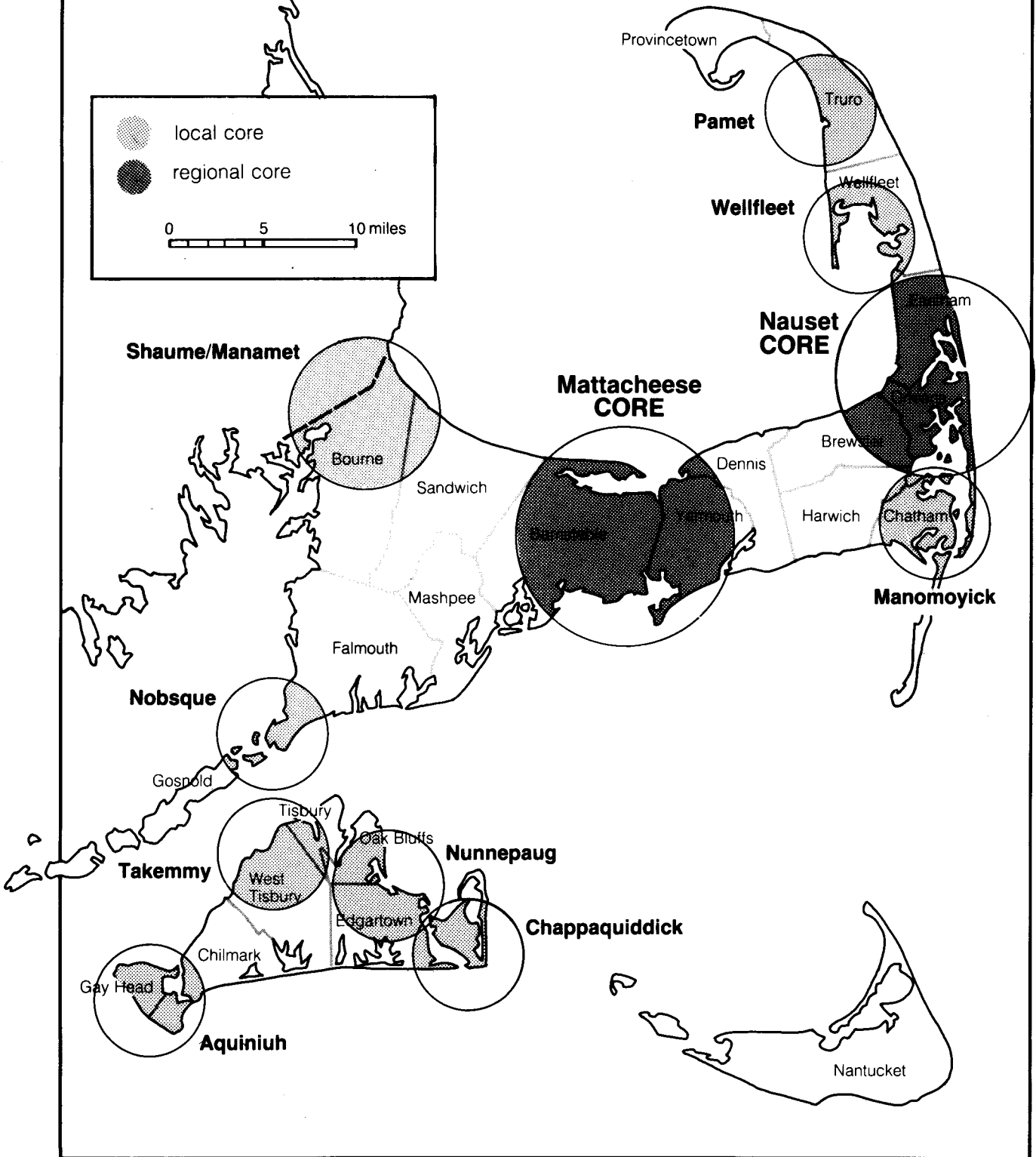
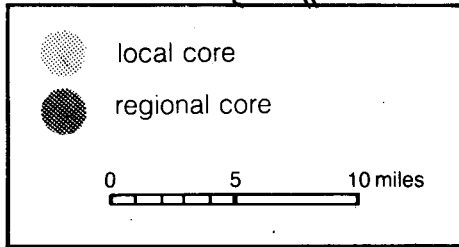
Core-periphery relationships during the Contact period are difficult to determine. For example, it remains uncertain to what degree disease and/or warfare altered Native American sociopolitical relationships on both the intertribal and intratribal levels during the Contact period. Thus, accounts by European traders and settlers during the early 17th century may not accurately reflect traditional native sociopolitical relations. Interaction with Europeans may also have altered native settlement and political structure. New European-Native American trading relationships may have altered traditional exchange networks and created new ones.

In spite of these difficulties, there is enough information available to estimate where native core areas were located. Two regional cores were identified on Cape Cod during the Contact period: the Mattacheese core in the mid-Cape area and the Nauset core in the outer Cape. No clear regional cores existed on Martha's Vineyard or Nantucket during this period. On the Cape Cod mainland, five local cores were also identified. Four local cores were present on Martha's Vineyard and one on Nantucket. See Map 15.

The Mattacheese regional core is centered in what is now Barnstable, but also includes portions of Yarmouth, Dennis, and possibly Sandwich. Activities appear to have focused on Mattacheese or Barnstable Harbor, although evidence also suggests that the area along Barnstable's and Yarmouth's southern coastline was important as well. This core occupies a central place on Cape Cod and originally contained rich agricultural land, particularly north of the Sandwich Moraine. Much of this area around the harbor had been cleared, probably for corn agriculture, prior to European

Map 15

Contact Period Core Areas



settlement. Woodland period site frequencies are high in this area, second only to the outer Cape, and at least one Contact period site has been reported. Ethno-historical accounts also indicate that this area was densely settled.

The second regional core, Nauset, is located on the outer Cape in the vicinity of Orleans and Eastham. The Nauset core shares many attributes with the Mattacheese core. Town Cove, Nauset Marsh, and Pleasant Bay were all rich in fish, shellfish, and other marine resources. Highly productive agricultural land was present on coastal necks as well as along the outwash plain areas. The Nauset core contains the highest density of both Woodland and Contact period sites on the outer Cape. Early explorers, notably Champlain, Smith, and Bradford, also noted evidence of agriculture and extensive native settlement in this area.

The identification of local core areas is based on three factors. The first is environmental setting, particularly the presence of major embayments or estuaries with good agricultural land in close proximity. Second is the degree to which ethnohistorical accounts describe native settlement and activity. Third is the presence of archaeological sites that have produced Contact period-related artifacts or assemblages. Using these factors, five local cores have been identified on the Cape. These are: the Pamet core, which focuses on Corn Hill and the Pamet River; the Wellfleet core, which includes the area around Wellfleet Harbor from Great Island to Black Fish Creek; the Monomoyick core, which includes lower Pleasant Bay, Stage Harbor, and west to Bucks Creek; the Shaume/Manamet core which spanned the watershed between Buzzards Bay and Cape Cod Bay; and the Nobsque core, which included the southern portion of Falmouth and the adjacent Elizabeth Islands.

While sizeable native populations were observed on Martha's Vineyard during the Contact period, no documented Contact sites are currently known. As a result, the identification of core areas remains highly speculative. Nevertheless, four local

cores have been tentatively identified. These include: the Aquiniuh core (Gay Head), the Takemmy core (West Tisbury), the Nummepoag core (Edgartown-Oak Bluffs), and the Chappaquiddick core. Although one Contact period site has been reported on Nantucket, there is not sufficient information at present to reconstruct a pattern of local cores.

While native settlement and subsistence activities appear to have been concentrated within these core areas, it is important to remember that these cores were also subject to considerable seasonal variation. Native subsistence strategies were based on the exploitation of a wide range of seasonally available resources. As a result, it is likely that over the course of a year native activities may have been focused around interior ponds or hunting camps, the margins of salt marshes, or prime fishing locations along rivers or creeks. The only areas that appear to have been peripheral during the period were the sand plains of the inner Cape and the Provincelands.

Survivals

Archaeological sites are the primary survivals from this period. Known sites included short-term native occupation areas, refuse deposits, and burials. It is likely, however, that the range of surviving sites is greater than this and may include longer term native settlements (villages), rockshelters, and other types of camps of short duration, as well as resource-gathering and processing sites (quarries, weirs, drying platforms, storage facilities). No European-related sites are currently known; however, if the site of Goswold's outpost on Cuttyhunk Island does survive, it would be of considerable significance.

Two other classes of resources may survive from the period—native place names and landscape features such as trails and ford sites. In both cases, however, more research is required in order to document a claim that these are survivals from the Contact period.

Table 13

Contact Period Survivals (1500-1620)

<u>Towns (listed by core areas)</u>	<u>Archaeological Potential</u>
<u>Cape Cod</u>	
<u>Mattacheese Regional Core</u>	
Barnstable	X
Yarmouth	X
<u>Nauset Regional Core</u>	
Eastham	X
Orleans	X
Brewster	?
<u>Pamet Local Core</u>	
Truro	X
<u>Wellfleet Local Core</u>	X
Wellfleet	
<u>Monomoyick Local Core</u>	
Chatham	X
<u>Shaume/Manamet Local Core</u>	
Bourne	X
Sandwich	X
<u>Nobsque Local Core</u>	
Falmouth	?
Gosnold	X
<u>Peripheries</u>	
Provincetown	?
Harwich	X
Dennis	?
Mashpee	?
<u>Martha's Vineyard</u>	
<u>Aquiniah Local Core</u>	
Gay Head	X
<u>Takemmy Local Core</u>	
West Tisbury	?
Chilmark	?
<u>Nummnepoag Local Core</u>	
Edgartown	?
<u>Chappaquiddick Local Core</u>	
Edgartown	?
<u>Peripheries</u>	
Oak Bluffs	?
Tisbury	?
<u>Nantucket</u>	?

Research Topics

1. Contact period sites are currently distinguished from Late Woodland period sites on the basis of the presence of European goods or, in rare instances, through faunal remains. Is this distinction valid methodologically, or are many Contact period sites labeled "Late Woodland" simply because of the absence of European trade goods?
2. When did Native American sociopolitical groupings on the Cape, Martha's Vineyard, and Nantucket become part of the larger Pokanoket/Wampanoag group of southeastern Massachusetts?
3. To what extent did linguistic and cultural traditions serve as unifying factors for native people in southeastern Massachusetts, Cape Cod, and the Islands?
4. To what extent did native subsistence vary on Cape Cod and the Islands? Did horticulture or agriculture vary in importance on the Cape or between the mainland and offshore islands? How did the role of fishing vary?
5. To what extent was trade important among Cape and Island Native Americans? Did trade relationships extend to mainland groups? How did tribal sociopolitical organization relate to trade (e.g., craft specialization, trading partners)?
6. Do known Late Woodland period site distributions accurately reflect Contact period settlement patterns?
7. Define the relationships among the native groups on Cape Cod, Martha's Vineyard, and Nantucket. To what extent can territorial boundaries be located?
8. What types of waterborne vessels were used by Native Americans? What were the different vessel technologies used?

Plantation Period (1620-1692)

Core-Periphery Relationships

During the Plantation period, the pattern of core-periphery relationships changed in two significant ways. Of greatest consequence was the introduction and imposition of an entirely different cultural system as Europeans settled in several locations in the study unit. By 1692, though the area was sparsely settled in comparison to other coastal portions of Massachusetts, Europeans were well established. On Cape Cod one town, Barnstable, functioned at the level of a regional core. Four other communities—Sandwich, Yarmouth, Falmouth, and Eastham—had developed as local cores. Additional local cores were also emerging at Monomoyick (Chatham) and along Stony Brook (West Brewster). By the end of the period, two local cores existed also on Martha's Vineyard and one on Nantucket. European colonialization had a profound impact on Native American core areas. Under increasing pressure from the growing colonial towns, virtually none of the Contact period cores on the Cape remained in existence by the end of the period.

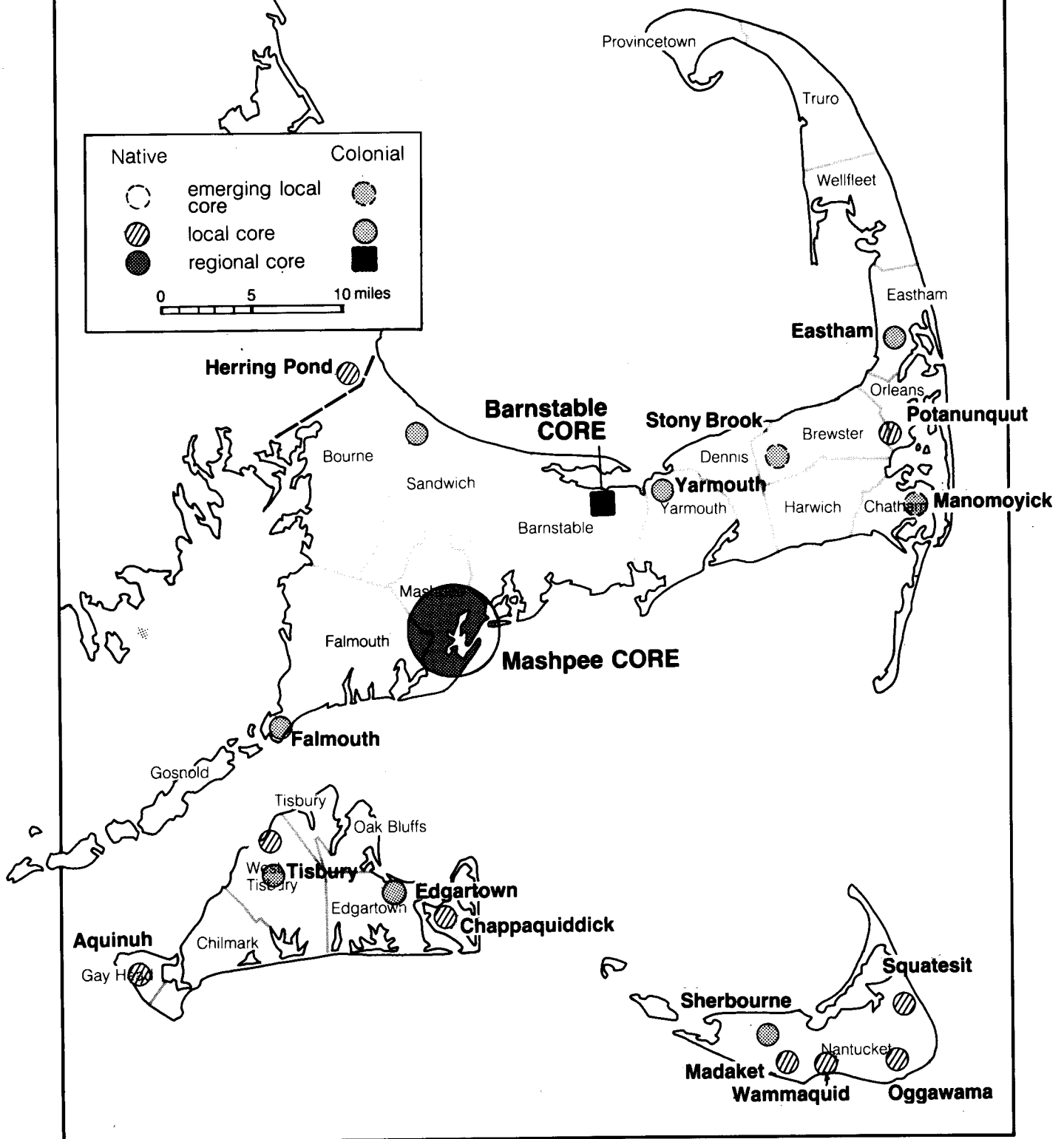
While the pattern of native core areas was severely modified during the period throughout the study unit, the effects were greatest on the Cape mainland. With the establishment of Barnstable (1638) and "Nauset," later Eastham (1644), the two Contact period regional cores were fragmented and their native populations gradually displaced inland or to more peripheral areas. Similar processes disrupted nearly all native local cores elsewhere on the Cape. By the mid-17th century, the process of displacement was augmented by pressure to aggregate and resettle on newly designated reservations or in "praying towns." The result of these forces was a series of new native core areas. Most important was Mashpee, established in 1660

as a fifty-mile-square reservation. Granted self-government in 1665, and used as an impoundment area for natives during King Philip's War, Mashpee was the largest and most populous native core on the Cape. See Map 16. Two smaller reservations functioned as local core areas: Potanunguut, located in the southern portion of Eastham (now Orleans), and Herring River, situated on the Plymouth-Sandwich (now Bourne) boundary. While these reservations served as the places where native people were to reside, many chose to move to areas where there was little colonial settlement, such as the unincorporated Provincelands on the outer Cape and along the south shore.

Due to the self-contained character of these places and more detailed records kept by missionaries, the pattern of native core areas on Martha's Vineyard and Nantucket is clearer than that for the Cape. Four local cores were present on the Vineyard during most of the Plantation period. Each of the four corresponded to the territory governed by a particular sagamore or sachem. The Aquiniuh core included Gay Head and the area around Menemsha Pond. It was an early focus of missionary activity; Mayhew reported a praying town (Nashuakemmiuk) here in 1659 (Gookin 1970:100). The Takemmy local core was located in what is now West Tisbury. Mayhew reported that "Toikiming Praying town" was located here, perhaps near Indian Hill. By 1669, the one-mile-square Christiantown reservation had been established. The Chappaquiddick local core was also noted as praying town in Mayhew's 1659 report. In 1690, the native community on Chappaquiddick was set apart from the rest of the island creating a de facto reservation. The fourth local core, Nummepoag, was located in Edgartown. Mayhew reported two praying towns in this core in 1659: Sengekontakit, on the pond of the same name, and Nashamoies, located on Edgartown Great Pond. With the growth of the colonial settlement close by at Edgartown, the Nummepoag core appears to have dissolved by 1692.

Map 16

Plantation Period Core Areas



On Nantucket, a similar situation existed—four local cores corresponding to four tribal territories. These were the Madaket, Wammaquid, Oggawame, and Squatesit local cores. Madaket, under the Sachem Attapeat, was located on the western end of the island near Capaum and Macey ponds. The Wammaquid core, under Spotso, was just to the east near Miacomet Pond. Mayhew reported this as a praying town in 1674 (Gookin 1970:104). The largest of the Nantucket native cores was Oggawame near Siasconset. Under the jurisdiction of Wanachmamak, this was also listed as a praying town in 1674 and was probably the village visited by King Philip a year later. The fourth core area was Squatesit, located near Squam Pond. Initially the territory of Nickamoose, this was also reported as a praying town in 1674.

The European cores that developed during this period included the Cape's first five settled and incorporated towns. These were Sandwich, Barnstable, Yarmouth, Eastham, and Falmouth. All five were settled between 1637 and 1660 and incorporated by 1686. By the end of the Plantation period, each of these cores had a stable and growing population, a meetinghouse, milling facilities, and an active port. European population growth was greatest in Sandwich and Barnstable, followed by Yarmouth, Eastham, and Falmouth. Among these core areas, the greatest degree of interaction occurred among Sandwich, Barnstable, and Yarmouth, which were linked both by the County Road (now Rt. 6) and their orientation to Cape Cod Bay. After its designation as county seat in 1685, Barnstable became the most influential of these towns and functioned as the study unit's only European regional core. Both Eastham and Falmouth were more isolated and tended to act independently of the other three towns.

By the end of the period, two additional cores were emerging, both within areas of unincorporated land. One was the constablewick of Monomoyick (later Chatham), which was established in 1679 around the growing maritime community at the mouth

of Pleasant Bay. The second emerging core was located along Stony Brook in the "Old Comers" land, now West Brewster, between Yarmouth and Eastham. This was one of the few areas on the outer portion of the Cape with sufficient water power for milling. Aside from these core areas and a few smaller unincorporated settlements, most of the Cape functioned as a lightly settled peripheral area used by Europeans for grazing or lumber, if at all.

The first European settlement of Martha's Vineyard occurred in 1641-42 when the Great Harbor area of Edgartown was settled. Although settlement grew slowly, this area developed as one of two local cores during the period. In 1653 a meetinghouse was built for the settlement as well as a mill (possibly) in Takemmy (West Tisbury). The second local core on Martha's Vineyard during the Plantation period was in the vicinity of the old Tisbury Manor on the west bank of the Mill River, north from Tiasquin in West Tisbury. Settlement in this area did not develop until 1670 although, as noted above, a mill and roadway to Great Harbor had been built earlier. By about 1674, scattered settlement had also been made in the area around Holmes Hole and East Chop.

On Nantucket Island, European settlement did not start until 1660. Madaket Harbor was the site of first settlement, followed in the second year by settlement of the Reed Pond-Hummock Pond areas. Most 17th-century settlement focused on high, well-watered land on the northern edge of the island. The first town, Sherburne, was located in the vicinity of Capaum and Macey ponds. While early settlement focused on agriculture and husbandry, commercial cod fishing began to develop as early as 1672.

Survivals

Archaeological sites are, again, the primary survival from this period. Known native sites included short-term occupation areas, refuse deposits, and burials.

However, as during the Contact period, a much broader range of sites is likely to have survived. Sites relating to period praying towns and reservations would be of particular importance. While known sites from the Plantation period include farmsteads, meetinghouses, mills, refuse deposits, and burials, there has been little systematic survey or recording of the information. In addition to archaeological sites, some standing structures, or fragments thereof, may still exist from this period. Such structures usually survive as part of a later building and would require further documentation before they can be attributed positively to the 17th century.

Table 14

Plantation Period Survivals (1620-1692)

Towns (listed by core areas)	Native Archaeological Potential	Colonial Archaeological Potential	Standing Structures
Cape Cod			
Native Core Areas			
<u>Mashpee Regional Core</u>			
Mashpee	X		
<u>Herring Pond Local Core</u>			
Bourne	X		
<u>Potanunquut Local Core</u>			
Orleans	?		
European Core Areas			
<u>Barnstable Regional Core</u>			
Barnstable	X	X	?
<u>Nauset Local Core</u>			
Eastham	X	X	?
Orleans	?	X	
<u>Yarmouth Local Core</u>			
Yarmouth	?	X	?
Dennis	?	X	
<u>Sandwich Local Core</u>			
Sandwich	?	X	X
<u>Falmouth Local Core</u>			
Falmouth	?	X	?
<u>Monomoyick Emerging Core</u>			
Chatham	?	X	
<u>Stony Brook Emerging Core</u>			
Brewster		X	?
<u>Peripheries</u>			
Provincetown			
Truro		?	
Wellfleet		?	
Harwich	?	?	
Gosnold	?	X	
Martha's Vineyard			
Native Core Areas			
<u>Aquiniuh Local Core</u>			
Gay Head	X		
<u>Takemmy Local Core</u>			
West Tisbury	X		
<u>Chappaquiddick Local Core</u>			
Edgartown	X		

Plantation Period Survivals (Continued)

<u>Towns (listed by core areas)</u>	<u>Native Archaeological Potential</u>	<u>Colonial Archaeological Potential</u>	<u>Standing Structures</u>
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European Core Areas

Edgartown Local Core

Edgartown

X

?

Tisbury Manor Local Core

West Tisbury

X

Chilmark

X

Peripheries

Oak Bluffs

?

Tisbury

?

Nantucket

Native Core Areas

Madaket Local Core

?

Wammaquid Local Core

?

Oggawame Local Core

?

Squatesit Local Core

?

European Core Areas

Sherburne Local Core

X

Research Topics

1. What was the sociopolitical structure of native groups on Cape Cod, Martha's Vineyard, and Nantucket during the Plantation period? Did this structure represent a change over that of the earlier Contact period? What was the relationship of native groups in the area to the larger Wampanoag grouping?
2. Did the economic or subsistence systems of native groups located along the Cape Cod Bay shoreline and the outer Cape differ from those of native groups located in the inner Cape in the Buzzards Bay area and those along the Nantucket and Vineyard Sound shoreline? Did the economic or subsistence systems of native groups on Martha's Vineyard and Nantucket differ from these systems?
3. What was the relationship between the formation of praying towns and the formation of native reservations? What was the relationship, if any, of praying towns to the traditional native settlement system? What were the economic relationships between praying towns and European settlements?
4. What role did Cape and Island natives play in the evolution of the whale and cod fisheries?
5. How did the processes of land granting and town formation on the Cape and Islands differ from those that typified other parts of Massachusetts? What were the implications of these differences for the region's development?
6. Given its land and lumber as well as maritime resources, why did the Cape and Islands remain a peripheral area throughout the Plantation Period?

Colonial Period (1692-1775)

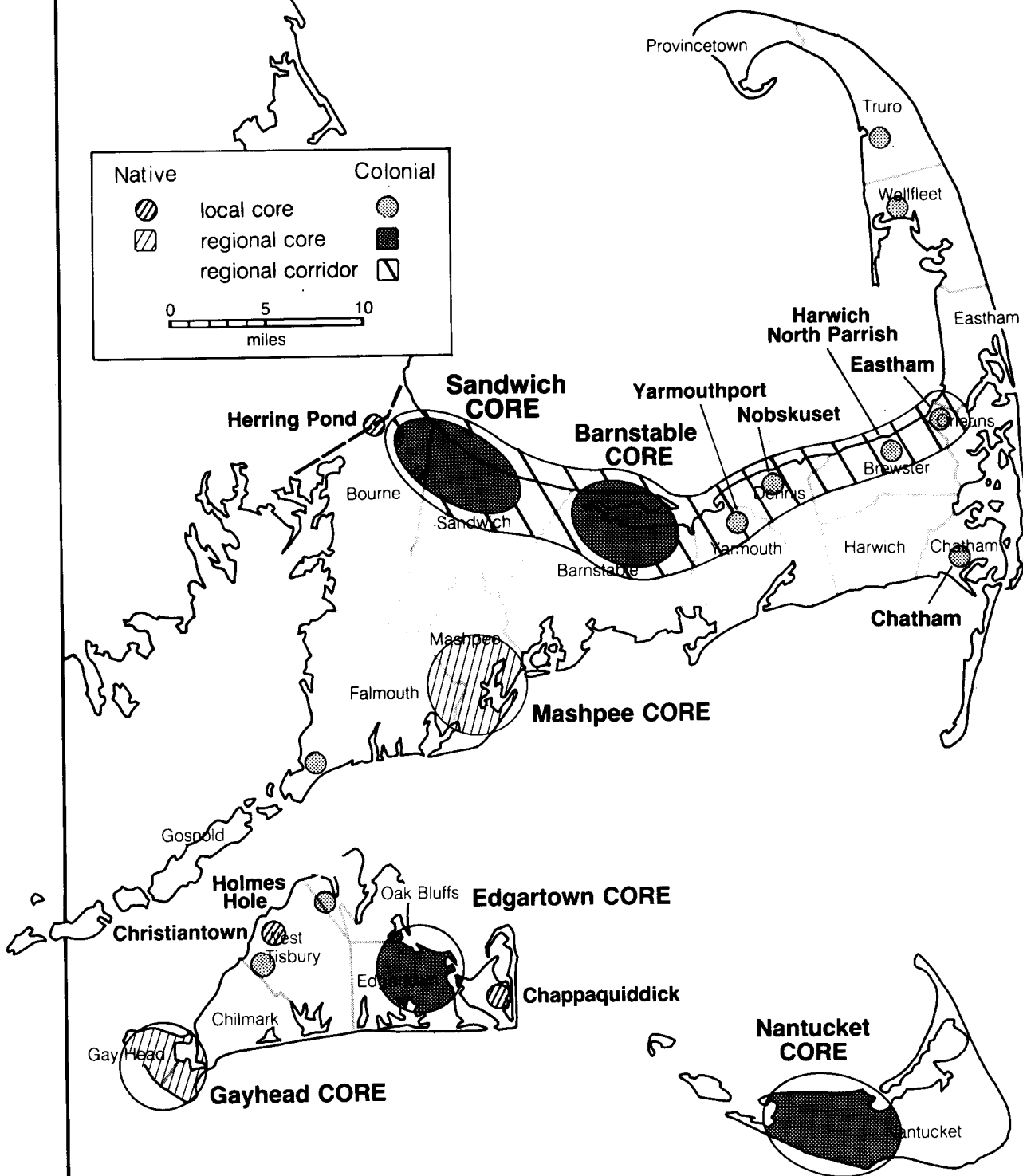
Core-Periphery Relationships

During the Colonial period, native core areas continued to diminish in size and importance as both population and land holdings decreased. Because of these problems, as well as the pressure to assimilate into the dominant colonial culture, several reservations continued to serve as core areas throughout the period. Two reservations functioned as regional cores. Mashpee, the largest and most populous of the reserves, was the focal point for what native culture remained on the Cape. Mashpee's status was also strengthened by its self-governing authority which, after 1763, was that of an independent district. The second native regional core was Gay Head on Martha's Vineyard. A traditional native core area and site of a praying town in the 17th century, Gay Head was formalized as a reservation under the auspices of the Society for the Propagation of the Gospel in 1711. Its isolated location also served to insulate the remaining native population from their colonial neighbors. Three smaller reservations functioned as local cores: the Herring Pond reserve located in Sandwich and adjacent Plymouth, Christiantown in West Tisbury, and Chappaquiddick, both on Martha's Vineyard. See Map 17.

In contrast to native core areas, colonial cores grew in both number and complexity throughout the period. This was a result of steady population increase and the expansion of the region's economy as maritime activities assumed an ever greater importance. By the end of the period, four regional cores had developed: one on Nantucket, two on the Cape, and one on Martha's Vineyard. By 1775, Nantucket was the study unit's most populous town and most important regional core. While an agricultural economy based on sheep and livestock continued to

Map 17

Colonial Period Core Areas



flourish on the island, it was the strength of Nantucket's port and the whaling, fishing, and coastal trading that it supported that made the town successful and prosperous. The island's status as both an independent town and county, as well as its offshore location, were also factors in its commercial success.

The two regional cores on the mainland were Barnstable and Sandwich. Barnstable was the region's second most populous town in 1775. The town's central location and excellent harbor made it a natural focal point for regional commerce and transportation. These advantages were further enhanced by the town's status as shiretown for Barnstable County, which brought both the prestige of the court and the economic advantage of a customs house to the town. Although somewhat smaller in population, Sandwich functioned as a regional core for similar reasons. Located at the head of the Cape's most important land route, the County Road, Sandwich served as a major transportation center between the Cape and adjacent Plymouth County.

While both Barnstable and Sandwich functioned as independent core areas, they also served as primary nodes in a corridor that ran along the County Road and adjacent shore of Cape Cod Bay, and which contained the greatest concentration of colonial population and activity in the study unit. Several factors tied this Cape Cod Bay corridor together. Most important was the County Road, the Cape's primary land route. In addition, however, the good soils located north of the Sandwich Moraine and the numerous creeks and embayments along the bay shore produced a nearly continuous band of settlement stretching from Sandwich to Eastham. Four other communities functioned as local cores within this corridor. These included Yarmouth Port/Yarmouth Village, Nobscusset (or Yarmouth East Parish, later Dennis), Harwich North Parish (now West Brewster), and Eastham. With the exception of the Harwich North Parish, which was important primarily for its mills along Stony Brook, these local cores developed from 17th-century

agricultural-based communities to more maritime-oriented settlements during the 18th century. Tidal creeks and protected bays such as Mill Creek and Chase Garden Creek in Yarmouth Port, Nobscusset Harbor in East Parish (Dennis), Namskaket Creek (Orleans), and Herring River in Eastham were ideal for shipbuilding and served as staging areas for both offshore fishing and coastal trading. In addition, these villages also served as local milling and processing centers.

Outside of the Cape Cod Bay corridor, colonial settlement was more scattered. Four additional local cores had developed by the end of the period: Falmouth, Truro, Wellfleet, and Chatham. All were situated on good harbors and had economies based primarily on maritime activities. Beyond these villages, most towns were only lightly settled with dispersed farmsteads, occasional mills, and ephemeral fishing stations. Although colonial settlement had covered much of the Cape, albeit lightly, by the end of the period, two large peripheral areas still remained. One was the Buzzards Bay coastline, the other the Atlantic shore of the outer Cape from Nauset to the Provincelands.

Although it operated on a smaller scale, the final regional core, Edgartown, paralleled Nantucket in several ways. With an excellent natural harbor, Edgartown developed a strong maritime economy during the 18th century while retaining its traditional agricultural base. Edgartown also enjoyed the commercial and political advantages of being shiretown for Dukes County. By the end of the period, two local cores had also developed on Martha's Vineyard. Tisbury, though primarily an agricultural and milling community, served as a secondary administrative center down island. The second local core, Holmes Hole, was a maritime village that grew around the harbor between East Chop and West Chop. By the end of the Colonial period, Holmes Hole had become an important port in the coasting trade.

In spite of its steady growth and the increased importance of its maritime economy, the Cape and Islands remained a peripheral part of Massachusetts during

most of the Colonial period. This was not a region marked by internal cohesion or a strong sense of identity. Instead, the remoteness of many of the towns and difficulty of travel tended to promote a sense of self-sufficiency and independence from centralized authority. These factors also gave the study unit a somewhat fragmented quality since some core areas, such as Barnstable and Sandwich, were oriented primarily north toward Plymouth and Boston, while others, such as Falmouth, were more closely tied to Rhode Island and New York. Nantucket, on the other hand, had emerged as a virtually independent regional core by the end of the period.

Survivals

While a greater number of buildings and other above-ground features survive, archaeological sites continue to be the most common cultural resource from the Colonial period. Only a few sites that pertain to the native population are known; most are poorly documented burials. Unfortunately, the information on colonial sites is seldom better. The range of sites is broad and includes residential (rural farmsteads to town center house lots), institutional (meetinghouses, schools, jails), commercial (taverns, inns), and economic (mills, shipyards). Many exposed sites and cellar holes, have been destroyed in the quest for bottles or other relics.

Residential architecture is by far the largest category of standing structures. Institutional structures and workplaces survive in smaller examples. Landscape features are known in many communities in the forms of roadways, field patterns, burying grounds, and meetinghouse grounds. Changing uses over time and infill from later periods have in many cases blurred or destroyed the landscape of dispersed farmsteads. The continuing importance of early core areas, as well as the later emergence of new core areas, have reduced period survivals within village and town centers.

Four clusters of survivals have been identified for the Colonial period in the Cape and Islands study unit:

1. Archaeological Potential especially at and around the sites of period buildings and structures.
2. Landscape Features include period field patterns, roads, burial grounds, training fields, fortifications, and meetinghouse sites.
3. Rural Landscapes consist of period farm complexes (dwelling house and outbuildings, field, and walls) or clusters of period houses in a low-density setting.
4. Town Streetscapes consist of clusters of buildings and structures in a medium- or high-density setting. The primary components of this category are standing structures and related landscape features such as burial grounds or roads.

Table 15

Colonial Period Survivals (1692-1775)

Towns (listed by core areas)	Archaeological Potential	Landscape Features	Rural Landscapes	Town Streetscapes
Cape Cod				
Native Core Areas				
<u>Mashpee Regional Core</u>				
Mashpee	X	?		
<u>Herring Pond Local Core</u>				
Bourne	?			
European Core Areas				
<u>Barnstable Regional Core</u>				
Barnstable	X	X	?	?
<u>Sandwich Regional Core</u>				
Sandwich	X	X	?	?
Bourne	X	?		
<u>Yarmouth Local Core</u>				
Yarmouth	X	X	?	
<u>Nobscusset Local Core</u>				
Dennis	X	?	?	
<u>Harwich North Parish Local Core</u>				
Brewster	X	?	X	
<u>Eastham Local Core</u>				
Eastham	X	X	X	
Orleans	X	?	?	
<u>Truro Local Core</u>				
Truro	?	?	?	
<u>Wellfleet Local Core</u>				
Wellfleet	X	?		
<u>Chatham Local Core</u>				
Chatham	X	?	?	
<u>Falmouth Local Core</u>				
Falmouth	?	?		
Peripheries				
Provincetown	?			
Harwich	?	?		
Gosnold	X			

Colonial Period Survivals (Continued)

<u>Towns</u> <u>(listed by core areas)</u>	<u>Archaeological</u> <u>Potential</u>	<u>Landscape</u> <u>Features</u>	<u>Rural</u> <u>Landscapes</u>	<u>Town</u> <u>Streetscapes</u>
Martha's Vineyard				
Native Core Areas				
<u>Gay Head Regional Core</u>				
Gay Head	X	?	?	
<u>Christian Local Core</u>				
West Tisbury	X	X	X	
<u>Chappaquiddick Local Core</u>				
Edgartown	?			
European Core Areas				
<u>Edgartown Regional Core</u>				
Edgartown	X	X	?	?
<u>Tisbury Local Core</u>				
West Tisbury	X	X	X	
<u>Holmes Hole Local Core</u>				
Tisbury	X			
Nantucket	X	?	X	

Research Topics

1. Document the existence of praying towns, native assemblies, congregations, and reservations on Cape Cod, Martha's Vineyard, and Nantucket. Is there any evidence to indicate some of these groupings exist only on paper? How were the locations of Indian praying towns and reservations determined?
2. What was the effect of Christianity on the Native Americans of Cape Cod? How did Christianization affect the social, economic, political, and religious lives of the natives? Were non-Christian natives living with Praying Indians or were they living in isolated groups?
3. To what extent was the use of natives as crew aboard fishing and whaling vessels commonplace in the Cape and Islands area?
4. Was the depletion of Cape soil fertility primarily the result of any one factor, such as increased farming or the overcutting of woodlands, or was the depletion of soils more the result of a complex set of factors through time? To what extent can the silting in of Cape and Island harbors and the ruin of the oyster fishery be attributed to the clearcutting of woodlands and farming and the erosion and deposition from these practices?
5. To what extent was "homework" or cottage industries important in Cape and Island economies (e.g., salt- and tarmaking, weaving, sailmaking, netmaking)?
6. To what extent can coasting, fishing, and early whaling be considered exclusively full-time commercial ventures, or were these activities of a seasonal nature to supplement agricultural pursuits? If these activities were at first seasonal, at what point did they become full-time commercial ventures? Was seasonal fishing still important to some residents of the Cape?
7. How did coastal marketing systems operate? What was the relationship of the coastwise trade on the Cape to regional market centers such as Boston and New York?

Federal Period (1775-1830)

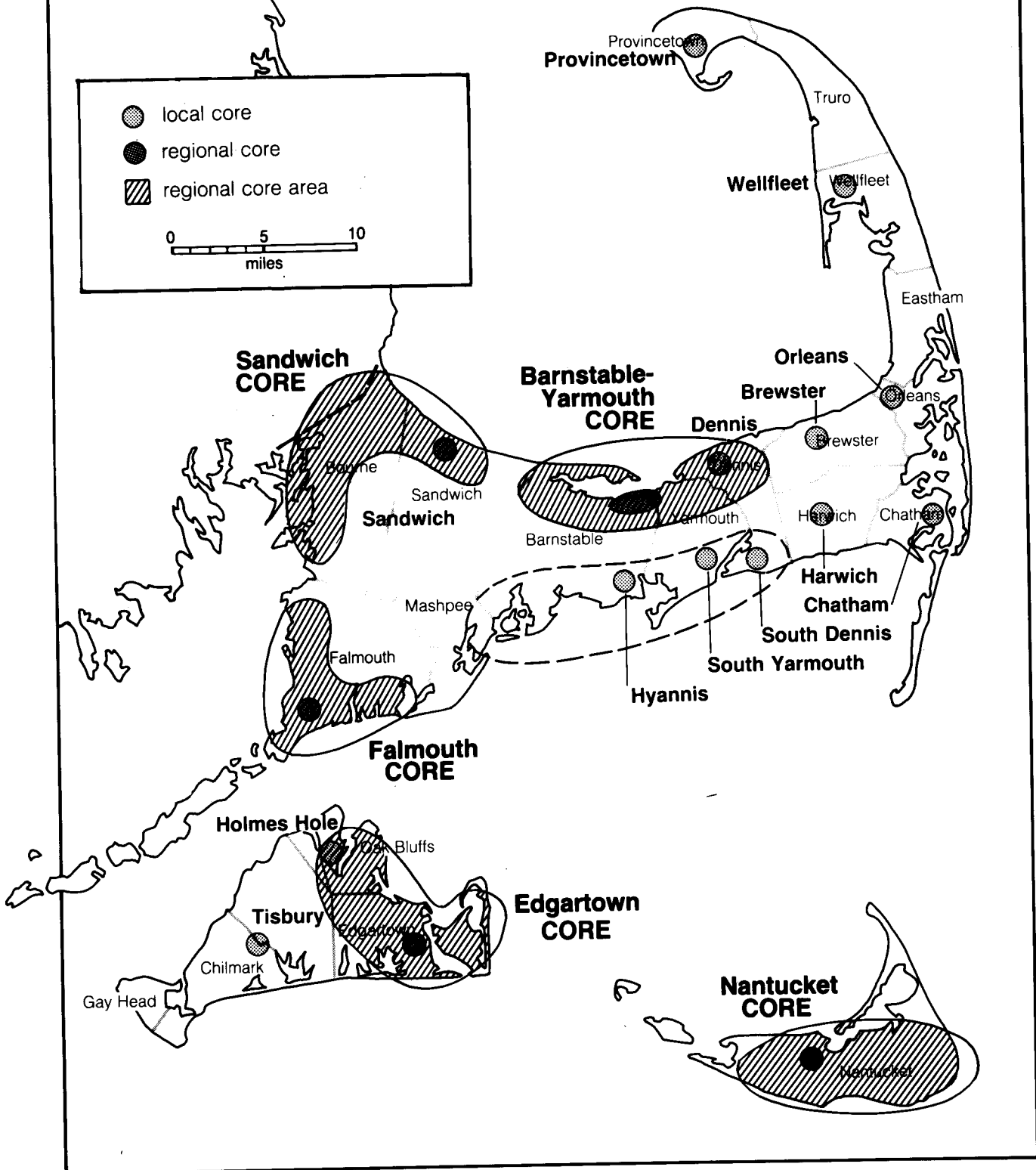
Core-Periphery Relationships

Economic growth and population expansion during the Federal period led to the growth of five regional core areas, focused at the centers where maritime prosperity combined with administrative functions or industrial development to establish a wider range of more specialized services and activities. By 1830, regional core areas were located at Nantucket and Edgartown on the islands, and at Barnstable/Yarmouth, Falmouth, and Sandwich on Cape Cod. A sixth regional core area was emerging on Cape Cod's south shore, focused on Hyannis and Bass River. In addition, the period saw the consolidation of numerous local cores, primarily at harbor sites where fishing and shipping activities concentrated. Outside the regional cores, some of which included a number of secondary local cores, seven autonomous local cores existed at Provincetown, Wellfleet, Orleans, Chatham, Brewster, Harwich, and West Tisbury. See Map 18.

In 1830, Nantucket remained by far the largest central place and most significant regional core in the study unit. Despite serious wartime setbacks, growth of commerce and the whaling industry stimulated a significant expansion of the harbor village and port facilities. Economic growth meant the establishment of extensive shipfitting and oil-processing districts, the appearance of a central retailing area, the incorporation of two local banks, and the formation of marine insurance companies. The ascendancy of a prosperous local elite led to the creation of an academy (1800), a Masonic lodge (1802), and a library association (1823) among other social and educational institutions. The growing artisan class established a mechanics society in 1820. Local opportunities for laborers, servants, sailors, and

Map 18

Federal Period Core Areas



whalemen led to the growth of a small segregated black community with its own school. With population growth, religious institutions multiplied. The period saw the addition of a second Friends society, the division of Congregationalists into Trinitarian and Unitarian churches, and the establishment of Methodist and Universalist churches. All of these institutions constructed elaborate new edifices during the period.

On the mainland, an extensive core region developed in the mid-Cape area, including the northern parts of the towns of Barnstable, Yarmouth, and Dennis. The primary focus of the regional core remained the county seat at Barnstable Village, where continuous settlement extended along the county road from Pond Village in the west to the Yarmouth meetinghouse in the east. A secondary local core developed within the regional core area at Dennis Village. Packets connected Barnstable, Yarmouth Port, and Dennis to Boston, and the Barnstable Harbor lighthouse was built on Sandy Neck in 1826. At the county seat, the 1774 courthouse continued in use through the period, and a stone jail was added in 1820. Commercial activity was sufficient for the establishment of the Barnstable Bank in Yarmouth Port in 1825. The growing high-income elite established Masonic lodges at Barnstable Village and Dennis (both 1801) and a library association (1808) and academy (1809) at Yarmouth Port. Methodist societies were formed in both centers, and temperance organizations were established also during the period. At the eastern edge of the regional core, East Dennis became a focus of salt manufacturing and shipbuilding.

A third regional core focused on Sandwich Village on the Cape Cod Bay shore, and included much of present Sandwich and Bourne. Growth of this regional core was stimulated in part by small-scale industrial development, including a cotton factory at Sandwich Village, a trip-hammer and woolen factory at North Sandwich (now Bournedale), and a forge at Pocasset. The Boston and Sandwich Glass Company

(1825), located north of Sandwich Village, represented the largest scale of manufacturing undertaken in the study unit during the period. A factory village (Jarvesville) included a concentration of worker residences and the region's first Roman Catholic church (St. Peter's, 1829), which served the Irish immigrant glass workers. An academy was opened at Sandwich Village in 1804, and Calvinist, Unitarian, and Methodist churches were located here; by period's end two Methodist churches served the western population. To the east, a new Friends meetinghouse was built at Spring Hill.

In the southeast, a fourth regional core developed at Falmouth, a commercial focus for both Buzzards Bay and the south shore. Activity focused at Falmouth Village where new institutional buildings clustered. A meetinghouse was built in 1796, a Masonic hall/academy building was located nearby in 1800, and a Methodist church was built in 1811. Woods Hole grew as a whaling port, and fishing, whaling, and shipbuilding activities intensified along the Vineyard Sound and Buzzards Bay shores. West Falmouth remained the site of a Friends meeting. With the growing inland agricultural population, a second Congregational church was established at East End in 1797.

On Martha's Vineyard, Edgartown Village on Great Harbor remained the focus of a regional core that extended across the eastern part of the island. Harborside development continued, and with the town's growing commercial importance it was established as a port of entry in 1789. The local economy was stimulated by the formation of a small whaling fleet. Lighthouses were built at Cape Poge in 1801 and at Edgartown Harbor in 1828. In 1803 a new county courthouse was located here, and after 1807 Edgartown no longer shared court sessions with Tisbury Village. A county jail and keeper's house were added in 1825. The local elite established a Masonic lodge in 1819 and an academy in 1825. Baptist and Methodist societies were organized, and a new Congregational church was built. The Edgartown

regional core extended north to the local core at Holmes Hole, where the growing port village separated as the East Parish of Tisbury in 1796. A Masonic lodge was established here in 1783. Baptists organized even earlier, in 1780. Commercial traffic grew so that by 1817, Holmes Hole was made a subport of entry for Edgartown. On the east side of the harbor, a secondary settlement developed at Eastville, and a marine hospital was located here in 1788.

By the early 19th century, the intensification of maritime traffic along Nantucket Sound led to the establishment of mid-Cape local cores in the Bass River and Lewis Bay areas, and by period's end a south shore regional core was emerging from Cotuit and Osterville villages in the west along the Barnstable, Yarmouth, and Dennis coasts. On the south shore, Hyannis grew as an important shipping and fishing center. Packet service was established to Nantucket, and storehouses and wharves were built along the Lewis Bay shore. A second south shore focus developed at South Yarmouth and South Dennis at Bass River to the east. Wharves were built, saltworks erected, and by 1802 a ropewalk was in operation on the Yarmouth side. Ferries and bridges served the increasing overland south side traffic. Each of the region's religious groups had meetinghouses here to accommodate the growing population. Congregationalists built a house at South Dennis; Friends, Baptists, and Methodists at South Yarmouth. The Universalists, meanwhile, located at Hyannis.

Six of the region's local cores were located on Cape Cod east of the Barnstable/Yarmouth regional core. At the tip of the Cape, the fishing center at Provincetown grew dramatically during the period as a linear village developed along the harbor shore. Lighthouses were located here at Race Point (1810) and Long Point (1826), a new Congregational church was built, and a Masonic hall was established. The region's first Methodist church was formed here in 1795, and later a Universalist movement began here. South of Provincetown, a local core continued

at Wellfleet Harbor, where another fishing village grew along Duck Creek. As at Provincetown, new Methodist and Congregational churches were built, and a Masonic lodge was formed. Packet service across the bay to Boston was established, and Billingsgate Lighthouse (1822) was built to serve the harbor traffic. Farther south on the outer arm of the Cape, a third local core emerged at Orleans. Packet service from Rock Harbor to Boston was initiated, and the fishing industry generated local prosperity. An academy was established in 1827, and by period's end Baptist and Universalist societies were organized. In the southeast, a local core continued to exist around the fishing, shellfishing, and coasting focus at Chatham. Early period maritime activity focused at Old Harbor, but shifted south with the construction of the Chatham Harbor twin lighthouses in 1808. In the 1820s, Methodist, Universalist, and Baptist churches were organized here. A fifth local core was located on the bay side at Brewster. Local capital developed a textile mill focus at Stony Brook. Universalist, Baptist, and Methodist churches were built in what remained a prosperous maritime community. South of Brewster a sixth local core developed at Harwich. The meetinghouse center developed as a commercial focus, a factory was established to the west at North Harwich, and fishing and shipbuilding activities intensified along the south shore. Local Methodist and Baptist churches were built during the period. The seventh local core in the study unit was located at Tisbury Center (now West Tisbury) on Martha's Vineyard. Unique in the region for its inland location, the village shared county seat status with Edgartown until 1807. Agricultural prosperity continued through the period, and a Baptist meetinghouse was built here in 1821.

In 1830, several communities were located outside the activity areas of the more intensively organized regional and local cores. Distinct peripheral regions remained on the outer Cape, on the western part of Martha's Vineyard, and at the region's major Native American reservations. On the outer Cape, Truro prospered

as a fishing center in the early decades of the 19th century, but growth was far less than at neighboring local cores at Provincetown and Wellfleet. Eastham on the outer Cape remained a thinly populated community after the separation of Wellfleet (1775) and Orleans (1797). Poor harbor facilities meant that maritime development focused elsewhere. Chilmark on Martha's Vineyard also remained a dispersed agricultural community, with extensive sheep raising. West of Martha's Vineyard, the Elizabeth Islands remained a peripheral part of Chilmark. New lighthouses were built at Tarpaulin Cove (1816) and Cuttyhunk (1822), and the islands were used for livestock grazing. At Mashpee, district status and local autonomy of the Native American population was revoked by the state legislature, and plantation status with a board of overseers was reestablished in 1788. By the late 18th century, Mashpee had developed a heterogeneous population of Native Americans, blacks, and foreigners. Dispersed settlement, agriculture, and fishing characterized the Native American reservations at Mashpee and Gay Head.

Survivals

As in other study units surveyed in Massachusetts, a wide range of cultural features survive from this period in greater numbers and of more various types than earlier periods. The return of prosperity and the economic growth that characterized the 1820s brought a general rebuilding as well as new building to nearly all communities. Single-family houses remained that most commonly surviving building type. Institutional buildings are exceptionally numerous products of this period of expansion. Workplaces also remain from the period in small numbers, including barns, mills, stores, and possible waterside, maritime structures, and as yet unidentified examples are undoubtedly more numerous. Fragments of period roads, harbor improvements, and landscape features such as cemeteries are also known. Archaeological potential is high, especially around standing structures dating from the period as well as at the sites of those no longer extant.

Five clusters of survivals have been identified for the Federal period in the Cape and Islands study unit:

1. Rural Landscapes include period farmsteads (a complex of structures with appropriate roads, fences, and fields) clustered in a low-density setting, as well as institutional buildings (poor farms, schoolhouses, meetinghouses).
2. Secondary Villages are composed of a cluster of period houses along a highway, around a crossroads, or near a harbor, and often include meetinghouses, a tavern, store, shops of artisans, and small manufacturers, as well as wharves, warehouses, and other maritime-related structures.
3. Center Villages are similarly composed of period houses and institutional and economic structures historically identified as the administrative focus of the town.
4. Maritime Landscapes include a variety of building types and structures related to the fishing, trading, and entrepot activities of harbor communities. These areas are of necessity restricted to coastal areas and include waterfront improvements (breakwaters, wharves), navigational structures (lighthouses, lifesaving stations), and storing and processing structures (fish houses, warehouses).
5. Manufacturing Complexes are composed of a variety of building types and structures related to manufacturing activities and include period houses, institutional and commercial buildings, mills, or factories.

Table 16

Federal Period Survivals (1775-1830)

Towns (listed by core areas)	Rural Landscapes	Secondary Villages	Center Villages	Maritime Landscapes	Manufacturing Complexes
<u>Nantucket Regional Core</u>		?	X	X	
<u>Barnstable/Yarmouth Regional Core</u>					
Barnstable		X	X	X	
Yarmouth	?	?	X	X	
Dennis		X	?	?	
<u>Sandwich Regional Core</u>					
Sandwich		?	X		?
Bourne	X	?		?	?
<u>Falmouth Regional Core</u>		?	X	?	
<u>Edgartown Regional Core</u>					
Edgartown			X	?	
Oak Bluffs		?			
Tisbury		X			
<u>Local Cores</u>					
Provincetown			?	?	
Wellfleet	?	?		?	
Orleans		?		?	
Chatham			?	?	
Brewster		?			
Harwich	?		?	?	
West Tisbury	X		?		
<u>Periphery Towns</u>					
Truro	X			?	
Eastham	X			?	
Mashpee	?				
Chilmark	X			?	
Gay Head	?				
Gosnold	?			?	

Research Topics

1. What commonalities and variations occurred in the development of the region's villages during the period? Can the appearance of particular village forms be related to wharf and harbor orientation, or shipping and fishing activities?
2. How differentiated was the social and economic landscape of Nantucket Village, the largest and most complex place in the region? How had different work activities separated into distinct locations in the village, and how did places of residence relate to these? To what extent did the basis of the local economy in whaling effect settlement form? How did the growth and form of the village compare to other major North American ports?
3. What was one nature of the region's remaining Native American settlement enclaves? How did community organization relate to distinctive work patterns or livelihood systems? To what extent did Native American activities continue to conflict with neighboring whites?
4. What specific impacts on the landscape did the economic cycles of the period have? How did those cycles and their effects vary from those in other parts of the state? What forms did the prosperity of maritime development in the last two decades of the period take?

Early Industrial Period (1830-1870)

Core-Periphery Relationships

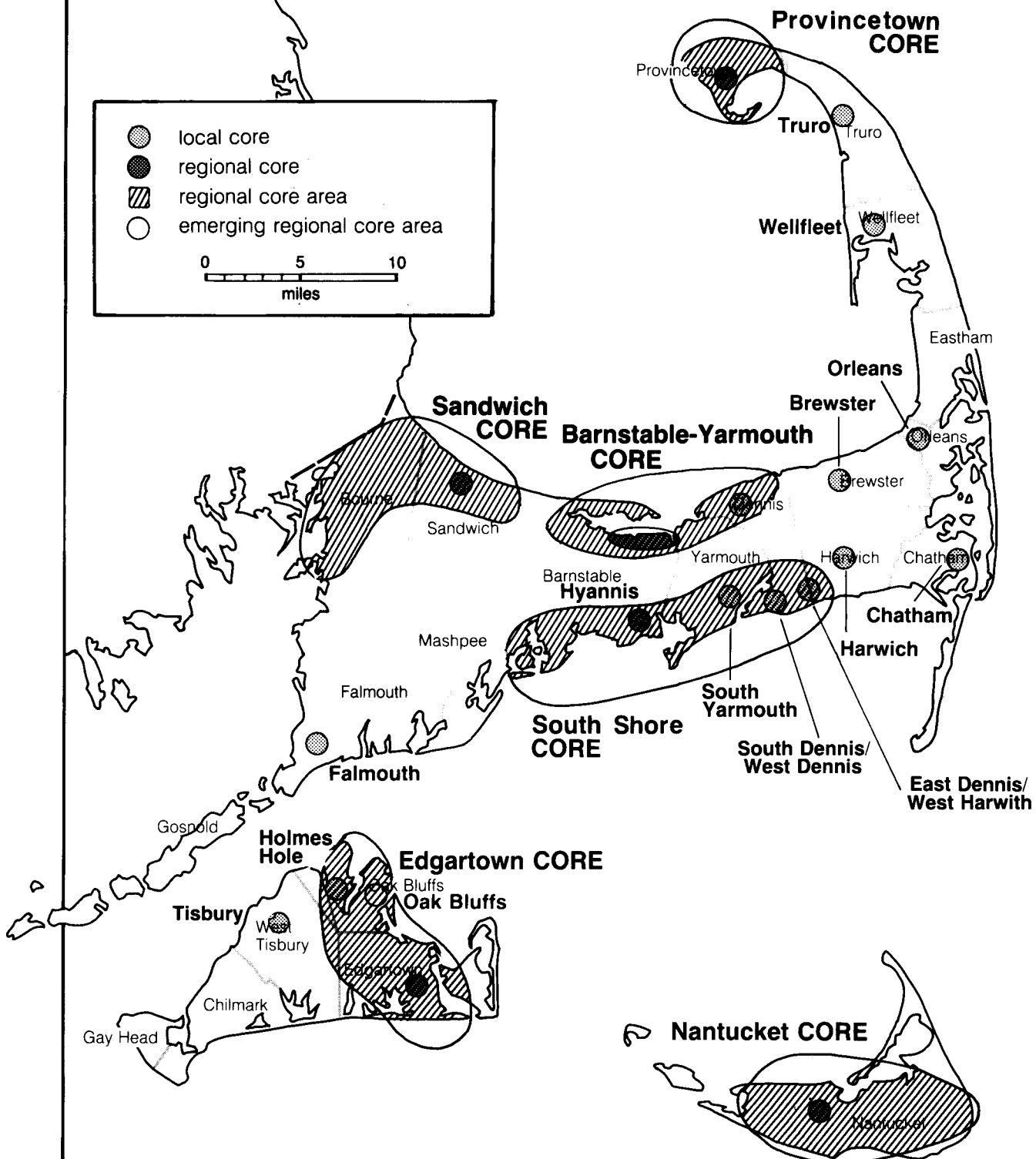
Continued maritime prosperity during the early decades of the period stimulated further growth of both regional and local cores. However, the establishment of railroad connections and the shift of fishing and shipping activities to the region's larger harbors meant that core growth after the mid-19th century was limited to fewer places and, with the general downturn in the regional maritime economy, the growth that did occur was moderate at best. In 1870 the study unit contained seven regional cores. The established regional cores persisted at Barnstable/Yarmouth, Sandwich, Nantucket, Edgartown and Falmouth, although Nantucket had suffered a serious decline by period's end. Significant growth and expansion took place within the South Shore regional core. At the same time, the local core at Provincetown at the tip of the Cape grew enough to become a regional core. Seven autonomous local cores were active: Harwich, Brewster, Chatham, Orleans, Wellfleet, and Truro on Cape Cod, and West Tisbury on Martha's Vineyard. See Map 19.

By period's end, the South Shore core on central Cape Cod had become the dominant regional focus. After 1850 the economic focus in the mid-Cape area had shifted south to Nantucket Sound, and intensive local growth extended from Cotuit Harbor in the west to Herring River in the east. Growth was most notable at Hyannis, which expanded as the primary mainland port on Nantucket Sound. Its importance as a transport focus increased with the extension of rail service to its Hyannisport wharves in 1854. A business district, including banks and hotels, developed east of the railroad depot. By 1850, a seminary had been established, and a Roman Catholic church was organized. In 1854, the Barnstable Masons relocated

Map 19

Early Industrial Period

Core Areas



here. To the east of Hyannis, the Bass River area continued to grow as a second shipping and fishing focus, with village expansion at Bass River and South Yarmouth on the west bank, and West and South Dennis on the east. New churches were built and Masonic lodges were formed. A third local port center developed at Herring River at Dennis Port and West Harwich. To the west of Hyannis, a secondary local core developed at Osterville, where Baptist and Methodist churches were organized, an academy was established, and a Masonic lodge formed. Other maritime hamlets developed nearby at Cotuit Port and Centerville.

While economic development shifted to the south, the Barnstable/Yarmouth regional core persisted along the Cape Cod Bay shore. Administrative and institutional growth continued at the Barnstable Village county seat. A granite courthouse was built here in 1832, and a brick customs house was erected in 1855. To the east, the county fairgrounds site was established in 1832. An academy was opened in 1835, and in 1842 a Baptist church was organized here. Continuous settlement continued to extend east to Yarmouth Port and Yarmouth Village. A Universalist society organized here in 1836, and in 1843 the Society for a New Jerusalem established a church. A Lyceum Hall was located here in 1850. In 1854, rail service was established along the bay shore corridor to Yarmouth Port, which for the next decade remained the line's eastern terminus. Dennis Village remained a local center in the northeast, and an academy was located here. East Dennis persisted as a shipbuilding center.

While Nantucket remained a regional core in 1870, dramatic changes took place with the mid 19th-century collapse of the whaling industry and a significant period loss in local population. However, prosperity and village growth persisted through the 1830s and 1840s. Maritime and processing industries located north of the main wharf area and the Market Square commercial district continued to expand. High-style residential neighborhoods were established, and a number of new

churches were built. An Athenaeum was established in 1834, and a public high school in 1856. A second Methodist Society was formed, and a Roman Catholic church was organized in 1858. The region's largest black population was located here, and African Baptist churches were established in 1831 and 1847. The disastrous fire of 1846 was followed by a vigorous rebuilding program in the central area, including new multistory, brick and brownstone commercial blocks. The town's 1840 population of over 9,000 would be the largest concentration of residents in any town in the study unit over the next hundred years. Yet, by 1870, the number of people in Nantucket had dropped by more than half.

A fourth regional core developed during the period at Provincetown, where growth and prosperity followed local expansion of the fishing industry. By 1860, thirty wharves were built along the harbor, and maritime shops and industries lined the shore. A central business area developed with hotels, banks, insurance offices, a dry goods store, and the customs office. The town's rate of population growth was by far the highest in the region for the period. New churches were built, and a second Methodist society was formed. A Portuguese fishing community was established, and in 1853 a Roman Catholic church was organized. By 1870, Provincetown, the region's largest fishing port, was the third most populous town in the study unit, with the highest proportion of foreign-born residents.

In the west, Sandwich persisted as a regional core with a moderate population growth based on its manufacturing economy. Rail service came in 1848 and stimulated growth along the line to Sandwich Village, which until 1854 remained the line's eastern terminus. With local prosperity, new churches were built in Sandwich Village, and a Masonic lodge was located here in 1856. Expansion of the Boston and Sandwich Glass Company continued, and by the early 1860s the firm employed 500 hands. Through the period, the glassworks continued to be the largest single employer in the region, and opportunities in manufacturing employment drew

significant numbers of Irish immigrants. Smaller-scale industry continued to the west, where a foundry and nail factory were active at North Sandwich (Bournedale), and the forge at Pocasset expanded operations.

On Martha's Vineyard, the eastern Edgartown regional core remained the focus of island development. The area's population increased, and Edgartown Village continued to grow through the 1840s as a shipfitting and processing center for Edgartown and Nantucket whalers. A new Methodist church was built, a new courthouse was erected in 1859, and a commercial focus developed around the customs house and bank. With the decline in whaling, however, Edgartown's fortunes faded. In the northern part of the regional core, Holmes Hole Village grew significantly as new meetinghouses were built, residential expansion took place, and marine industries located along the harbor shore. The village's distinction as the region's third most important whaling center and as a port of call along the main coasting routes resulted in the location here of a marine hospital (1866) and seamen's chapel (1867). By period's end, however, the emerging focus of activity within the regional core was the expanding summer resort on East Chop. Methodist camp meetings were initiated in the area in 1835, and by 1858 the annual gatherings of the Martha's Vineyard Camp Meeting Association at Wesleyan Grove involved the creation of a Canvas City of more than 320 tents. Eastville grew as the local landing point and service center. By period's end a street plan had been laid out, the construction of a more permanent Cottage City had begun, and the Oak Bluffs Land and Wharf Company had undertaken real estate speculation in the development of adjacent lands as a secular resort.

On Cape Cod, Falmouth's influence declined with the demise of the whaling industry, but it remained a regional core. Falmouth Village was still a commercial focus and civic center, with a town house and new churches. Whaling, shipbuilding, and saltmaking continued to be important activities in the hamlets along the

Buzzards Bay and Vineyard Sound shores up to mid century. At Woods Hole, industrial development came with the opening of the Pacific Guano Works in 1863. By the 1850s, wealthy families had established summer residences at both Falmouth Village and Woods Hole, and an Episcopal church was located in the latter village.

Outside these regionally significant areas, a number of local centers persisted. Six autonomous local cores persisted on the outer Cape east of the mid-Cape regional core areas, including a new local core at Truro, where early period prosperity in the fishing industry led to population gains over the period. At Truro Center, wharves, stores, and sheds were built, an academy was opened, and an Odd Fellows Hall built. Although it lost population, Brewster remained a small maritime center on the bay shore and rebuilt its churches. An Odd Fellows lodge and a Ladies Library Association located here. More significant maritime growth took place at Harwich to the south where population growth was high. Wharves were built along the south shore, particularly at Harwich Port. Harwich Center expanded as an important commercial and institutional focus with a bank and business block. An academy was located here in 1844, and a Roman Catholic church was established in 1866. East of Harwich, Chatham remained an important maritime core. Several local meetinghouses were rebuilt, an academy was opened, and residential development extended along the Main Street corridor. To the north, Orleans continued as a local core despite overall population decline. When the eastern terminus of the regional rail system reached here in 1865, a commercial center developed in the depot area. Wellfleet continued to grow as a fishing center through the mid-19th century. Wharf and packing facilities were constructed, and a business focus developed west of Duck Creek, including banks, insurance companies, shipfitting industries, and merchant stores and residences. Decline in the fishing industry, however, brought a net population loss by period's end. On Martha's Vineyard, West Tisbury Village remained a local core, although the town's focus

shifted increasingly to Holmes Hole. An academy, new churches, and agricultural fairgrounds were all located here.

Outside these regional and local centers remained the region's peripheral areas and communities. On the outer Cape, Eastham lost population and saw little development, although it remained one of the region's chief agricultural towns. Regional Methodist camp meetings were held here at Millenium Grove until 1863, when they were moved to Yarmouth. The native reservation at Mashpee regained local autonomy in 1834 when its district status was reinstituted. Local population remained small and dispersed through the period. The western part of Martha's Vineyard also retained its peripheral position. Chilmark lost population, although small-scale extractive industries were located along its northern shore. The Native American reservation at Gay Head was made a district in 1862. The Elizabeth Islands separated from Chilmark as the town of Gosnold in 1864, but they remained sparsely populated. Sport fishing clubs were established on Pasque Island and Cuttyhunk Island.

Survivals

Cultural resources from the early years of this period survive in great numbers in the study unit. Indeed, in many towns the structures of this era are the most numerous and dominate the landscape. Single-family residences remain the most numerous surviving building type, followed by an increasing variety of institutional buildings, including churches, schools, meeting halls, and town halls. Buildings associated with the maritime economy survive in a variety of contexts, often serving very different functions, and many are as yet unidentified. Similarly, out-buildings and shops associated with artisan and farm activities also await identification and evaluation. Landscape features including roadways, harbor improvements, and cemeteries also survive. Again, archaeological potential is high at standing structures as well as at sites of former structures, particularly in those towns with few known survivals.

Six clusters of survivals have been identified for the Early Industrial period in the Cape and Islands study unit:

1. Rural Landscapes include period farmsteads (a complex of structures with appropriate roads, fences, and fields) clustered in a low-density setting, as well as institutional buildings (poor farms, schoolhouses, meetinghouses).
2. Resorts/Camp Meeting Grounds include a variety of building types constructed or adapted for use on a seasonal basis, including cottages, hotels, and institutional buildings, often grouped together in a planned district.
3. Villages are composed of a cluster of period houses along a highway, around a crossroads, or near a harbor and often include meetinghouses, inns, stores, and shops of artisans and small manufacturers.
4. Town Streetscapes include residential, commercial, and small manufacturing and institutional buildings in a medium-density setting, serving as the administrative focus or an important economic center of the town.
5. Maritime Landscapes include a variety of building types and structures related to the fishing, trading, and entrepot activities of harbor communities. These areas are of necessity restricted to coastal areas and include waterfront improvements (breakwaters, wharves), navigational structures (lighthouses, lifesaving stations), and storing and processing structures (fish houses, warehouses).
6. Manufacturing Complexes are composed of a variety of building types and structures related to manufacturing activities, including period houses, institutional and commercial buildings, mills, or factories.

Table 17

Early Industrial Period Survivals (1830-1870)

Towns (listed by core)	Rural Landscapes	Resort Areas	Villages	Town Streetscapes	Maritime Landscapes	Manufacturing Complexes
<u>Barnstable/Yarmouth Regional Core</u>						
Barnstable			X	X	X	
Yarmouth		?	X	X	?	
Dennis			X		?	
<u>Nantucket Regional Core</u>						
		X	?	XX	X	
<u>Provincetown Regional Core</u>						
				X	X	
<u>Sandwich Regional Core</u>						
Sandwich	?	?	?	X		X
Bourne	X		XX		X	?
<u>Edgartown Regional Core</u>						
Edgartown				X	X	
Oak Bluffs		X	?		?	
Tisbury	?			X	?	
<u>Local Cores</u>						
Brewster	?		X			
Harwich	?		X	?	?	
Chatham	?		X		?	
Orleans	?		?		?	
Wellfleet	?	X	?	?	X	
Truro	?		X		?	
Falmouth	?	?	X		X	
West Tisbury	X		X			
<u>Periphery Towns</u>						
Eastham	X	?	?		X	
Mashpee	?					
Chilmark	X	?	?		?	
Gay Head	X				X	
Gosnold	?	?			?	

Research Topics

1. How did village growth and form during the Early Industrial period compare to that which occurred in the early decades of the century? How did village development differ according to specialized maritime function? How were social and economic distinctions among residents evident in the landscape?
2. What significant changes in settlement organization in Nantucket Village resulted from the 1846 fire and subsequent rebuilding? Where did residents and businesses relocate after the fire? What effects did the dramatic loss of local population have on the built environment in terms of abandonment or reuse by other activities by the end of the period?
3. What form did the residential enclaves of the region's non-native population take? Did segregation of the Irish glassworkers at Sandwich and the Portuguese-speaking fishermen at Provincetown persist through the period? Where did the region's smaller concentrations of non-natives locate? How did village-based, non-native location relate to the residential location of the region's major black community at Nantucket Village?
4. What was the nature of the region's maritime and nonmaritime manufacturing activities during the period? What forms of settlement concentration were associated with industries and how did these differ from or relate to the predominantly maritime-oriented landscape?
5. What form did the early Methodist camp meetings take on the landscape? At Wesleyan Grove on Martha's Vineyard, what was the sequence of settlement transition from impermanent Canvas City to permanent Cottage City? What was the basis for conflicts here between religious and secular resort development?

Late Industrial Period (1870-1915)

Core-Periphery Relationships

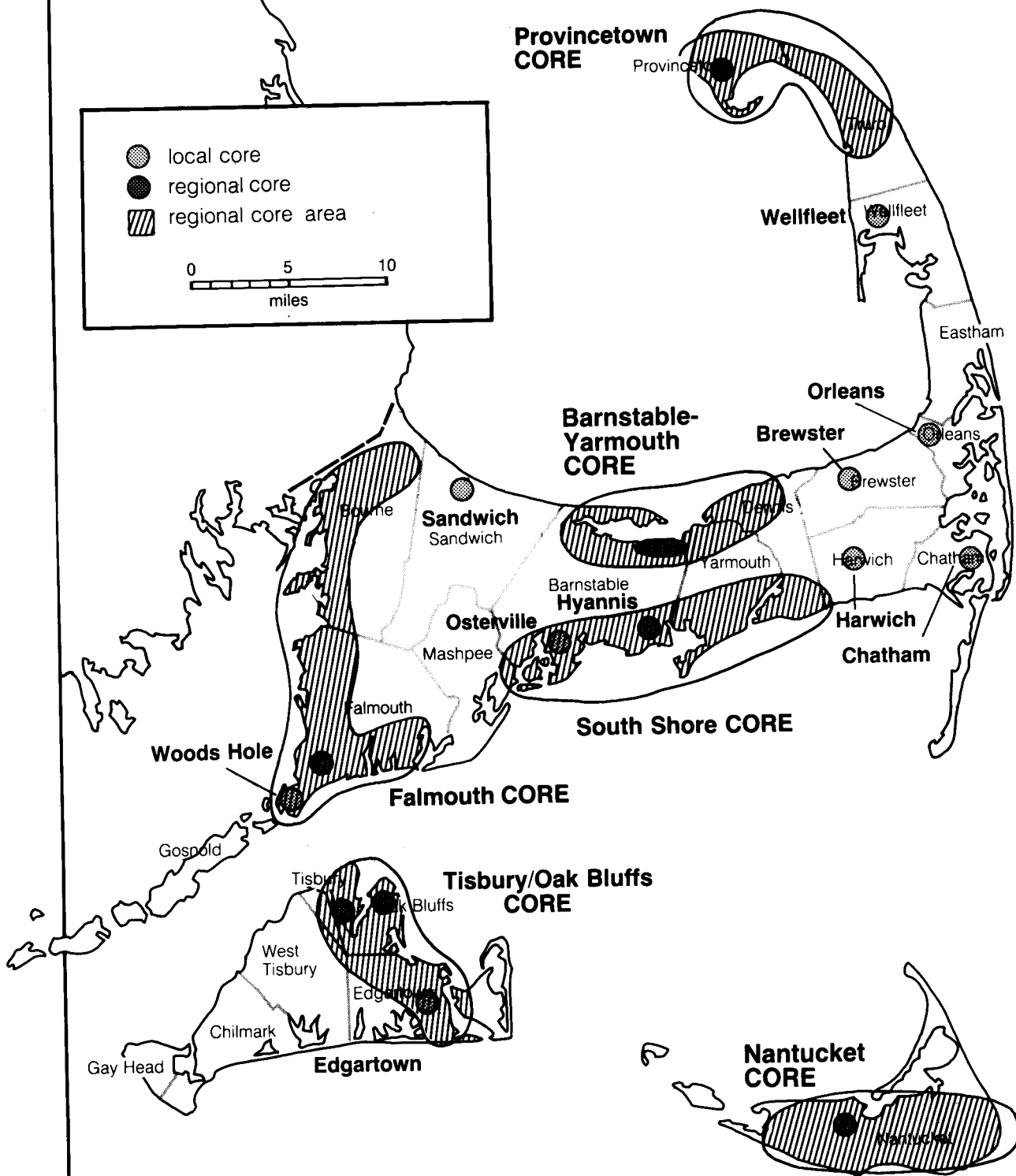
Adjustments occurred in regional and local cores throughout the study unit with the decline in the maritime economy and the general loss of population. At the same time, centralization of fishing and shipping activities, the extension of new rail connections, and the efflorescence of summer resorts brought growth to several centers. In 1915, three of the regional cores of the previous period remained dominant in the study unit as regional resort areas: South Shore, Barnstable/Yarmouth, and Provincetown. On Martha's Vineyard, a regional core persisted, but the focus of this regional resort area shifted from Edgartown to Tisbury/Oak Bluffs. In addition, on Buzzards Bay, Falmouth reemerged as the focus of a regional resort area that extended north through Bourne. Meanwhile Sandwich, with the loss of both its industrial base and its western territory, dropped to local core status. Nantucket's population continued to decline, and that center also fell from being a regional to local core. The island itself, however, became popular as a regional resort area. With population decline, fewer places outside the four regional cores persisted as autonomous local cores. By period's end, seven remained: Harwich, Brewster, Chatham, Orleans, Wellfleet, Sandwich, and Nantucket. See Map 20.

The South Shore resort area remained the primary commercial focus in the study unit. Hyannis continued to grow as resort development was initiated to the southwest by the Hyannis Port Land Company, and summer hotels and estates were built. The central business district continued to grow in the depot area, and a State Normal School (1897) was located nearby. Resort growth extended west along the

Map 20

Late Industrial Period

Core Areas



south shore at Osterville, Wianno, and Cotuit, and a camp meeting was established at Craigville. To the east, residential growth pushed into Yarmouth along Lewis Bay. With the growing seasonal and resident population, two Roman Catholic and two Episcopal churches were established, and a Zion Union church served the black community at Hyannis.

To the north, the Barnstable/Yarmouth regional resort area persisted as an administrative focus and an area with a successful mixed economy, which included new resort development. Portuguese and Finnish immigrant populations found employment at the cranberry bogs and in brick manufacturing. Resort development continued at the inland Yarmouth Camp Meeting grounds and in the north at Barnstable Village and Dennis Center. By period's end, the regional resort area's population was served by one Episcopal and two Roman Catholic churches.

More dramatic was the emergence of a new regional resort area to the west. The completion of the Woods Hole Branch Railroad (1872) along the Buzzards Bay shore stimulated significant resort development, and the towns of Falmouth and Bourne had the highest period growth rates in the study unit. Resort development was initiated at Falmouth Heights (1871), but by period's end a variety of summer estate, cottage, and hotel districts extended along the Vineyard Sound and Buzzards Bay shores. New brick business blocks and a civic focus were established at Falmouth Center. Woods Hole emerged as a research center of national significance with the location here of the headquarters of the United States Fisheries Commission and the Woods Hole Biological Institute. Penzance Point was developed as an exclusive estate district. To the north, resort centers at Bourne included developments at Monument Beach, Pocasset, and Sagamore Beach. Buzzards Bay Village grew as a depot center and, with the incorporation of the town of Bourne in 1884, Bourne Village became the civic focus. To the east, the region's largest manufacturing focus emerged at the Keith Car Manufacturing Company facilities at

Sagamore. By period's end, the regional resort area was served by four Roman Catholic and two Episcopal churches, all located in Falmouth.

At the tip of the Cape, Provincetown persisted as an important fishing center, and by the early 20th century it had also become a popular summer resort. Local growth was stimulated by extension of railroad service to the town in 1873. By the end of the 19th century the village extended for three miles along Commercial Street. A new business district developed in the depot/Old Colony Wharf area, and new civic structures were built. A monumental Pilgrim Memorial Tower was completed in 1910. Provincetown continued to be distinguished by its significant foreign-born population, largely made up of the Portuguese-speaking fishing families located in the town's west end. Provincetown's influence extended south to the declining fishing center at Truro, where Portuguese-speaking residents also became numerous. By period's end, three Roman Catholic churches had been established within the emerging regional resort area. With resort growth, Provincetown was also distinguished by the presence of a growing summer artist colony, and by period's end it had also become the seasonal gathering place for a bohemian literary contingent.

The Tisbury/Oak Bluffs regional resort area on Martha's Vineyard was also marked by relatively high population growth rates, as the focus of island activity shifted north from Edgartown to Cottage City and Holmes Hole. Development in the north was marked by the separation and incorporation of both Cottage City (1880) and Tisbury (1892) as autonomous towns during the period. At Cottage City, camp ground development continued at Wesleyan Grove and Vineyard Grove, while the Oak Bluffs Land and Wharf Company built a secular, seaside resort to the east. The Martha's Vineyard Summer Institute was located in the north. Hotels, tabernacles, cottages, and shops were all built during the period. However, attempts to extend island resort development from Cottage City south to Edgartown, including the extension of a railroad (1874) from Oak Bluffs to Katama

Point, were generally unsuccessful. In Tisbury, an estate district developed at West Chop. The continued importance of Holmes Hole as a harbor of refuge for the coasting trade was marked by the location here of a Boston Seamen's Friend Society (1893) and a new marine hospital (1895). By period's end, the regional resort area was served by three Episcopal churches and one Roman Catholic church.

With continued losses in the town's population, Nantucket declined in importance from a regional to a local core. At the same time, the island grew in popularity as a summer resort area. Hotel clusters were established at Nantucket Village and at outlying locations around Nantucket Harbor. Resort development was extended to coastal sites outside the village with the opening of the Nantucket Railroad (1881). The most successful of these was at Siasconset Village on the eastern tip of the island, where hotel and cottage development took place, and a union chapel casino and golf course were all located. In Nantucket Village, new Roman Catholic and Episcopal churches were built during the period.

Five of the region's other local cores persisted on the outer Cape east of the mid-Cape regional cores. Harwich Center remained a strong commercial and civic focus with the addition of a high school, library, Masonic lodge, four-story brick commercial block, and bank building, despite a high decline in population. Resort development took place along the south shore at West Harwich and Harwich Port. The local core at Brewster experienced a significant population loss, although summer estates were located here, especially at East Brewster, where a Roman Catholic church was also established. To the southeast the completion of the Chatham Branch Railroad (1887) stimulated resort development at Chatham, and hotels, inns, and summer estates were built along the town's northern and eastern shores. Despite considerable loss of local population, a new town hall, library, and Masonic lodge were located in the town center. North of Chatham, Orleans experienced only a moderate population decline during the period. The depot area

continued to develop as a commercial center, and light industrial growth occurred along the rail corridor; to the east a new town hall and library were located. North of Orleans, Wellfleet persisted as a local core despite an extremely high population decline. Resort development occurred along Wellfleet Harbor, with hotels, inns, and a yacht club, and seasonal residences were built in the Center area. The sixth local core in the study unit was located to the west at Sandwich. The closing of the Sandwich Glass Works and the loss of West Parish territory to the town of Bourne resulted in sharp decline in manufacturing employment and a drop in population. However, a high school, library, Episcopal church, and new Catholic church were all located in the Center area.

The region's peripheral communities were located in two areas of Cape Cod and on western Martha's Vineyard. Eastham's settlement remained largely dispersed, although a small depot hamlet developed with a Universalist church, library, and town hall. Mashpee also remained dispersed, and the town lost population during the period. On Martha's Vineyard, the western periphery included West Tisbury, Chilmark (which saw a significant population decline), and Gay Head. To the west, Gosnold remained sparsely populated, the most peripheral area in the region. Naushon Island continued as a private estate, and seasonal fishing clubs were active on Cuttyhunk and Pasque Island. The isolated, relatively undisturbed environment of Penikese Island attracted the Anderson School of Natural History. After a brief period as a staging area for ecological studies, the island was purchased by Massachusetts as an ideal location for the State Leper Colony.

Survivals

The tourist-oriented development of the Late Industrial period on the Cape and Islands generated a number of new structure types. Most survivals from the period are located in the region's Late Industrial resort communities. Outside these, some

structures were added in the region's mid 19th-century maritime villages. Because of their exposed sites along the region's shoreline, and because of the nearly universal use of wood construction, the rate of loss of many types of structures has been relatively high from both coastal storms and fire. Survivals of a few period industrial developments also remain, as do components of inland agricultural operations. Residential buildings are the most common Late Industrial survival category. A large proportion of these were built for seasonal use. Single-family dwellings are much more common than multifamily houses. In terms of size, residential structures range from large, high-style complexes to very modest cottages. Numerous residential districts are extant, including summer estate districts, cottage colonies, and camp meeting grounds. Commercial structures oriented toward the seasonal population also remain from the period, concentrated in small business centers and at shoreline recreational sites. These include resort hotels, small commercial blocks, railroad stations, and amusement facilities. Civic and institutional buildings also survive, including schools, religious edifices, town halls, libraries, meeting halls, and club houses. Little new development was generated outside the tourist trade, but some maritime-oriented structures, such as wharves, fish cold storage plants, and navigational aids survive, as do agricultural buildings, particularly ones related to cranberry production and market gardening. Once again, archaeological potential exists around standing structures and the sites of non-extant buildings.

Seven clusters of survivals have been identified for the Late Industrial period for the Cape Cod and the Islands study unit:

1. Resort Landscapes include a variety of planned resort areas: seasonal estate districts, cottage districts, hotel and recreational complexes, golf courses, and amusement areas.
2. Camp Meeting Grounds are religious-oriented, seasonal resort complexes, including cottage clusters and districts, hotels and lodging houses, administrative offices, and church or tabernacle facilities.
3. Commercial (Town) Centers are small downtown districts made up of a concentration of period commercial, civic, and religious structures serving seasonal and permanent residents.
4. Residential Districts are residential areas of period dwellings located adjacent to village or town centers, oriented primarily to permanent residents and often distinguished by the presence of distinct economic, ethnic, or occupational groups.
5. Agricultural Landscapes are rural areas of fields, pasturage, or cranberry bogs with associated period dwellings, farm outbuildings, and specialized agricultural structures or facilities.
6. Maritime Landscapes are areas of concentrated marine-oriented activity at harbor and other shoreline locations related to transport, fishing, or recreation, including period piers, fish houses, processing plants, marine railways, lighthouses, lifesaving and Coast Guard stations, canal facilities, breakwaters, government or research facilities, and yacht clubs.
7. Manufacturing Complexes are composed of a variety of building types and structures related to manufacturing activities, including period houses, institutional and commercial buildings, mills, or factories.

Table 18

Late Industrial Period Survivals (1870-1915)

Towns (listed by core areas)	Resort Landscapes	Camp Meeting Grounds	Commercial Centers	Residential Districts	Agricultural Landscapes	Maritime Landscapes
<u>Barnstable/Yarmouth Regional Core</u>						
Barnstable	XX	X	?	X	?	?
Yarmouth	X	X			X	?
Dennis	X					?
<u>Falmouth Regional Core</u>						
Falmouth	XX		X	?	X	X
Bourne	XX		?	X	X	?
<u>Provincetown Regional Core</u>						
Provincetown	?		X	X		X
Truro	X					?
<u>Edgartown-Oak Bluffs Regional Core</u>						
Edgartown	X		?			X
Oak Bluffs	XX	X	X			X
Tisbury	XX		X	?		X
<u>Nantucket Regional Core</u>						
Nantucket	XX		?		X	X
<u>Local Cores</u>						
Harwich	X	?	?	?	X	?
Chatham	XX		?			X
Orleans	?		?		?	?
Wellfleet	X		?			?
Sandwich	?		?	X	X	?
<u>Periphery Towns</u>						
Eastham						?
Brewster	XX					?
Mashpee					X	
West Tisbury					XX	
Chilmark	?				X	?
Gay Head					?	?
Gosnold	?				?	?

Research Topics

1. What trends are evident in the evolution of planned resort communities in the region during the period? What were the dynamics of real estate acquisition, subdivision, and promotion? How did the location of hotel, cottage, and estate districts differ, and how did they relate to each other? What specialized amusement and recreational landscapes developed, and what particular regional environmental amenities attracted the resort seekers of the period?
2. What were the effects of population decline and abandonment on the region's maritime-oriented villages? What forms of reuse or reorientation toward the tourist trade had occurred by the end of the period? What effect did changes in the remaining maritime economy have on local landscapes?
3. What forms did the settlement of the region's main non-native, Portuguese-speaking minority take? In particular, how was the group's primary enclave in the fishing community at Provincetown organized?
4. What distinctive settlement forms were associated with the region's two nonwhite enclaves at Gay Head and Mashpee? What special types of land use and work patterns distinguished these localities from other places in the region? In what ways were these communities affected by the larger economic transformations that occurred in the region during the period?
5. What effects did the reorientation toward a seasonal, resort economy have on the region's year-round population? How did patterns of work and residence change take advantage of new forms of economic opportunity? What sectors of resort communities benefited most from new development, and what people saw the least improvements in standards of living? To what extent were the transformations in the regional landscape generated by external capital, and to what degree did profits from resort growth flow out of the region?

Early Modern Period (1915-1940)

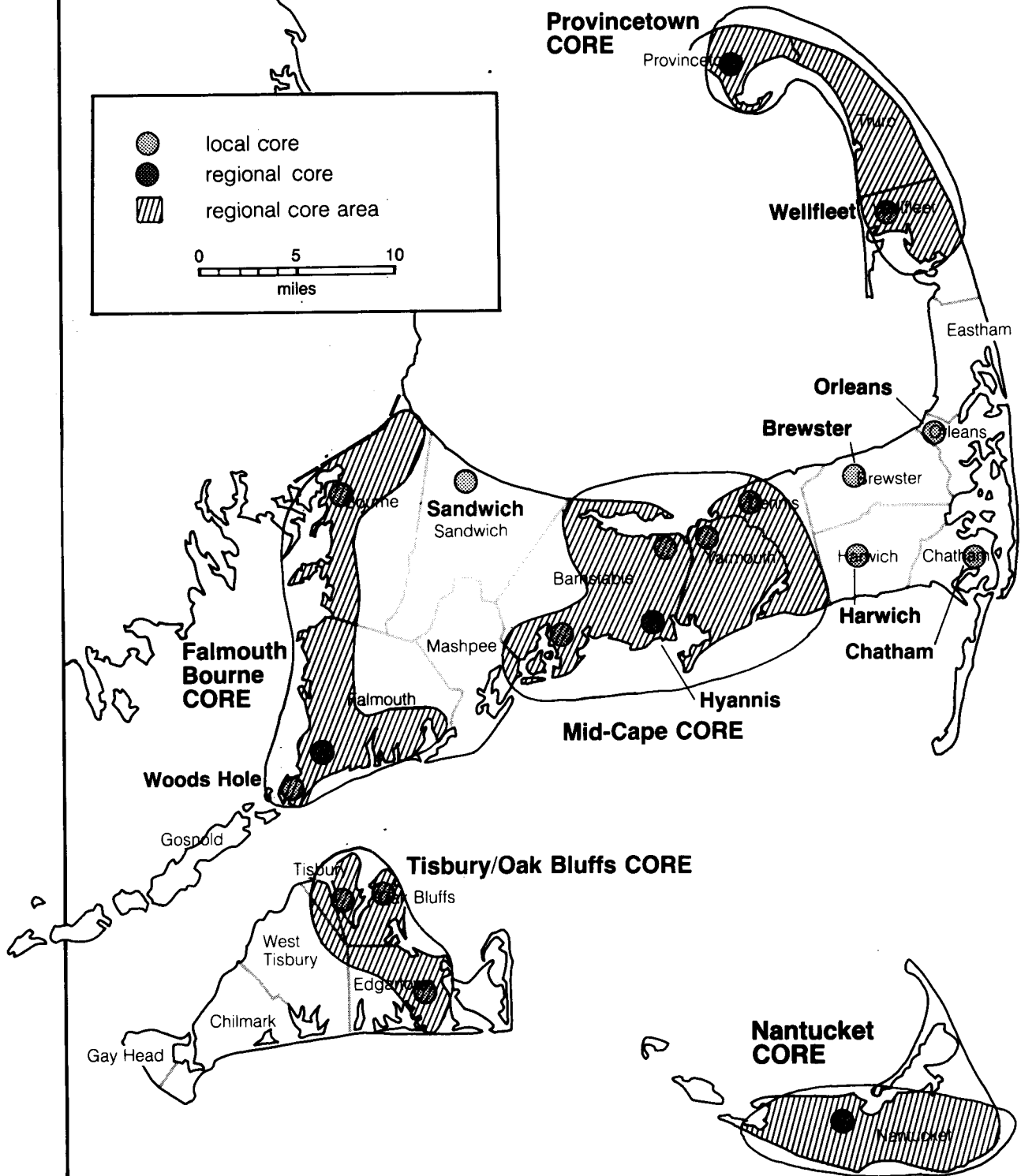
Core-Periphery Relationships

The five regional cores established in the early 20th century continued to be the dominant centers of activity during the Early Modern period. By the end of the period, however, the Barnstable/Yarmouth and South Shore regional resort areas had consolidated into a large, mid-Cape resort area with its focus at Hyannis to the south. Increased use of the automobile brought resort-oriented growth to much of the region, although the pattern of development varied with each core. At period's end, regional resort areas were located at Mid-Cape, Buzzards Bay, and Provincetown on Cape Cod. On Martha's Vineyard, Tisbury/Oak Bluffs persisted as the regional resort focus. Six local cores of the previous period also persisted due to resort-oriented growth: Nantucket, Harwich, Brewster, Chatham, Orleans, and Sandwich. The seventh, Wellfleet, was absorbed by the Provincetown regional core. See Map 21.

The mid-Cape regional resort area remained the dominant center of activity in the study unit. The towns of Barnstable and Yarmouth had the second and third highest rates of population growth in the region. Residential development, resort growth, and auto-oriented commercial expansion continued to focus in the southern part of the core. The Hyannis central business district expanded, and new town offices, a new Masonic hall, and a post office were located here. Resort development continued to the southwest at Hyannis Port, Craigville Beach, Osterville, Wianno, and Cotuit. An exclusive estate district was established at Grand Island. To the east, south shore resort development extended into Yarmouth along Lewis Bay and along the Route 28 auto corridor through South Yarmouth and

Map 21

Early Modern Period Core Areas



West Dennis to Dennis Port. On the north shore, resort development also took place in the Barnstable Village area and at Dennis Village, where a theatre and cinema complex was established. Within the regional core, Barnstable's population continued to represent a heterogeneous mix: A Greek Orthodox church and a synogogue were located at Hyannis, a Finnish Lutheran church was established at West Barnstable, and a Portuguese Roman Catholic church was built at Santuit.

To the west, the Buzzards Bay regional resort area continued to grow as a resort focus and commercial center. Falmouth had the highest rate of population growth in the study unit, and Bourne also experienced moderate growth. Both towns had foreign-born populations greater than the county average. Resort development continued along the Buzzards Bay and Vineyard Sound shores. Meanwhile, Falmouth Village continued to grow as a regional commercial center. Auto-oriented commercial development also focused at Buzzards Bay Village in the north. Woods Hole's importance as an international research center was established with the addition of the Oceanographic Institute. Four new Catholic churches were established in the regional core during the period, two in Falmouth and two in Bourne. Bourne also added Episcopal and Christian Science churches.

At the tip of the Cape, Provincetown continued as a regional resort area and by period's end its influence extended south through Truro to Wellfleet. Despite the intensification of seasonal resort activity, all three towns lost permanent residents during the period. Provincetown, however, built a new high school, post office, and Episcopal church. The town also retained the highest proportion of foreign-born residents in the region. Provincetown continued to be the focus of a growing international art colony. Summer homes were built east and west of the Provincetown business center, and resort development extended south on Route 6 to North Truro. Bayside seasonal development continued south to Wellfleet, where the harbor was increasingly used as a yachting center.

On Martha's Vineyard, Oak Bluffs and Tisbury remained the primary centers of the regional resort area on the eastern part of the island. Both towns had rates of population growth higher than the regional average, while Edgartown to the south experienced more moderate growth. Residential expansion continued at the edge of Vineyard Haven and Oak Bluffs. Oak Bluffs remained the island's resort focus, and development continued at its amusement area and at the Circuit Avenue business district, with the addition of movie theatres and gift shops. To the south, yacht and golf clubs were established at Edgartown.

The local core at Nantucket experienced moderate growth during the period. Residential additions were made at the edge of the village, and outlying shoreline tracts were developed. The Siasconset resort in the east continued to grow. On the outer Cape four autonomous local cores persisted east of the mid-Cape regional core. Harwich grew moderately as south shore resort development took place at West Harwich and Harwich Port. Episcopal and Christian Science churches were located in the town, and a new high school was built. Brewster also grew moderately as resort cottage clusters were located along the Cape Cod Bay shore. The eastern part of town was established as Nickerson State Park. To the east, Chatham had a growth rate higher than the regional average as resort development continued. A Catholic church was located here. North of Chatham, Orleans experienced moderate population growth: an Episcopal church was located here and a new town house was built. In the western part of the Cape, the fifth local core persisted at Sandwich, which saw some resort-oriented development.

Two towns on Cape Cod and four on Martha's Vineyard remained peripheral communities through the period. Eastham on the outer Cape grew moderately, although new residential development was largely dispersed. Mashpee also saw resort cottage development on its south shore at Rock Landing and near Poppanesset Creek at the western fringe of the mid-Cape regional resort area. A Pentacostal

church was located in town. To the west of Mashpee the peripheral interior of Falmouth became the site of military installations for Camp Edwards and Otis Air Force Base. The region's other major peripheral area was the western part of Martha's Vineyard. Small fishing hamlets developed at Menemsha in Chilmark, Lobsterville in Gay Head, and Cuttyhunk in Gosnold. Scattered coastal seasonal residences also were built, but all four towns in the area lost population over the period.

Survivals

Although the Early Modern period extended over only a brief twenty-five years, a large number of structures were built during this time. The types of structures diversified. Again, because many structures were built of wood and located on exposed sites along the region's shoreline, significant losses from coastal storms and fires have occurred, although the general rate of survival is high. Residential buildings are the most numerous type of survival, primarily seasonal, single-family structures located in the Early Modern period resort communities. While larger, high-style examples were built, modest summer cottages were the most common structure category, most often built in concentrated neighborhoods in close proximity to beaches. Again, commercial structures oriented toward seasonal tourists continued to be built, including small business blocks, theatres, and hotels. A variety of automobile-oriented commercial buildings also appeared, including gas stations, motels, diners, gift shops, and food stands. Period civic structures were also built, such as town halls, post offices, and schools. Some new religious edifices and secular meeting places were built. The establishment of military bases entailed the construction of new building complexes. Major new transportation facilities resulted from the reconstruction of the Cape Cod Canal. The erection of new highway and railroad bridges in Bourne and the improvement of regional roadways

occurred. Away from the highways and shores, some period lakeside cottages and agricultural structures survive.

Six clusters of survivals have been identified for the Late Industrial period for the Cape and Islands study unit:

1. Resort Landscapes include a variety of planned or speculative period resort areas: seasonal estate districts, cottage districts, hotel and recreational complexes, golf clubs, and amusement districts.
2. Commercial Highway Corridors are linear concentrations of automobile-oriented service and commercial activities, largely oriented toward seasonal tourist traffic. These include period gas stations, motels, diners, and restaurants, retail stores, car dealerships, and roadside rest and amusement areas.
3. Commercial Centers are small downtown districts including period commercial, civic, or religious structures serving both seasonal and permanent residents.
4. Residential Districts are residential areas of period dwellings located adjacent to village or town centers, primarily oriented to permanent residents, and often distinguished by distinct economic, ethnic, or occupational groups.
5. Agricultural Landscapes are rural areas of fields, pasturage, or cranberry bogs with associated period dwellings, farm outbuildings, and specialized agricultural structures or facilities.
6. Maritime Landscapes are areas of concentrated marine-oriented activity at harbor and other shoreline locations, related to transport, fishing, or recreation, including period piers, fish houses, processing plants, marine railways, lighthouses, lifesaving and Coast Guard stations, canal facilities, breakwaters, government or research facilities, and yacht clubs.

Table 19

Early Modern Period Survivals (1915-1940)

Towns (listed by core areas)	Resort Landscapes	Commercial Highway Corridors	Commercial Centers	Residential Districts	Agricultural Landscapes	Maritime Landscapes
<u>Barnstable/Yarmouth Regional Core</u>						
Barnstable	X	X	X	X	?	?
Yarmouth	X	X			X	?
Dennis	X	X			?	?
<u>Falmouth-Bourne Regional Core</u>						
Falmouth	X	X	X	?	X	X
Bourne	X	X		X	X	X
<u>Provincetown Regional Core</u>						
Provincetown	X	?	X	?		X
Truro	X	X				?
Wellfleet	X	X				?
<u>Oak Bluffs-Tisbury Regional Core</u>						
Oak Bluffs	X		X			?
Tisbury	X		?	?		?
Edgartown	X					X
<u>Nantucket Regional Core</u>						
Nantucket	X			?	X	?
<u>Local Cores</u>						
Sandwich	?	X	?			?
Harwich	X	X			X	?
Chatham	X	X				X
Orleans	X	?			?	?
<u>Periphery Towns</u>						
Eastham	?	?				
Brewster	?	?				
Mashpee	?					
West Tisbury	?				X	
Chilmark	?				X	X
Gay Head					?	?
Gosnold	?				?	?

Research Topics

1. In what significant ways did general use of the automobile generate new forms of recreational landscapes in the region during the period? In what ways did the automobile transform patterns of seasonal, holiday, and weekend population movement into the region? Did the automobile bring changes in the nature of the tourist population in terms of place of permanent residence or economic status?
2. What effects did the economic boom of the 1920s have on the regional landscapes? What forms did the growth of regional commercial centers at Falmouth and Hyannis take? What effects did the prosperity generated by resort growth have on the year-round population?
3. What specific forms did the interest in the region's historic built environment as a resort amenity take during this period? What efforts at preservation, restoration, or reuse were made? To what extent did community-based efforts occur? What forms of private adaptation of buildings for residential or business use occurred?
4. What were the effects of major federally funded projects on the region during the period? What impacts did the reconstruction of the Cape Cod Canal have? What effects on the landscape did the establishment of new military bases have on the region? What were the transformations generated by improved highway access, particularly the creation in Bourne of new bridge gateways to the region?
5. How did continued changes in the region's employment structure affect different segments of the population? How did those traditionally employed in the maritime sector adjust to decreased opportunities? How did the region's non-native and nonwhite minorities fare amidst the erosion of agricultural, manufacturing, and maritime jobs? Which groups filled the new service-oriented, seasonal positions that became available?

Changes in the Landscape, 1940-1985

Significant transformations have continued to occur in the towns of the Cape and Islands study unit in the decades following 1940. Demographic trends set in motion in the region during the Early Modern period have intensified as both seasonal and permanent population increases have accelerated. The improvement of access between the region and nearby urban centers along high-speed highway corridors has stimulated changes in the settlement structure of the area. Population growth has resulted in new commercial activities and service industries. In general, developmental change has been more intensive on Cape Cod than on Martha's Vineyard and Nantucket. On the Cape, growth has been highest in the inner Cape and mid-Cape areas, especially in towns surrounding the Falmouth and Barnstable regional cores. The loss of traditional density, scale, and setting both through destruction of major components of the historical landscape and isolation of the survivals has been the frequent result of this rapid growth.

Four major processes have contributed to modifications in the regional landscape over the past four decades. These have been: the extension of new, limited-access highway corridors and the upgrading of existing highway routes; new residential development; the concentration of commercial growth along highway corridors and in new regional shopping malls; and the continued, intensive redevelopment of many historic regional and local core areas. In addition to these major trends, three secondary (although still significant) factors have affected localities in the region. These include: the changing nature of regional agriculture, industrial development, and the establishment of a variety of land conservation areas.

Highway Development

While highway construction in the study unit has not been as extensive as in other regions of eastern Massachusetts, improved, high-speed automobile access has been a central factor in the transformation of the area's landscape. The establishment of Route 3, I-195, and I-495/Route 25 expressway corridors through the southeastern Massachusetts region has directed an increased flow of people into the Cape Cod region for both recreational and residential purposes. On the Cape itself, the major highway development has been the extension of the limited-access U. S. Route 6 highway from the Sagamore Bridge east through Bourne, Sandwich, Barnstable, Yarmouth, Dennis, Harwich, and Orleans to Eastham. While the route of this roadway has avoided most historic population centers, highway construction has involved significant alterations of the central interior Cape landscape, including the removal of farmsteads and the destruction of archaeological sites. Improvements of Route 6 north of Eastham have been less extensive, but have included a new, multilane bypass of Provincetown Village. The second major post-1940 regional highway development has been the extension of a new Route 28 corridor from Pocasset south through Bourne and Falmouth to Falmouth Center, passing to the east of the major Buzzards Bay settlement concentrations. The remaining major highway developments have been located at Bourne. Here the new Route 3 corridor was extended south to the Sagamore Bridge rotary, and a Route 6 bypass was established around Buzzards Bay Village. The final extension of Route 25 to the Bourne Bridge rotary will also eventually take place in this town. Besides the creation of these primary highway corridors, the post-1940 period has seen the continued upgrading and widening of the region's state highway system. With widespread residential development, the creation of new local roadways has also been extensive.

Residential Development

While residential growth in the region has followed trends established during the Early Modern period, the intensity and extent of post-1940 development has proceeded at an unprecedented scale and pace. While seasonal, second home construction has continued, an increasing number of dwellings have been occupied by year-round residents, including retirees and commuters employed outside the region. As lands in proximity to coastal shores have approached full development, residential growth has spread to interior areas, particularly at sites on the region's many lake and pond shores. The most intensive residential development has continued to spread outward from the regional core areas, particularly in the mid Cape area, and in the inner Cape communities most accessible from outside the region. While suburban development has been widespread, growth has been especially concentrated in the mid-Cape area south of the Route 6 corridor, particularly between Route 28 and the south shore. On the outer Cape, most residential development has occurred west of Route 6 toward the bay shore. On Martha's Vineyard and Nantucket, residential growth has extended out from the established centers and has remained dispersed beyond these areas. While modern residential development in the region has been predominantly in the form of detached single-family houses, increases in land values and construction costs have resulted in dramatic expansion in condominium development, particularly in the more intensively occupied towns of the region.

An examination of relative population changes over forty years reveals where the impact of residential growth has been greatest. Between 1940 and 1980 the study unit as a whole experienced a residential population increase of 249%. Within the region, Cape Cod grew at an even more rapid rate, with an increase of 297%. All the towns of Cape Cod except Provincetown more than doubled their populations during the post-1940 period. Nantucket (50%) and Dukes County (58%) grew at more

moderate rates. The highest growth rate in the region has occurred at Mashpee (753%) west of the Hyannis core. To the east, Yarmouth (707%) has also seen extremely high growth. High growth from the Hyannis core has also extended west into Sandwich (542%) and east into Dennis (513%) and Brewster (532%). Eastham has led the outer Cape in growth with a rate of 497%, while in the west, Bourne has continued to expand with a 319% increase. Growth in the established regional cores at Falmouth (244%) and Barnstable (271%) continued to be high, as it was at Harwich (254%). On the outer Cape, Eastham was followed by Orleans (266%), Chatham (184%), Truro (154%), and Wellfleet (148%). Only Provincetown lost population (-4%) as permanent residents were increasingly displaced by seasonal occupants. On Martha's Vineyard, the highest rates of population increase have occurred on the western part of the island, where West Tisbury (148%) and Chilmark (116%) have seen residential growth. Gay Head has grown more moderately (73%), as have Edgartown (61%) and Oak Bluffs (25%). To the west, Gosnold lost over half (-54%) of its population.

In addition to its obvious impact on the historic landscape, the rapid increase in residential development has had two profoundly negative effects on the archaeological resources of the study unit. First, since nearly all residential development is privately financed, it is exempt from the environmental review process that protects archaeological sites when public funds are involved. Unfortunately, the areas most attractive for residential development, well-drained land in close proximity to either tidal or fresh water, are also the areas of greatest archaeological sensitivity. As a result, private residential development is the single greatest threat to archaeological sites in the study unit. A second and related threat is the destruction of sites through indiscriminate excavation. The collection of artifacts from both prehistoric and historic sites has long been considered a recreational pastime within the study unit, both by seasonal and year-round residents. As both populations have expanded, so has the destruction of sites.

Commercial Development

The increase in year-round and seasonal residential population has resulted in a sharp rise in the demand for services and retail activities, a situation that has given rise to new commercial development in the region. With the spread of residential development and the intensification of automobile traffic, many new commercial activities have relocated outside the congested downtown areas to the more easily accessible highway corridors. Linear commercial development has extended along the heavily traveled routes, and commercial clusters have developed at the fringes of the established commercial districts. The location of much of the region's post-1940 commercial development has been the Route 28 corridor along the south shore between Falmouth Village and Orleans. While commercial development along this route is not continuous between these locations, new activities have virtually obliterated the historic landscape along much of its length. In Falmouth, intensive commercial development extends east from Falmouth Center, with regional shopping malls in the Teaticket area. In Barnstable, regional shopping mall construction has been intensive in the Route 132/28 area north of Hyannis. From here continuous commercial activity extends east on Route 28 through Yarmouth to a regional mall complex at Bass River, then through Dennis, Harwich, and Chatham. To the north, intensive commercial development has transformed the Route 28/Route 6A area in Orleans.

Less intensive commercial growth has also located along the Route 6A corridor on the north side of the Cape, with linear development extending out from the fringes of the historic north side villages from Sandwich to Brewster, including extensive motel/gift shop strips. The Route 6 area in Bourne north of the canal has also seen extensive commercial development. On the outer Cape, commercial development extends along the Route 6 corridor. Commercial highway development

has been far less extensive on Martha's Vineyard and Nantucket. Commercial growth has occurred at the southern fringe of Vineyard Haven along the South Main Street-Beach Road axis, and to the southeast of Nantucket Village in the lower Orange Street area.

Intensive Redevelopment

The more extensive patterns of residential growth and commercial development have been accompanied by a process of commercial and residential redevelopment and modification in the region's historic village centers as existing commercial districts have been adapted to intensive seasonal use. As a result, few of the village centers in the region bear a close resemblance to their appearance in the early 20th century. In many cases, widespread removal of structures and replacement have left only a fragmentary landscape. In others, inappropriate treatments ranging from over-restoration to oversimplification have substantially altered the traditional setting and appearance. For example, in Provincetown a continuous process of commercial modification has altered the Commercial Street corridor through the modern period as shops, restaurants, and seasonal accommodations have been added. Similar processes have had an extensive effect in the central village area of Nantucket. Virtually all local centers along the Cape's Route 6A and Route 28 corridors have experienced some form of significant alteration. On the outer Cape, Wellfleet Center has become a craft gallery and seasonal commercial center. On Martha's Vineyard, commercial modifications have altered the business districts in Vineyard Haven, Oak Bluffs, and Edgartown. Pressures for change continue to be great at coastal waterfront locations. Threats to historic harborside resources remain high as functional maritime landscapes continue to be converted to recreational and residential use.

Changes in Regional Agriculture

The post-1940 period has been one in which a significant reduction has taken place in the extent of farming activity within the study unit. Between 1951 and 1980, the percentage of land in agricultural use declined from 15.1 % to 7.7 %. While cranberry production continues to be a significant economic activity in many towns, abandoned bogs are evident in a number of areas. Forest regrowth has occurred on many abandoned agricultural tracts, yet farm abandonment has often taken place in conjunction with residential or commercial development as well-drained agricultural lands have attracted new construction. The decline in farming has also resulted in the abandonment and loss of specialized agricultural structures, farmstead complexes, and the late 19th-century residences of farm and farm worker families.

The exception to this pattern of decline has been the cranberry industry, which has expanded operations in much of adjacent southeastern Massachusetts as well as on the Cape. Since archaeological sites frequently occur along the margins of wetland areas, the conversion of natural wetlands to cranberry bogs often results in the destruction of sites. Currently the cranberry industry is confined primarily to the inner Cape, particularly in that section of Bourne north of the Cape Cod Canal. Archaeological sites located adjacent to the many wetlands that were drained by the former Manomet and Scusset rivers will be jeopardized if cranberry operations are expanded there. The expansion of small isolated bogs in Barnstable, Yarmouth, Dennis, Brewster, and Harwich also may affect archaeological sites located around them.

Industrial Development

Modern industrial development has not been extensive in the region. However, significant local impacts have occurred. In the northwest Cape Cod area, new

industrial plants have located in Bourne east of Route 3. In Sandwich, a fringe power plant and tank farm zone has developed along the Cape Cod Canal corridor. New industrial development has located in interior Sandwich and Barnstable south of Route 6 along Routes 130 and 132. The impact of extractive industry, primarily gravel quarrying, has also been felt, particularly in the inner and mid-Cape region. Active gravel pits are present in Bourne, Falmouth, Sandwich, and Barnstable.

Open Space Management

While development processes have had a transforming effect on the study unit's landscape, the past forty-five years have also seen the creation of a variety of land conservation and preservation areas in the region. These districts are administered by a variety of public agencies at the federal, state, and local levels as well as a number of private nonprofit organizations. Most notable in the western part of the study unit is the large area controlled by the Camp Edwards Military Reservation and Otis Air Force Base in Bourne, Sandwich, and Mashpee. While expansion of military facilities has represented a significant alteration within this area, large outlying tracts have remained undeveloped as the result of military control. Federal land management has also had a significant impact on the eastern part of the study unit where the Cape Cod National Seashore was established in 1961. Administered by the National Park Service, the Seashore includes significant tracts of land in six towns: Chatham, Orleans, Eastham, Wellfleet, Truro, and Provincetown. About a third of the land within the National Seashore boundaries remains in private or local government control. South of the Seashore is located a third type of federal land holding, the extensive Monomoy Federal Wildlife Refuge in Chatham.

Several state-controlled land management areas have also been established within the study unit. Nickerson State Park is located in Brewster. State forests include Shawme-Crowell State Forest in Sandwich and Bourne, Martha's Vineyard

State Forest in Edgartown and West Tisbury, and Nantucket State Forest. State reservations include Lowell Holly in Mashpee and Scusset Beach in Sandwich. A number of state wildlife conservation areas also exist within the region, and a new Department of Environmental Management State Park has been established at Waquoit Bay in Mashpee. Locally controlled public lands include many town conservation areas and town forests. Probably the most extensive locally controlled open spaces are the tracts owned by the Nantucket Conservation Foundation.

In addition to publicly controlled lands, numerous private nonprofit organizations have also established holdings within the study unit. The Massachusetts Audubon Society manages several areas within the region, including the Wellfleet Bay Wildlife Sanctuary, the Ashumet Holly Reservation in Falmouth, and Tern Island in Chatham. The Trustees of Reservations controls an extensive area on Nantucket Great Point. On Martha's Vineyard, the Sheriff's Meadow Foundation administers areas in Tisbury and Edgartown.

CHAPTER SEVEN

MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents both specific and general recommendations for the protection and preservation of cultural resources on Cape Cod and the Islands. In protecting historic and archaeological sites and structures, the Massachusetts Historical Commission follows a three-step process: Identification, Evaluation, and finally, Protection. The recommendations presented in this chapter are organized in a parallel manner.

Identification is the first step. In order to protect cultural resources, we must know what they are and where they are located. As part of this identification function, the Massachusetts Historical Commission maintains two inventories, one for prehistoric archaeological sites, the other for buildings, structures, and landscape features. Organized on a town-by-town basis, these inventories are the foundation for preservation planning in Massachusetts.

Evaluation is the second step. It is simply not possible to preserve all the properties listed in the Massachusetts Historical Commission's inventories. Furthermore, some buildings and sites are more important to protect than are others. Evaluation is the process by which a property's "significance" is

determined. Understanding a property's significance (whether is be local, state, or national), in turn, allows the Massachusetts Historical Commission to set priorities that focus on protecting the Commonwealth's cultural resources in an orderly and responsible manner. Evaluation is most frequently done through nomination to the National Register of Historic Places or consideration for inclusion in a local historic district.

In this chapter, the recommendations for identification and evaluation are presented in two sections. The first focuses on prehistoric resources and makes recommendations for both reconnaissance and intensive level survey as well as priority areas for National Register listing or designation as Massachusetts Archaeological Landmarks. The second section reviews the status of historic inventories and makes recommendations on where survey work is needed. Areas that should be evaluated for the National Register and/or local historic district status are also identified.

Protection of cultural resources follows their identification and evaluation. There are many ways in which significant sites, buildings, and even landscapes can be protected. Some of these measures are based on federal law, others on state statute or local ordinance. This section reviews the protective mechanisms applicable to the Cape and Islands and recommends where they can be made more efficient or should be strengthened.

The final section of this chapter summarizes all the recommendations into six policy statements. These policies indicate the ways in which the MHC will work with all parties, from private organizations and local regulatory boards, to state and federal agencies, who seek to preserve the cultural resources of Cape Cod and the Islands.

Recommendations for Prehistoric Resources

Identification

The archaeology of Cape Cod is a paradox, for it is at the same time one of the best known and least known regions of the state. Despite some of the highest site frequencies in the state, little substantive data is available. Except in a few areas, such as the outer Cape and Martha's Vineyard, only minimal information is present, and the prehistory of the region can be discussed only in the vaguest of terms.

The paucity of information is particularly acute on the inner Cape. Prior to the MHC study, only nine sites were recorded; at present there are only thirty-one sites within an area of several hundred square miles. The incongruity of site frequencies between the inner and outer Cape is so great that it suggests differential utilization in prehistoric times, with the inner Cape appearing to have been particularly unattractive for some reason. Although there may have been some differences in resources and subsistence opportunities on the Cape, they would have been relatively minor and would not have created the extraordinary degree of regional disparity currently suggested by the archaeological record.

The poor state of knowledge concerning the inner Cape is primarily due to sample error, which itself can be attributed to several sources. As an accident of history, the inner Cape has experienced a longer record of historic settlement and development than other parts of the Cape. So extensive has that development been that the Manomet and Scusset rivers were completely obliterated at the turn of the 20th century when the Cape Cod Canal was built. Tributaries of these rivers drain a major part of southeastern Massachusetts, and aboriginal subsistence activities would have been focused here during certain periods of the year. Although there are

few reported sites in the section of Bourne where these rivers were once located, there is no reason to suspect that these rivers were any less important in prehistoric times than the Bass and Herring rivers on the mid Cape. In addition, site destruction has been particularly chronic on the coast where residential and attendant service industry development has concentrated, while the interior portions of the inner Cape has remained largely undeveloped and wooded. This condition has influenced another problem with the data base from the inner Cape. Because site attrition is so high and site detection in wooded, undeveloped areas is not as easy as in other parts of the Cape, few avocational or professional archaeologists have focused their attention on the inner Cape. This situation notwithstanding, artifact collections made by Dr. Lombard Jones and Charles Goulding conclusively demonstrate the archaeological sensitivity and potential of the inner Cape. During the early to mid 1900s, they amassed large collections from many coastal sites, as well as from those on rivers, streams, and interior freshwater lakes and ponds of the inner Cape.

Possibly as much as 12,000 years of human activity is now documented on Cape Cod. The existing record suggests a high degree of resiliency as the human inhabitants adapted their cultural systems to constantly changing environments. Environmental change may have been one impetus for such intense occupation of the area, as it may have stimulated and increased economic opportunities through time. Site distributions indicate a pattern of extensive exploitation of the coastal margins of Cape Cod and the Islands. Salt marshes, estuaries, and freshwater streams, ponds, and lakes were also utilized. Evidence suggests that few areas or types of locations were not occupied or otherwise frequented at some time for some purpose during the 12,000-year sequence of human residence on the Cape and Islands.

Reconnaissance Level Survey Priorities:

Inner Cape: Included in this area are the towns of Bourne, Sandwich, Mashpee, Falmouth, and Barnstable. Fewer sites are recorded from the inner Cape than from other portions of the Cape or Islands. The extensive marshes around Barnstable Harbor (Barnstable), Scorton Creek (Sandwich), the former tributaries of the Manomet and Scusset rivers, and the many interior ponds and lakes and their outlet streams in Sandwich, Mashpee, and Falmouth all have evidence of prehistoric activity. These areas must be considered exceptionally sensitive and should be accorded highest priority for reconnaissance survey, as should undeveloped parcels of land along Buzzards Bay and Nantucket Sound.

Because of the extensive land disturbances that often occur on military bases, the Master Plan for Camp Edwards in Bourne, which is currently being developed, should contain a provision for a reconnaissance level survey.

North Mid Cape: This area extends from Follins Pond in Yarmouth and Dennis to Cape Cod Bay and incorporates all of the town of Brewster and the northern part of Harwich, near the headwaters of Herring River and Hinckley's and Long ponds where it also includes Seymour and Sheep ponds, and extends easterly to Chatham and Orleans. Although there is evidence of prehistoric activity adjacent to the many salt marshes, estuaries, and freshwater streams, ponds, and lakes, the archaeological record from here, like that from the inner Cape, is undoubtedly underrepresented. Good contextual and subsistence data from salvage excavations at the John Henry site in Brewster illustrate the archaeological potential of the area.

South Mid Cape: The remaining portion of the mid Cape extends along the coast from the Bass River in Yarmouth to Chatham and incorporates the area north of the Sound to Follins Pond (Yarmouth and Dennis) and to Hinckley's and Long ponds in Harwich. Included in this area are the Bass and Herring rivers, which

have unusually high site densities and contain possible evidence of Paleo Indian and Early Archaic activity, as well as numerous Middle Archaic sites. Currently information from here is derived solely from avocational collecting, and systematic survey is necessary to derive reliable samples. Despite the high site densities in some portions of this proposed study region, many small bodies of fresh water, such as Robbins, Andrews, Walters, Grass, Island, and Paddocks ponds, have yet to have sites identified around them.

Outer Cape Cod: In general, the quantity and quality of information from the outer Cape is the best of the entire Cape Cod study unit. However, several years of survey and excavation on the National Seashore have severely biased the data from there. Undeveloped land in the towns of Chatham, Orleans, Eastham, Truro, and Provincetown not within the National Seashore needs to be systematically surveyed in order to identify sites as a first means of preservation and to limit the disparity of information from the outer Cape.

Although there are no recorded sites on Monomoy Island, similar physiographic formations such as Sandy Neck and the Provincelands have yielded evidence of Woodland period utilization. A preliminary geomorphological study should be undertaken here to determine the feasibility of undertaking a reconnaissance level survey for cultural resources.

Elizabeth Islands: Currently only five sites are recorded on the many islands that comprise the Elizabeth Islands. Since historic land use has been primarily restricted to sheep grazing, the rate of archaeological site survival and internal integrity should be exceptionally high. The priority level of survey for the Elizabeth Islands should be considered relatively low, since developmental threats are less here than elsewhere in the study unit and the informational needs, while potentially rewarding, are not as critical here as in other areas at this time.

Intensive Survey and Site Examination/Site Examination Priorities:

Intensive archaeological surveys are specifically designed to locate presently unknown archaeological resources that may be destroyed, damaged, or otherwise threatened by a proposed construction project. On Cape Cod many of the areas suggested for intensive level surveys are those that exhibit high archaeological potential based on known site frequencies and distributions. They have been selected because of the lack of substantive data in the face of impending destruction if development is not checked or the sites preserved in some fashion. Specific site examinations are also recommended at a few sites that are well known to artifact collectors but about which little else is known. Intensive surveys and site examinations require a more intensive level of field sampling because they are designed to elucidate information such as site boundaries, integrity, significance, and research potential.

Waquoit Bay and Childs River, Falmouth: Many sites are recorded on Washburn Island and at the head of Waquoit Bay. Charles Goulding's collection from the Childs River is largely unprovenienced, but it contains artifacts suggesting Middle Archaic through Late Woodland period activity. While the development of Waquoit Bay has undoubtedly already destroyed many sites, the Childs River is relatively undeveloped and presents an opportunity to derive some contextual data for sites from here before it too is developed.

Long Pond, Falmouth: In general, the inner Cape is not well known archaeologically, and the prehistoric utilization of freshwater habitats is poorly documented for Cape Cod as a whole. Isolated artifacts found at several locations on Long Pond suggest that both of these informational deficiencies could be rectified by a program of intensive survey and site examination. Although some

graveling has occurred in the vicinity, Long Pond has escaped the intensive development that characterizes much of the area. Unless preservation steps are taken, either for natural and/or cultural resources, it will not remain undeveloped for long.

Tidal Marshes on Cape Cod Bay, Sandwich: The town of Sandwich is bounded on its northern side by a maze of creeks, estuaries, and tidal marshes that flank Cape Cod Bay. Despite the fact that these environments are among the richest natural resource bases in the world, and the archaeological sensitivity is demonstrably high, only a few archaeological sites are known from this portion of the Cape. Gradually, residential development is occurring wherever available dry land can be obtained, and the many terraces and necks of land associated with Scorton Creek, Old Harbor Creek and Springhill Creek, will soon no longer be available for investigation.

Bass River Area, Yarmouth and Dennis: The Bass River appears to have been intensively settled from Middle Archaic times to the present. Paleo Indian activity may have occurred here as well. Despite extensive recent development, small undeveloped tracts of land still remain, and some, such as Wilbur Park in Yarmouth and the Nickerson-Berth property across the river in Dennis, are known to contain archaeological sites. The archaeological potential must be considered extraordinarily high for other parcels. Information from systematically surveyed and excavated sites is needed to place the many artifact collections that have already been studied into context and to understand more fully the role that this region played in the prehistory of Cape Cod.

Herring River, Harwich: A number of sites on the Herring River, most notably the Bells Neck Road site, have yielded a prodigious quantity of materials to artifact collectors, yet nothing is known about the internal patterning or intrasite relationships here. Although much of the river is theoretically protected as conservation land, the sites continue to be ravaged by pot hunters. Since the Bells

Neck Road site represents the only provenienced location where Paleo Indian, Early Archaic, and intensive Middle Archaic period activity is documented, the site should be systematically examined. The study should help derive some needed contextual data, and provide the impetus for better local preservation enforcement. Intensive survey of the Herring River is also a step recommended for preservation of other sites located there.

Stoney Brook Area, Brewster: This area includes the entire Stoney Brook drainage. It extends from the headwaters of Stoney Brook at Walkers Pond to its mouth on Cape Cod Bay, and incorporates Upper and Lower Mill ponds. Sizeable collections have been made on Walkers Pond, and other sites in the proposed survey area suggest activity from Middle Archaic to Late Woodland times. It is believed that the Rene Collection, one of the largest artifact collections on the Cape, was made primarily from the Stoney Brook area, and the Early Archaic materials contained in it have considerable implications for the antiquity of human occupation on this portion of the Cape.

Muddy Creek, Chatham: Many sites are recorded along both sides of Muddy Creek; they extend from its mouth on Pleasant Bay, where a nearly complete ceramic vessel was recovered, to its headwaters. At least one shell midden is known to have produced a large quantity of faunal remains and bone tools. Development here is not as intensive as on other parts of the mid or outer Cape, but housing construction is beginning, particularly on the southern side of Muddy Creek. Extensive survey and site examination are requisite steps in information retrieval and site preservation.

Morris and Stage Islands, Chatham: Although four prehistoric sites are known on these two small islands, which are actually linked by a salt marsh, the manner in which they were discovered and reported is of little informational value. The lack of residential development and the presence of known cultural resources is

conducive to a good site survival rate and the retention of good internal integrity. An archaeological study while the islands are in this condition would provide invaluable information since so many other sites in similar settings have already been destroyed.

Swan Pond, Dennis: Pot hunting and development have already had an adverse effect on most of Swan Pond. However, one of the largest and best preserved assemblages of faunal remains and bone tools from a midden here suggests considerable research potential if survivals could be identified. Currently small, undeveloped, and easily surveyable parcels of land still exist, but total site destruction is imminent.

Sandy Neck, Barnstable: Every collector with whom the MHC survey team worked had material from one or more sites on Sandy Neck. Because of the unstable dune environment, specific site locations are often impossible to determine from one year to the next. For that reason, and because of the sheer quantity of sites and find spots that are known, all of Sandy Neck is considered a single archaeological site for cultural resource management purposes. Although shell middens and burials are reported, the lack of systematic studies makes it impossible to determine how the many sites here were related to one another, and what their relationship was to other sites on the Cape.

Hornblower I, Chilmark (Martha's Vineyard): Although Byers, Johnson, and Hornblower excavated a portion of the Hornblower I site, (19-DK-93, Chilmark, Martha's Vineyard), in the late 1930s, a large portion of the midden has survived. Coastal erosion and continued collecting, however, are taking their toll, and the only means of stabilizing the site and preserving the remaining information is to undertake a thorough site examination.

Nemskaket Creek, Orleans/Brewster: Recent excavations at 19-BN-490 and 491 on Nemskaket Creek in Orleans have yielded new information for a portion of

the outer Cape, which is generally underrepresented in the archaeological record. Evidence of Susquehanna and Late Transitional period activities here have broad implications, both locally and regionally, and an intensive survey of Nemskaket Creek and its associated marshes is needed to place these sites in their proper context.

Wellfleet Harbor, Wellfleet: Although the ecologically rich estuarine habitat of Wellfleet Harbor is known to contain many sites, including the only reported ossuary in New England, no systematic studies have been performed. In the coastal mid-Atlantic and Great Lakes areas, where ossuary burials were common Woodland period occurrences, multiple ossuaries at a single site were typical. If this pattern were to hold on Cape Cod, additional ossuaries as well as a wide range of other site types would be expected to be discovered from an intensive survey of Wellfleet Harbor.

Wauwinet/Coskatawoods, Nantucket: This portion of the island is well known to collectors, but no systematic studies have been undertaken. Among the sites in the area is one which yielded an Eastern Clovis point, making it the only known Paleo Indian site on either Nantucket or Martha's Vineyard. Rare Early Archaic period associations are also reported from Wauwinet, where burials have been discovered as well.

Evaluation

Sandy Neck, which for management purposes is regarded as a single large site (19-BN-81), has recently been nominated as an archaeological district as part of Barnstable's Multiple Resource nomination. The presence of site clusters and high site densities discovered in conjunction with collections research has helped to identify other areas which were important during prehistoric times and should be

considered for nomination to the National Register of Historic Places as archaeological districts. Briefly, these areas are as follows:

Herring River, West Harwich: This district would contain twelve recorded sites that cluster around the marshes that now occur on the river's mid-course. Included among these is a possible Paleo Indian site, one of only two yet identified on the Cape, two of the four known Early Archaic period sites on the Cape, and sites with evidence of intensive Middle Archaic through Late Woodland period activity.

Stoney Brook, Brewster: Six sites dating from the Middle Archaic to Late Woodland times are included in this district. The sites are located at the headwaters of Stoney Brook on Walkers Pond and extend to its estuary on Cape Cod Bay, and therefore probably represent cultural adaptations to a variety of habitats and economic opportunities.

Muddy Creek, Chatham/Brewster: Nine sites are located along Muddy Creek. They have been found near its headwaters and extend along its entire course to its mouth on Pleasant Bay about one mile away. Sites include several shell middens with excellent faunal and bone tool assemblages, and one site yielded a nearly complete Late Woodland ceramic pot.

Corn Hill, Truro: At least ten sites have been identified in this district, which would include Corn Hill itself, as well as the Little Pamet River and a portion of the Great Hollow. Among the sites are the Rose, Perry, Red Barn, and Cliff sites, which were all stratified multicomponent sites whose assemblages are still available for study at the R. S. Peabody Foundation. In addition, several burials have been exhumed from the Railroad site, and one with a brass kettle was encountered on Corn Hill. Other Contact period associations are also attributed to this area based on various interpretations of Mourts Relations, and as the name implies, a cache of corn was reputedly discovered here by a Pilgrim reconnoitering party.

Pilgrim Heights--High Head, Truro: This location includes such a high density of sites (over twenty-five sites in an area approximately three-quarters of a mile by one-half mile), that for management purposes it is considered a single site. Sites range in age from Middle Archaic, when this location was the farthest extent of the Cape's land mass prior to the development of the Provincelands, through the Late Woodland period. It also appears to have been a locus, if not a focal point, for the manufacture of Cape Stemmed Points.

Nauset Bay, Eastham: Over fourteen sites are included in this proposed district. Most of the sites were discovered by the National Park Service's CACO survey, but the area has attracted collectors for years.

Salt Pond Bay, Eastham: Nineteen sites, including one of the few provenienced Early Archaic period sites on Cape Cod, are contained within this proposed district. Many of these sites were discovered by the National Park Service and lie within the Cape Cod National Seashore.

Fort Hill, Eastham: Fourteen sites are recorded here, and it was the focus of the National Park Service's most intensive study. Sites from here have produced numerous radiocarbon dates, as well as evidence of incipient sedentism based on the exploitation of the local shellfishery as opposed to horticulture, for which there is also evidence.

Nauset Marshes Archaeological District: This district would combine the Nauset Bay, Salt Pond Bay, and Fort Hill archaeological districts. Well over forty sites are included here, and this larger district would reflect more realistically the archaeological significance of the entire Nauset Marsh area instead of arbitrarily dividing it up based on convenient place names.

Squibnocket Pond, Martha's Vineyard: Eighteen sites are contained within this district, and there is a high probability for many more undiscovered sites with good integrity. Ritchie's excavations revealed numerous hearths, pit features, post

molds, and excellent faunal preservation. Together the Peterson and Hornblower II sites yielded seven radiocarbon dates, which document recurrent use of the area from Late Archaic through Late Woodland times.

Menemsha Pond, Martha's Vineyard: Over twenty-five sites, including at least one Late Woodland burial, are included in this proposed district. Site densities are so high that individual site boundaries are often difficult to assign and may be misleading.

Recommendations for Historic Period Resources

Identification

In general, the state of historic inventory is poor for the towns of Cape Cod and the Islands. Several towns have little, if any, inventory on file at the MHC; many others are incomplete and focus primarily on town centers or residential areas. The current status of inventory for each town is summarized in Table 20. Even where inventories are essentially complete, there are areas where coverage can be extended or improved.

The state survey project relies heavily on the MHC's inventory of historic resources and, because of the key role of field visits, provides an excellent opportunity to assess the inventory's success in identifying resources. Examination of all the inventories from the study unit has led to the discovery of several omissions and inadequacies. These fall into seven general categories:

Absence of Archaeological Survey: Systematic consideration of archaeological sites and potential has not been conducted in conjunction with local inventory. Occasionally locations of native activities are noted as well as locations of early contacts between Native Americans and colonials, and earliest settlement areas of colonials. The location and survival of site locations based on ecological and cultural needs or of commonplace activities have not been examined.

Outmoded and Poorly Organized Inventory: Several town inventories were completed many years ago, and need to be updated and reorganized in keeping with current standards of quality. The primary areas needing improvement include incomplete documentation, unacceptable photographs, inappropriate use of area,

Table 20

Status of Inventory for Towns on Cape Cod and the Islands.

Town	<u>Completed Inventory</u>		<u>Incomplete Inventory</u>	
	Comprehensive	In Surveyed Areas Only	In Progress	No Activity
Barnstable	X			
Bourne			X	
Brewster				X
Chatham		X		
Chilmark			X	
Dennis		X		
Eastham			X	
Edgartown	X			
Falmouth		X		
Gay Head				X
Goswold				X
Harwich		X		
Mashpee				X
Nantucket			X	
Oak Bluffs	X			
Orleans				X
Provincetown		X		
Sandwich		X		
Tisbury	X			
Truro			X	
Wellfleet	X			
West Tisbury			X	
Yarmouth	X			

streetscape, individual building forms, and the poor organization of forms within large inventories.

Inadequate Resource Coverage—Geographical: Several inventories focus only on the resources located in town or village centers and do not include those located in rural areas.

Inadequate Resources Coverage - Chronological: Inventories commonly focus on early rather than more recent historic resources of towns. The earliest resources, as well as the numerous and highly visible resources from the early years of the 19th century, are usually given adequate coverage in completed inventories. Later resources, especially those dating from the late 19th and 20th centuries, are seldom included. In this region in particular, much of the surviving resort landscape, including residential and commercial areas, remains undocumented. Nearly all inventories can be augmented in this regard.

Inadequate Resource Coverage—Typological: Most inventories show a preferential coverage of residential and institutional buildings and include little information on the workplaces that survive in the towns, whether they are related to the agricultural, manufacturing, maritime, or commercial aspects of their economies. Maritime-related structures are the least understood of these categories, but are among the most important for the region. Similarly, secondary structures within large complexes, whether the small outbuildings on a farm, storage and machine shops adjacent to a factory, or the multitude of small warehouses on a wharf, often receive little attention in inventories.

Incomplete Application of Inventory Methodology: Most inventories base their identification of structures exclusively on the exteriors. This emphasizes aesthetics over function, often masking important variation. Facades and ornamentation receive far more attention than more general information on building form and plan. Too often exterior elements related to architectural style are the

exclusive determination of the construction date of a building. The relationship of a building's form to its function and the clarification of changing function and form over time are not given adequate attention.

Lack of Methodology for Peripheral Areas: Core areas have received far more attention for their trendsetting activities and the high quality, exceptional diversity, and density of their resources. Appropriate interpretation of areas outside the mainstream, and their interaction with these cores has tended to emphasize "less" rather than "other." In this region a large number of towns have remained low-density, rural communities for many years, and three distinctive patterns have developed. Native American communities have survived in the region, and have served as magnets for longstanding, multiracial communities that exist in direct contrast to other examples in the Commonwealth more commonly located in cities. Secondly, resources closely follow the model for vernacular resources, emphasizing uniformity within the region over time. And finally, its low density and seaside environment has made the region a popular resort area, bringing new uses to structures and landscapes that obscure earlier patterns. Current inventory methodology does not sufficiently address these unusual circumstances.

Recommendations:

Complete inventories for all towns in the region: Towns with no inventory include the towns of Chilmark and Gay Head. Those with a very small number of forms include Bourne, Eastham, Mashpee, and Gosnold.

Update inventories to improve quality: Town inventories which could be augmented and reorganized in keeping with current quality standards include those of Tisbury, Chatham, Harwich, Provincetown, and Yarmouth.

Survey outside villages: Towns whose inventories only cover villages include West Tisbury, Falmouth, and Orleans.

Survey additional building types: All inventories ignore workplaces in favor of residences and institutional buildings. Barns and other farm outbuildings, stores and related commercial structures, wharves, warehouses, and other harbor and marine related structures are examples of resources that are highly vulnerable because they are seldom considered in inventories and are constantly being modified in both form and function.

Improve coverage of late 19th- and 20th-century resources: Extensive seasonal residential districts have not been inventoried, including both estate neighborhoods and summer cottage colonies. Surviving commercial centers, hotel complexes, and amusement areas should also be documented. While some documentation of business center buildings exists, little inventory has been made of the variety of tourist-oriented commercial development both in the growing town centers, resort areas, and along the region's highways. Towns whose inventories omit resources dating from after the mid-19th century include Brewster, Falmouth, and Sandwich.

For more information on how to complete a comprehensive, communitywide inventory, contact the Massachusetts Historical Commission for a copy of the Publication "Historic Properties Survey Manual".

Evaluation

Both the federal and state government provide designations for properties that have been evaluated and determined to be of historic importance. Properties of national significance may be listed as National Historic Landmarks (36CFR 65). Four of these are located within the Cape Cod and Islands region: the Kennedy Compound in Barnstable, the Louis Brandeis House in Chatham, and the Jethro Coffin House specifically and the town of Nantucket generally.

A more common designation is to the National Register of Historic Places for properties of local, state, or national significance (36CFR 60). Six districts have received this designation, including Nantucket, Edgartown village (500 properties), Harwich village (fifty-eight properties), the Campgrounds at Oak Bluffs (312 properties), Town Hall Square in Sandwich (fifty-four properties), and the William Street area of Tisbury (fifty-six properties). Individual listed properties are more numerous and number six in Chatham, five in Provincetown, and four each in Barnstable and Wellfleet. Towns with two properties listed include Brewster, Dennis, Eastham, Falmouth, Oak Bluffs, Sandwich, and Truro. A single listing has been made in Bourne, Orleans, Tisbury, West Tisbury, and Yarmouth. Determinations of eligibility to the National Register (36CFR 63) have been made for additional properties in Eastham and Provincetown.

On the state level, the region is unusual for the number of historic districts created by individual acts of the legislature. One of the earliest of these Special Act districts was established in 1965 at Yarmouthport (450 properties), as well as North Chatham, Training Field, Old Harbor Station, and "Old Village" in Chatham. The best known of these districts was established on Nantucket Island in 1955, and includes the town and the village of Siasconset. It was expanded in 1970 to include the entire island and an estimated 2,000 buildings. In 1973 an historic district was established along the primary historic roadway known as Route 6A, called the Old Kings Highway Regional Historic District. It includes portions of the towns of Barnstable, Brewster, Dennis, Orleans, Sandwich, and Yarmouth. In 1975 Falmouth designated several of its villages in this way, including Falmouth village (eighty-five properties), North Falmouth and West Falmouth (each seventy-five properties), East Falmouth (twenty-six properties), Woods Hole (twenty-five properties), and Waquoit (ten properties).

Local historic districts can also be established under the authority of Chapter 40C of the General Laws (as amended in Chapter 359, Acts of 1971). Under the

terms of this law, a town may adopt a bylaw which protects and preserves the distinctive character of buildings and places within a designed district. (For more information, see the Massachusetts Historical Commission manual on establishing local historic districts.) Surprisingly, Chapter 40C districts have not been used widely within the study unit. Only five towns currently have such districts: Dennis (1974), Eastham (1986), Harwich (1970), Sandwich (1965), and Tisbury (1975). At least one additional district, Edgartown, is currently pending.

Evaluation of historic resources on the Cape and the Islands reflects biases both common in the Commonwealth generally and specific to the developmental patterns of the region. Inadequacies of inventory produce unrepresentative designation. For example, single-family homes from the Colonial and Federal periods predominate, followed by institutional buildings. Recognition has been made of the historic and regional importance of Federal and Early Industrial villages at Edgartown, Nantucket, Tisbury, and Yarmouthport, but many more could be designated. Geographic and chronological omissions parallel those found in the inventory, with a preponderance of village-sited resources from the pre-1850 period and a paucity of rural sitings and late 19th- and early 20th-century structures. Interestingly, typological coverage is quite varied, and includes a broad if scattered range of workplaces as well as structures related to transportation, communication, recreation, and to the region's mainstay, its maritime economy. In keeping with the region's resort function, many picturesque elements have received attention, including windmills, lighthouses, halfway houses, and lifesaving stations. By contrast, peripheral and multiracial towns have been severely neglected.

Recommendations:

With the exception of Barnstable, where a communitywide Multiple Resource nomination is pending, no town in the study unit has evaluated all of its historic

resources in a systematic manner. In several communities, particular areas—such as the town center or secondary villages—have been evaluated either for the National Register or for local historic districts. However, before appropriate planning and protective measures can be implemented, all of the community's historic resources need to be identified and evaluated. The Massachusetts Historical Commission recommends that the evaluation process be done in four steps:

Review the completed building inventory: Once the inventory has been finished, it will be reviewed by the Massachusetts Historical Commission for completeness and thoroughness. This evaluation also allows the Massachusetts Historical Commission to make more specific recommendations for both National Register nomination and potential local districts. This review includes a meeting with members of the local historical commission, town planner, and other interested parties in order to set priorities for nominations and establish district study committees.

Prepare National Register nominations for the significant districts and individual properties: Properties may be nominated to the National Register in three ways: individually, as part of a district, or as part of a communitywide (Multiple Resource Area or Multiple Properties) nomination. Whichever approach is used, the Massachusetts Historical Commission recommends that the nomination be as comprehensive and inclusive as possible. For example, individual properties should include all relevant barns, outbuildings, landscape features, and archaeological sites. When significant clusters of buildings and related structures or features remain, the MHC encourages their nomination as a district. District nominations are especially appropriate for villages, whether they are organized around a crossroads, a milling complex, or waterfront. The most comprehensive form of nomination is one that reflects the evaluation of all of a town's historic resources. Community-wide nominations, which include both individual properties

and districts, are the most efficient and effective way for a town to list all its significant properties on the National Register. Additional information on how to apply for National Register designation is available from the Massachusetts Historical Commission.

If no local historic district exists in the town, consider establishing a district study committee: As noted above, local historic districts differ from National Register districts in that they are based on local ordinance and require no action by the federal government. Local historic districts, as established under Chapter 40C, are one of the most effective ways in which local people can control development within their community. (For more information on establishing a local historic district contact the Massachusetts Historical Commission for a copy of the publication "Establishing Local Historic Districts".)

If a local historic district does exist, consider expanding it and/or strengthening the review authority of the historic district commission: Many of the local historic districts on the Cape could be enlarged. There are also many towns where new districts could be designated to supplement existing ones. In addition, the MHC recommends that towns with Special Act districts consider consolidating or restructuring these districts under the authority of Chapter 40C.

The following list presents some of the most pressing evaluation needs within the study unit.

Bourne: The Massachusetts Maritime Academy complex should be evaluated for the National Register, as should several potential resort districts: Gray Gables, Scaggy Neck, and Wings Neck. A National Register or local historic district designation should also be considered for Sagamore.

Brewster: There are potential National Register districts along Route 6A in both Brewster and West Brewster. Separate local historic districts should also be considered in these areas, as a supplement to the Old King's Highway district.

Chatham: All the Special Act local historic districts should be reviewed for expansion and possibly consolidated under Chapter 40C. Many of these may also be eligible as National Register districts. A communitywide nomination would probably be the best approach.

Chilmark: Menemsha should be nominated as a National Register district.

Dennis: Several areas should be evaluated as potential National Register districts, including Dennis, East Dennis, South Dennis, West Dennis, and Dennis Port. A communitywide evaluation nomination is probably the best approach. Several of these areas should also be considered for local historic district status. As in Brewster, this includes areas in the Old Kings Highway district which could be designated as 40C districts.

Falmouth: All seven of the town's Special Act districts should be reviewed for expansion and possible consolidation under Chapter 40C. As in Chatham, several of these should also be evaluated for nomination to the National Register. The town also has many important historic resources outside of its current districts. A communitywide nomination could best address this. Of particular importance is the East Falmouth meetinghouse (probably individually eligible) and several resort areas on both Buzzard's Bay and Vineyard Sound.

Harwich: Harwich Port and West Harwich should be evaluated for National Register eligibility.

Mashpee: There are potential National Register districts in Mashpee Center and at Popponesset Beach. The Mashpee meetinghouse is also of particular importance and may be individually eligible.

Oak Bluffs: National Register districts should be considered in both the Ocean Park area and in Vineyard Highlands.

Orleans: A communitywide evaluation is probably necessary to determine whether any potential for National Register districts still remains.

Sandwich: The boundaries of the existing National Register district in Sandwich Center should be expanded, perhaps to include the local historic district boundaries. Additional National Register and local districts should be considered for the glassworks area and in East Sandwich.

Tisbury: The current Vineyard Haven district could be expanded. An additional district should be considered for West Chop.

Truro: Potential districts may exist in North Truro and the Highlands.

West Tisbury: The existing local historic district could be expanded, and should also be considered for National Register nomination. Another small National Register district should be considered for Christiantown.

Yarmouth: Although a National Register district is currently pending (Northside), a communitywide nomination would be an effective way to designate many of the town's other significant areas, such as Bass River and the camp meeting ground.

Recommendations for Protection

The rapid pace of residential and commercial development is an active threat to the historic and archaeological resources of the Cape and Islands. This is not an antidevelopment position; it is simply a statement of fact. At its current rate, new development is redefining, if not overwhelming, the traditional scale and historic character of the study unit.

The ability of the preservation community to respond to these threats is largely a function of how well they have laid the groundwork for protection. For example, if local historical commissions have identified and designated the significant historic and archaeological properties within their communities, then planning for their

protection, or responding to a crisis situation, is more likely to be successful. Even when historic designation carries only minimal regulatory review, the notice provided by listing frequently helps to "flag" a property as requiring careful consideration in a development process. Therefore, the Massachusetts Historical Commission urges local historical commissions to complete comprehensive surveys of both historic and archaeological sites, and to follow this up with designations, both through National Register listing and the establishment of local historic districts and landmarks.

Some of the best opportunities for protecting historic and archaeological resources on the Cape and Islands are on public land. Federal and state agencies are major landholders within the study unit. Among their responsibilities is to plan for the preservation of significant historic and archaeological properties. In many cases, this means actively identifying, evaluating, and protecting these properties rather than simply responding to threats. The Massachusetts Historical Commission works with these federal and state agencies both through regulatory review programs and by integrating preservation concerns with overall planning activities.

There are also many opportunities for protection at the town level. Under "home rule," towns in Massachusetts have considerable authority to regulate and control development. For example, many towns in the study unit have established local historic district commissions, the strongest kind of preservation ordinance available at the local level. When coordinated with the zoning board and building inspector, local historic district commissions can play a key role in keeping change under control. Another opportunity available to towns is the acquisition of conservation lands with the assistance of state and federal funds. While conservation lands are obviously important for their natural resources, they are also likely to be significant for cultural resources as well. Many conservation areas contain important archaeological sites; they also provide the context or setting for

historic buildings. These are but two ways in which a town can protect its significant cultural resources. The key to preservation at the local level is to be well informed on both the resources themselves and the protective options available. When this information is used creatively, solutions to most preservation problems can be found.

Finally, many of the outstanding historic and archaeological properties in the study unit are private property. The public interest in protection of privately owned buildings, sites, and landscape features is a touchy subject, and when pushed too aggressively is likely to cause more harm than good. Successful protection at this level is usually a matter of persuasion and education. Property owners must be convinced that their interests, along with those of the public, will be served by protection.

The following is a more detailed outline of the protection options available at the federal, state, local, and private levels. General and specific recommendations for protection at each level are also made. Additional information on the laws that protect cultural resources and programs that provide assistance is available in Public Planning and Environmental Review (available from the Massachusetts Historical Commission), and The Massachusetts Preservation Resource Handbook (available from Historic Massachusetts Incorporated, Room 330, 80 Boylston Street, Boston, MA 02116).

Federal Level

- A. Several federal agencies are major property owners in study unit:
1. National Park Service (Dept. of Interior) - Cape Cod National Wildlife Refuge
 2. Fish and Wildlife Service (Dept. of Interior) - Monomoy National Wildlife Refuge; Great Point, Nantucket
 3. Department of Defense - Otis Air Force Base
 4. Coast Guard (Dept. of Transportation) - several lighthouses

Recent preservation-related activities include:

- Archaeological survey of National Seashore by North Atlantic Regional Office, National Park Service
- Completion of a thematic listing of lighthouses done jointly by the Coast Guard and the Massachusetts Historical Commission

B. Several other federal agencies have regulatory or planning authority within the study unit or offer technical assistance programs:

1. Federal Highway Administration (FHWA)
2. Environmental Protection Agency - environmental quality and growth policy
3. Soil Conservation Service (Dept. of Agriculture) - stabilization programs
4. Army Corps of Engineers

MHC works with these agencies through the Section 106 process to protect any significant cultural resources threatened by federally funded or licensed projects.

Recommendations:

A. General:

- Continue to work with the appropriate federal agencies to protect resources through the 106 process.

B. Specific:

- Encourage the National Park Service to follow up the archaeological survey on the Cape Cod National Seashore with appropriate National Register nominations, especially for districts at Fort Hill and High Head.
- Encourage the National Park Service to expand current inventory to include all buildings and standing structures within the National Seashore, and to protect those which may be determined eligible for the National Register.

- Encourage Fish and Wildlife Service to conduct an archaeological survey of Monomoy.

State and Regional Level

- A. State agencies that are property owners in the study unit:
 1. The Department of Environmental management (DEM) is responsible for the management of land and water resources, including protection and enhancement of their recreational use, and the development of sound land-use policies. DEM is also one of the few state agencies with a land acquisition program. DEM properties in the study unit include:
 - Nickerson State Park (Brewster)
 - Shawme-Crowell State Forest (Bourne-Sandwich)
 - Scusset Beach, (Sandwich)
 - South Cape Beach, Waquoit Bay, and Washburn Island (Falmouth-Mashpee)
 - Martha's Vineyard State Forest (West Tisbury, Edgartown)
 - Nantucket State Forest
 2. Massachusetts National Guard - Camp Edwards
 3. University of Massachusetts - Nantucket Research Center
- B. Several agencies with regulatory or planning authority within the study unit or that offer technical assistance and/or grant programs:
 1. Regional Planning Commissions
 - Cape Cod Regional Planning Commission
 - Nantucket Planning Commission
 - Martha's Vineyard Commission
 2. The Executive Office of Environmental Affairs (EOEA) was established to serve as the principal agency for the protection and improvement of natural resources and the quality of the environment within the Commonwealth. It is responsible for five Departments under its aegis:
 - A. Department of Environmental Management
 - City and Town Commons Programs
 - Statewide Comprehensive Outdoor Recreation Program (SCORP)
 - B. Division of Food and Agriculture
 - Agricultural Preservation Restriction Program
 - C. Division of Conservation Services
 - Self-Help Program (Open Space/Master plan a prerequisite)
 - Conservation and agricultural preservation restrictions
 - D. Massachusetts Coastal Zone Management (CZM)
 - E. Massachusetts Division of Fisheries and Wildlife
 3. The Executive Office of Communities and Development (EOCD) oversees state programs relating to the concerns of the Commonwealth's cities and towns, including planning and management services, housing construction, and assistance programs. The mandate of EOCD is to promote revitalization of residential, commercial, and industrial areas; to promote the increased production of housing; to coordinate state and federal investment in local revitalization projects; and to evaluate and improve

existing state programs designed to meet housing and economic development objectives.

-Main Street Center

-Town Hall Program

4. Massachusetts Historical Commission: State Register and review process (Chapter 152, Acts of 1982):

-Protection for archaeological sites under authority of State

Archaeologist (Chapter 9, Sec. 26-27c)

-Massachusetts Preservation Project Fund

Recommendations:

A. General:

-Continue to work with appropriate state agencies (MDPW, DEQE) to protect resources through the State Register process.

-Encourage interagency cooperation to promote comprehensive planning for protection of both cultural and natural resources.

B. Specific:

-Encourage regional planning commissions to hire preservation planners and to incorporate preservation concerns into overall planning efforts.

-Encourage DEM to conduct archaeological surveys and develop CRM plans for existing parks and forests.

-Encourage DEM to protect areas of significant archaeological potential through acquisition.

-Encourage more Division of Conservation Services coordination with MHC in order to integrate protection of cultural resources with protection of natural resource areas.

-Encourage DEM and EOCD to integrate special programs (Town Commons, Main Street, Master Planning) with other local and regional preservation efforts.

-Expand and/or clarify MHC review authority under the State Register.

Local Government

A. Protection through town ownership

-Conservation lands (ability to acquire more through the Massachusetts Self-Help Program)

-Parks and recreation areas (often around historic sites or structures)

-Burial grounds

-Town forests - Barnstable, Bourne, Harwich, and Mashpee

-Watershed areas

-Town-based land banks/land trusts - Nantucket Land Bank

-Historic houses or structures - mills, jails

B. Protection through town regulatory authority

-Wetlands, wetland margins, and other designated conservation lands - conservation Commission

-Location and types of new development - planning board/zoning board

- Size, scale, and appearance of both new and existing buildings within a local historic district (Chapter 40C and Special Act) local historic district commission
- Review process prior to demolition (demolition ordinance) local historical commission
- Designation of scenic roads and vistas (Chapter 40, sec. 15C)

C. Protection through town planning and public education

- Preparation of Master plans/Growth and Open Space plans - planning board
- Advocate for preservation within town government, completion of building inventory, local coordinators for NR nomination, public education and information, preparation of preservation plan for town and local historical commission.
- Community development office

Recommendations:

A. General:

- Continue to assist towns in learning about and using all available protection options.

B. Specific:

- Encourage the formation of more 40C local historic districts.
- Encourage greater coordination between LHDs (both Special Act and 40C) and other local planning and regulatory bodies including LHCs, planning boards, and CD offices.
- Encourage local historical commissions and conservation commissions to work together to protect both cultural and natural resources wherever possible.
- Encourage the integration of preservation planning with overall town master planning efforts.
- Encourage towns to pursue the development of land banks (Barnstable and Nantucket as models).
- Encourage towns to enforce the laws which protect historic and archaeological sites on public property. For example, burial grounds and archaeological sites on publicly owned land.

Private Level

A. Property owners - institutional

- Mass. Audubon Society - Wellfleet Sanctuary, Tern Island (Chatham)
- Trustees of Reservations - Nantucket, Wasque Point (Edgartown)
- Nantucket Conservation Foundation
- Nantucket Ornithological Foundation
- Private, nonprofit land trusts: Martha's Vineyard - Sheriff's Meadow Foundation
- Truro Conservation Trust

Note: Many museums and historical societies own historic buildings, building complexes, and historically/archaeologically sensitive properties.

B. Property owners - private/individual; Some use of preservation restriction, conservation restrictions, and scenic easements

C. Advocacy, educational, and special interest groups

- Society for Preservation of Cape Cod
- Cape Cod Chapter, Massachusetts Historical Society
- Cape Cod Museum of Natural History
- Dukes County Historical Society
- Nantucket Historical Association

Note: The above three serve as regional archeological repositories.

Recommendations:

- Encourage the use of preservation restrictions and conservation easements by both individuals and institutions in order to protect significant historical and archaeological resources on private property.
- Encourage the use of preservation restrictions as well as scenic and conservation easements in conjunction with other federal, state, and local protective measures to create a protective mosaic in and around significant concentrations of historical and archaeological resources.
- Encourage the Cape Cod Museum of Natural History, the Dukes County Historical Society, and the Nantucket Historical Association to continue serving as responsible repositories for archaeological collections in their respective areas.

Policy Recommendations

While many parts of Massachusetts are distinctive, perhaps none evokes a stronger image than Cape Cod and the Islands . . . a quaint, undisturbed landscape of shingled cottages and small, neat villages set amidst the marshes, meadows, and beaches. Unfortunately, nowhere in the state is the image more jarringly offset by the reality. Massive traffic jams, lines of people, and crowds everywhere, new construction occurring at a dizzying pace—all attest to the fact that the region's population is growing at a phenomenal rate. As the Association for the Preservation of Cape Cod observed in a recent report, if the region is beginning to look like a suburb, it is because that is exactly what it is becoming. For preservation, the issue goes beyond saving old buildings or individual sites. What is at stake is the cultural landscape itself, the sense of size, scale, and setting that has traditionally defined Cape Cod and the Islands.

If we are to protect and preserve effectively the historical character that makes this region distinctive, then we must first understand what its resources are. This report examines these resources in considerable detail. As in previous reports on study units, the regional report has been preceded by a series of individual town reports that examine the process of historical development in each of the twenty-three towns on the Cape and Islands. This report, in turn, assesses patterns of settlement, economic activity, and architecture throughout the study unit and identifies the important resources that survive.

The cultural landscape of the Cape and Islands is itself the product of more than 300 years of human habitation. During most of this period, the Cape and Islands functioned as a peripheral area. Geographically isolated from the rest of the Commonwealth, development has generally been slow. As a result, settlement has

been traditionally dispersed and buildings have been modest both in size and ornamentation.

Two major periods of growth are responsible for most of the historic features we now associate with Cape Cod and the Islands. The first occurred during the early 19th century when fishing and maritime commerce brought unprecedented prosperity to the region. The success of these maritime activities encouraged the development of small coastal villages and waterfront facilities. Much of the historic housing stock, especially simple Greek Revival and Italianate houses, date from this period. The second boom began during the final decades of the 19th century as people from Boston, New York, and elsewhere began to come to the region by rail and ferry. At first renting houses or staying in hotels, these tourists soon began to buy and then build houses for themselves. As a result, many small villages became resort communities, and the landscape along many parts of the coast began to fill in with shingled Victorian houses as well as more modest cottages. With the advent of automobiles early in this century, the process accelerated dramatically as more of the study unit became accessible for commercial development. These patterns of residential and commercial expansion provided the foundation for the formidable growth pressures that threaten to overwhelm the Cape and Islands today.

Just as the problems that confront the region are complex and interconnected, so too the solutions must be. In addition to reviewing historical development and identifying surviving resources, the regional report concludes with a series of recommendations for protection and preservation. Six general points summarize these recommendations:

1. **Broaden the definition of "preservation" to include both cultural and natural resources.** In many cases, an area merits protection for a variety of reasons.

For example, the land along the edge of a salt marsh has obvious importance for ecological reasons. It is also likely to have significant prehistoric archaeological potential, and may provide an essential part of the setting for historic buildings. The point is, the preservation of cultural resources and conservation of natural resources frequently overlap, and often can work together effectively.

2. Understand better what the Cape's historic resources are and where they survive. Only a few of the towns in the region have completed a comprehensive inventory of historic buildings and structures. This is a necessary first step. Before effective preservation planning can occur or appropriate protective measures be enacted, it is essential to know what the resources are.

3. Encourage local historical commissions to become active advocates for preservation. Under Chapter 40, section 8D, the local historical commission is the branch of town government charged with protecting the community's historic resources. While some local historical commissions still restrict themselves to inventory work, many have discovered a more active role within the community. By working with other town bodies, such as planning and zoning boards and conservation commissions, local historical commissions can ensure that preservation concerns are integrated into overall community planning and policy making.

4. Protect historic resources by more effective use of available techniques. A wide range of preservation and protection options already exist. Some, such as local historic districts, are based on local ordinances; others are established by state or federal law. Still other techniques, such as preservation restrictions

and Massachusetts Archaeological Landmarks, are available to private individuals and nonprofit institutions. The important point is that effective preservation does not result from one program or designation; it is a mosaic that draws on all the available protective options.

5. **Enhance protection of significant historic resources through better coordination among existing authorities.** Many towns in the study unit have one or more local historic district commission as well as a local historical commission. While the duties and responsibilities of these commissions may differ, the goals are much the same. By coordinating their efforts, local district commissions can share their professional expertise and experience with the rest of the community; on the other hand, local historical commissions can back up district commissions through public education and information.

6. **Review and strengthen appropriate regulatory authorities.** Under Massachusetts law, towns have wide authority to regulate and control development. Among the mechanisms a community can use are: local historic districts, demolition ordinances, site plan review, overlay and cluster zoning, as well as acquisition. Each town must decide for itself what is appropriate. Regulatory authority also needs to be clarified and strengthened on the state level, especially in terms of open space planning and protection.