ACEC

Areas of Critical Environmental Concern

Massachusetts Coastal Zone Management

Site Summaries and Regulations

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC'S)

The Massachusetts program for identification, designation, and protection of critical areas.

By Steve Bliven

Revised through September 1987
By Bradley W. Barr

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INTRODUCTION

The Area of Critical Environmental Concern (ACEC) program was established in 1974 as part of legislative reorganization of state agencies dealing the natural resources, environmental matters, and conservations. Included in this reorganization was the requirement for development of "statewide policies regarding the acquisition, protection and use of areas of critical environmental concern to the Commonwealth" (Mass. G.L. C. 21A s. 2(7)). This action was a recognition of the fact that certain land and water resources are of such limited nature of central importance to the welfare, safety, and pleasure of all Massachusetts citizens that the protection and management of these resources transcend purely local concerns.

The techniques to be used in identifying, designating and protecting these ACEC's were left to the Office of Environmental Affairs. Identification criteria and designation procedures are detailed in Executive Office of Environmental Affairs Regulations (301 CMR 12.00, see Appendix A). Protection of coastal or inland ACEC's does not require new permits or administrative programs. Instead, existing environmental programs provide higher performance standards and greater review by agencies and the public for activities proposed in an area designated as an ACEC. Regulations of many of the state's environmental programs have sections pertaining to ACEC's. Section IV of this guide compiles these regulations in one place and presents a comprehensive picture of the ACEC program.

In the thirteen years since the inception of the program, more than twenty sites have been investigated and twelve have been designated as ACEC's. Nine of these are in the coastal zone and three are inland. Sections II and III are devoted to a discussion of these areas and include maps, background information and copies of designation findings. The program is ongoing and in the Fall of 1987 additional areas are under consideration for nomination as ACEC's.

Although many different sites - including historic, scenic, agricultural, and forest areas - may meet ACEC designation criteria, the program has thus far been used primarily as a wetlands protection tool. For example, the CZM Program has used the ACEC designation to establish a comprehensive regulatory framework to protect relatively unaltered estuarine areas along the coast (Policy #2 of the CZM Program). The ACEC program, of course, is only one of several available resource protection devices ranging from acquisition to zoning to legislation such as the Wetlands Protection Act described in Section IV. Depending on the management objectives and the resources present, the ACEC program may be appropriate; it certainly deserves careful consideration.

The protection of critical areas is important to CZM and the Executive Office of Environmental Affairs; it is a goal that we will continue to pursue. Rather than creating a new layer of bureaucracy, existing agencies and legislation have been used to implement this program. Therefore, understanding and cooperation among those agencies involved in the ACEC program as well as the public at large is a key its success.

For further information or to comment on the ACEC program, please contact:

Executive Office of Environmental Affairs
Saltonstall Building, 20th Floor
100 Cambridge Street
Boston, Massachusetts 02202
(617) 727-9800

THE DESIGNATED AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Through August of 1987, the Secretary of Environmental Affairs has designated twelve ACEC's; nine in the coastal zone and three inland. The following pages provide general information about the sites, with emphasis on the coastal areas. This information includes:

- a locus map showing the general location of the coastal ACEC's;
- site maps of the nine designated ACEC's showing boundaries, water segments, and land formations;
- summary data sheets provide site information, important dates, and map references for the designated areas. Two map references are provided: U.S. Geological Survey Quadrangle maps (USGS Quad Sheets) are listed by name, and map numbers are given from Volume II of The Massachusetts Coastal Zone Management Plan: Massachusetts Coastal Regions and An Atlas of Resources (CZM Atlas sheets). Barrier beach identification numbers refer to mapping done through, and available at, the CZM office (the format includes a two-letter town code and a numerical reference to the specific beach within that town); and
- copies of the designation findings providing details of boundaries, designation procedures, and resource features.

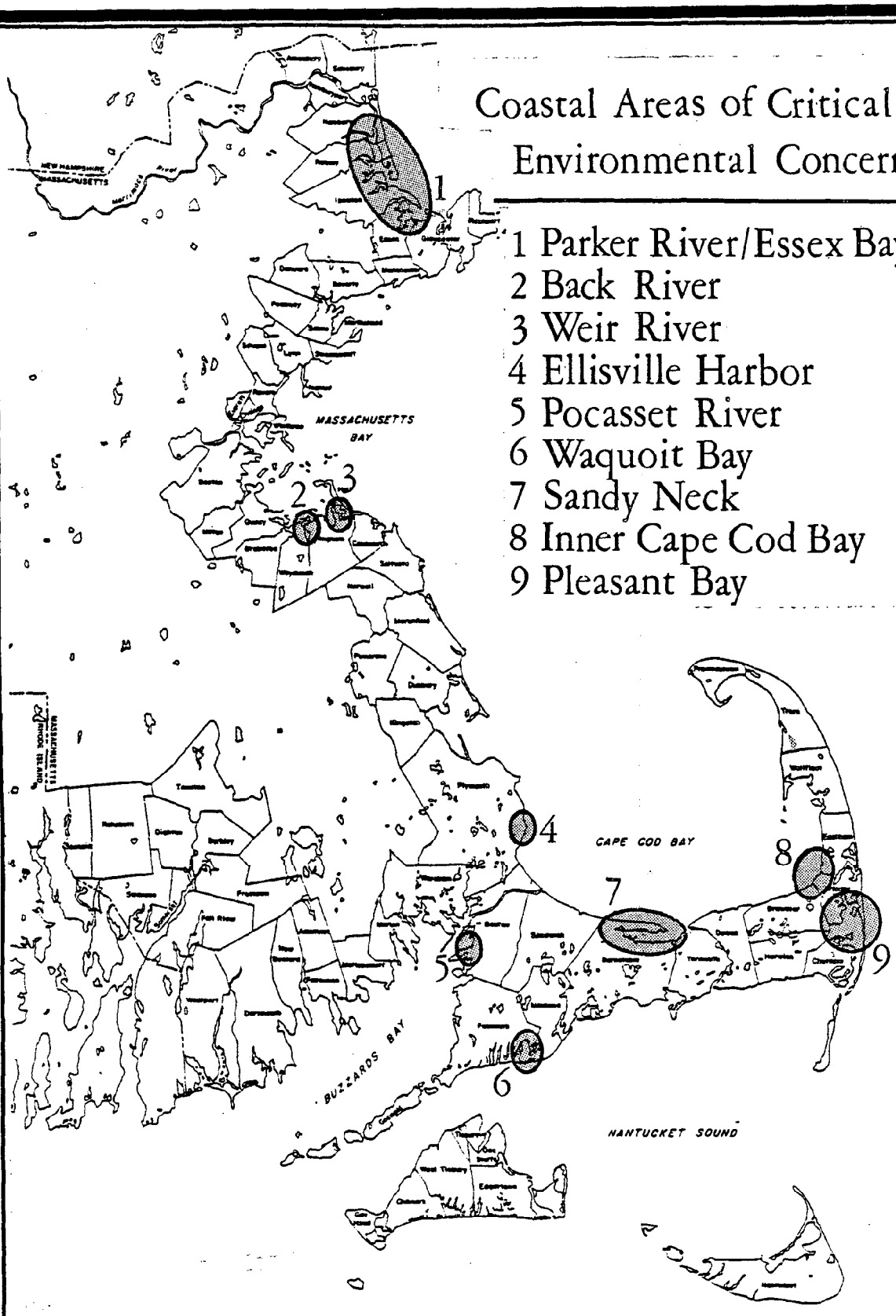
Larger scale maps and more detailed information on the coastal ACEC's are available through the Coastal Zone Management Office; details of inland sites are available through the MEPA Unit of the Executive Office of Environmental Affairs. Addresses are listed below.

COASTAL ACEC'S

Massachusetts Coastal Zone Management
Saltonstall Building, 20th Floor
100 Cambridge Street
Boston, Massachusetts 02202
(617) 727-9530

INLAND ACEC'S

MEPA Unit
Executive Office of Environmental Affairs
Saltonstall Building, 20th Floor
100 Cambridge Street
Boston, Massachusetts 02202
(617) 727-5830



Commonwealth of Massachusetts
Executive Office of Environmental Affairs
COASTAL ZONE MANAGEMENT

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: PARKER RIVER/ESSEX BAY

Towns: Gloucester, Essex, Ipswich, Rowley, Newbury

USGS Quad sheets: Newburyport North, Newburyport East, Georgetown, Ipswich, Gloucester.

CZM Atlas sheets: 1,2,3,4,5.

Water Bodies included in ACEC:

Newbury
Plum Island Sound
Rivers: Little, Mill, Parker, Plum Island.
Creeks: Jerico, Little Pine Island, Mud, Pine Island, Plumbush.

Rowley
Plum Island Sound
Rowley River
Ox Pasture Brook (portion)
Creeks: Carolton, Club Head, Mud, Sand, Sawyer, Shad, West.

Ipswich
Plum Island Sound
Rivers: Castle Neck, Eagle Hill, Egypt(port.) Ipswich, Muddy (port.), Roger Island, Rowley.
Creeks: Broad, Fox, Labor in Vain, Laws, Lords, Metcalf, Neck, Paine, Six Goose, Stacy, Third, Treadwell.

Essex
Essex Bay
Essex River
Creeks: Ebben, Lufkin, Songinese (portion).

Gloucester
Essex Bay
Creeks: Farm, Lanes, Walker.

Barrier Beaches included in ACEC: Castle Neck/Crane Beach (Gt-1; Is-5,6), * portion of Plum Island (Is-1,2; Rl-1; Nb-1), area fronting Clark Pond in Ipswich (Is-3), isthmus connecting Little Neck in Ipswich (Is-4), beach on Gloucester side of Essex Bay Inlet (Gt-2).

Resource Summary:

23,793 acres of barrier beach, dunes, saltmarsh and water bodies are included in this ACEC. The designated portions of Plum Island and Castle Neck are two of only a limited number of major, undeveloped barrier beaches in the Commonwealth. The more than 10,000 acres of salt marsh comprise the largest concentration of that resource north of Long Island in New in New York. Its recreational beaches are known throughout Massachusetts.

* Barrier Beach Identification Code; CZM Barrier Beach Inventory, 1982.

Included within the ACEC is a 2900-acre Federal wildlife refuge known nationally as an important stopping and staging site on the Atlantic Flyway Migration route. More than 60 species breed here including the rare seaside sparrow and the least tern.

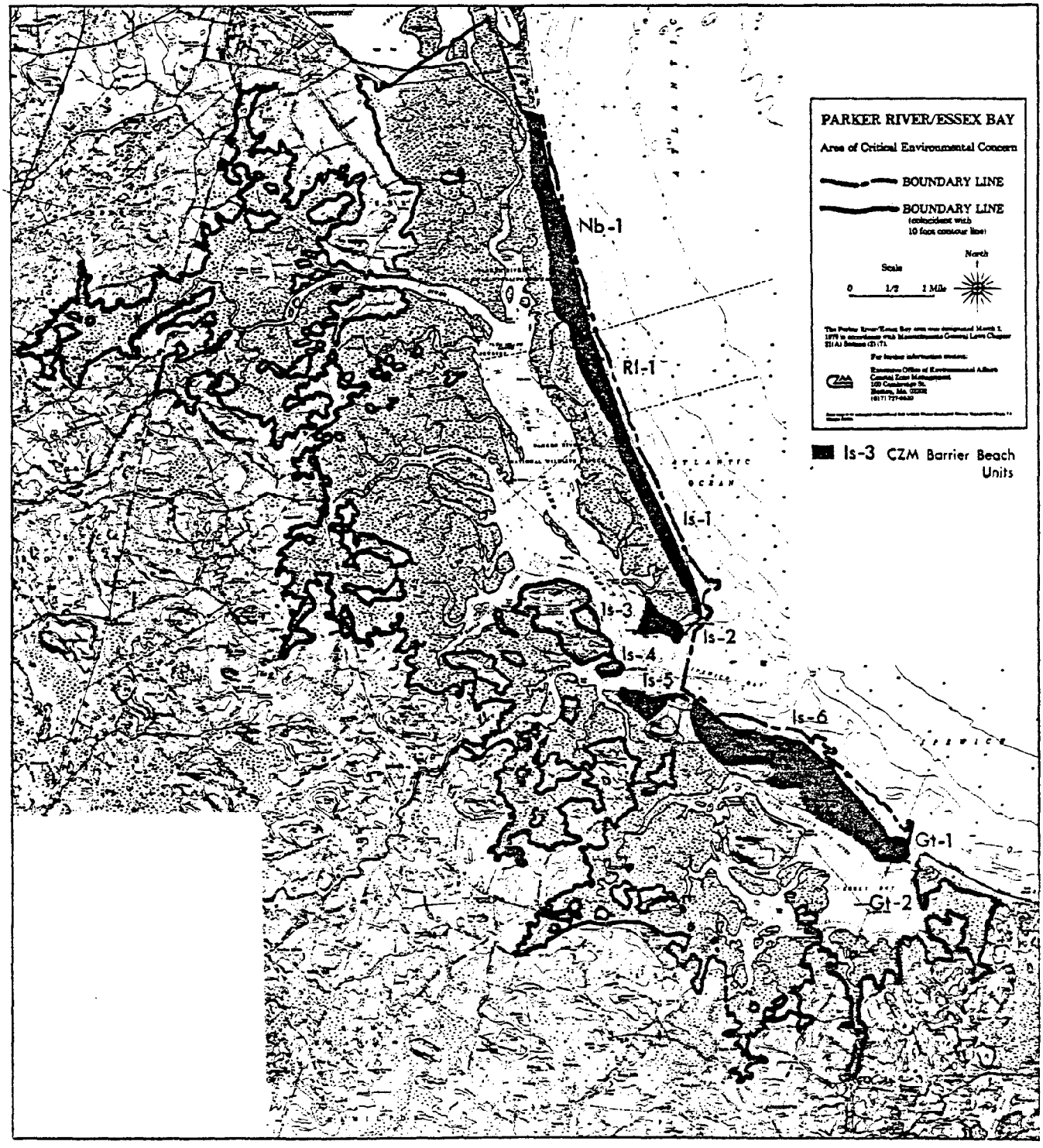
Over 300 species of birds have been sighted in this area with 145 considered uncommon and 75 rare. During the spring and fall migrations, concentrations of up to 25,000 ducks and 6,000 Canadian Geese have been noted. Other visitors of note include the snowy and great egrets, the glossy ibis, phalaropes, peregrine falcons and shorteared and snowy owls.

The flora of Plum Island has been the subject of a scientific study which recorded over 490 species of vascular plants. Waters of the ACEC contain vast amounts of shellfish and support some of the largest runs of alewives and smelt on the north shore.

Just as people today visit the area for fishing, shellfishing and recreation, in years past Native Americans used the site, leaving behind artifacts of their civilizations which are of great historical significance.

State Regulations apply (date of designation): 2 March 1979

Federal Consistency applies (date of OCRM concurrence): 1 August 1979


PARKER RIVER/ESSEX BAY
Area of Critical Environmental Concern
BOUNDARY LINE
BOUNDARY LINE
(coincident with
10 foot contour line)
North
Scale
0 1/2 1 Mile
Is-3 CZM Barrier Beach
Units
Nb-1
Rl-1
Is-1
Is-2
Is-3
Is-4
Is-5
Is-6
Gt-1
Gt-2
ATLANTIC
OCEAN

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR
JOHN A. BEWICK
SECRETARY

Designation of Parker River/Essex Bay Area as an Area of Critical Environmental Concern and Supporting Findings

Following an extensive process, including nomination by a variety of local governmental bodies, many informal meetings with local groups, two public informational meetings, a public hearing, and a formal evaluation of all assembled data, I, the Secretary of Environmental Affairs, hereby designate the Parker River/Essex Bay area as an Area of Critical Environmental Concern pursuant to the authority granted to me by G.L. c. 21A, § 2(7).

I also hereby find that the Parker River/Essex Bay ACEC is significant to flood control, the prevention of storm damage, the protection of land containing shellfish and fisheries; interests protected by the Wetlands Protection Act, G.L. c. 131, § 40.

1. Boundary of the Parker River/Essex Bay Area of Critical Environmental Concern

The boundary of this ACEC runs as follows: from the intersection of the northern boundary of the Parker River National Wildlife Refuge with the mean low water line as it appears on the most recent NOAA National Ocean Survey Chart on the eastern shore of Plum Island; then southerly, following that mean low water line of Plum Island to the southern end of Plum Island; then southerly along a closure line running between the "South Plum" bench mark at Bar Head and the bench mark at Steep Hill to the mean low water line at Crane Beach; then easterly and southerly along the mean low water line of Crane Beach to the southeasternmost point of Castle Neck; then southeasterly along a closure line running between the southeasternmost point of Castle Neck and the highest point of Two Penny Loaf to the 10 foot contour line, which is a line 10 feet above mean sea level, as shown on the appropriate U.S.G.S. 7½ minute series topographic map; then following such 10 foot contour line clockwise around Essex Bay until its intersection with a closure line running northerly between the northernmost point of such 10 foot contour line between Ebben Creek and the Essex River and the easternmost point of such 10 foot contour line between the Essex River and Soginese Creek; then northerly along such closure line to the continuation of such 10 foot contour line on the westerly side of the Essex River; then generally northerly and westerly along such 10 foot contour line to a closure line at the entrance to a former gravel pit off Soginese Creek; then southwesterly along such closure line to

the continuation of the 10 foot contour on the westerly side of the entrance to the former gravel pit, then generally northerly along such 10 foot contour line to its intersection with Mitchell Road in Ipswich; then northerly and westerly along Mitchell and Paradise Roads until its intersection with the 10 foot contour line on the westerly side of Muddy Run; then generally northerly along such 10 foot contour line to its intersection with the Newbury-Newburyport corporate boundary; then southeasterly and northeasterly along such boundary to Old Point Road, then southerly along the western edge of Old Point Road and Sunset Drive to its intersection with the northern boundary of the Parker River National Wildlife Refuge; then easterly along such boundary to the point of beginning.

The Parker River/Essex Bay Area of Critical Environmental Concern includes all of the Parker River National Wildlife Refuge, the Plum Island State Park, Castle Neck (including Steep Hill, Castle Hill and Crane Beach), Kent's Island in Newbury and Long, Round, Hog and Dilly Islands in Essex.

All areas not mentioned in the preceding sentence which are upland of the 10 foot contour line are excluded, as is the portion of the Ipswich River west of, and including the Town Wharf; that area near the Newbury town line operated on the date of this designation by the Town of Rowley as a sanitary landfill; and that portion of the Parker River westerly of Central Street in Newbury.

II. Description of the Resources of the Parker River/Essex Bay Area of Critical Environmental Concern

To qualify as an ACEC an area must have at least five of the 17 significant resources in Section 6.44 of the CZM Program Regulations. The Parker River/Essex Bay ACEC contains virtually all of these significant resources, the most important of which are listed below:

(1) Barrier Beach System: Plum Island, protecting Plum Island Sound and the Parker River estuary, and Castle Neck, protecting Essex Bay and the Ipswich River estuary, combine to form a barrier beach system of over 10 miles in length. Relatively undeveloped, nearly all of this area is protected under public or private management.

(2) Salt Marsh: This ACEC contains the largest expanse of salt marsh north of Long Island, New York, containing some 10,700 acres of high and low marsh. The salt marsh has high biological productivity and acts as a natural filtration system for river waters flowing into the estuary.

(3) Dunes: Castle Neck and Plum Island contain extensive dune formations that, in many areas, extend from the barrier beach to inland bays and marshes. They provide storm shelters for Plum Island Sound and Essex Bay and are a natural source of sand for replenishment of Crane and Plum Island beaches.

(4) Beach: There are approximately 12 miles of clean, sandy beaches within the ACEC; nearly all of them are open to the public.

(5) Shellfish: The rivers, estuaries and bays of this area contain some of the richest soft shell clam flats on the east coast. With the exception of a portion of the Ipswich River, the shellfish are uncontaminated and provide the basis for a significant local industry catering to the wholesale, retail and restaurant trade.

Shellfish wardens from 4 of the towns have estimated the shellfish harvest for 1976 as follows:

Newbury	10,800 bushels
Rowley	5,805 bushels
Ipswich	30,000 bushels
Essex	6,200 bushels

(6) Estuaries and Embayments: A series of rivers (the Parker, Mill, Rowley, Eagle Hill, Ipswich and Essex Rivers) and Plum Island Sound and Essex Bay produce an intricate network of estuarine environments. These estuaries are valuable commercial, recreational and scenic resources.

The outstanding feature of these estuaries is the abundance of clean, unpolluted water that ensures productive marine life and creates a healthy environment for recreation. Although the Ipswich River clam flats are closed due to pollution, the vast majority of the water within these estuarine systems is classified as "water of highest purity" (the coliform count has been documented to be below 50 for Plum Island Sound, Ipswich Bay, Essex Bay, the Rowley River, and most of the Parker River). Another important environmental indicator, dissolved oxygen, has been shown to be substantially above the 6 parts per million needed to sustain healthy aquatic flora and fauna. Average dissolved oxygen within Plum Island Sound and Essex Bay is 8 ppm and 9.8 ppm, respectively.

(7) Anadromous Fish Runs: There are five anadromous fish runs in this area. They are, from north to south, the Parker, Mill, Rowley, Ipswich and Essex Rivers. All provide spawning areas for smelt, and the Rowley, Parker and Mill Rivers host alewife and blueback herring runs. The Parker is the largest alewife run on the North Shore.

(8) Floodplain: The 100 year floodplain within the ACEC is primarily marsh land, but there are fringes of dry lowland. The lowlands are covered by a thin layer of glacial till and are underlain by clay-silt soil or bedrock. These soils are, in general, unsuitable for residential development relying on individual septic systems.

(9) Erosion and Accretion Areas: Because barrier beaches are among the most dynamic coastal environments, it is only logical that the ocean shoreline of this area is not stationary. Littoral drift, moving from

north to south, is eroding the beach along the ocean side of both Plum Island and Castle Neck and depositing sand at the southern ends of these beaches.

(10) Coastal Related Recreation: The beaches, dunes, marshes, rivers and bays of this ACEC are used for swimming, boating, hunting, fishing and many other recreational pastimes. Crane Beach attracted some 170,000 people during the summer of 1977, and Plum Island is well known for its bathing, surf fishing and birdwatching opportunities. Plum Island Sound and Essex Bay are prime recreational boating areas, with traffic on the Ipswich and Essex Rivers classified as "very heavy" by the U.S. Army Corps of Engineers. Sport fishing for striped bass, winter flounder, mackerel, white perch and smelt is becoming increasingly popular.

(11) Salt Pond: Clark's Pond on Great Neck in Ipswich is the only salt pond along this stretch of coast. Although relatively small, it is noteworthy for the many rare and unusual birds seen in the vicinity.

(12) Historic Site or District: In addition to being one of the first settlements in the Massachusetts Bay Colony, the Ipswich coastal area is the site of numerous discoveries of paleo-Indian artifacts. Dating back some 10,000 years, archeological evidence from this area shows it to be one of the oldest sites of human habitation in the Commonwealth.

(13) Significant Wildlife Habitat: The area hosts two wildlife refuges: the Parker River National Wildlife Refuge and the Cornelius and Mine Crane Wildlife Refuge. The Parker River Refuge is nationally noted for its importance as a stopover on the Atlantic Flyway.

It is a primary feeding area for Snowy and Great Egrets, Glossy Ibises and Little Blue, Louisiana and Black-crowned Night Herons, which breed nearby. It is also an important night roosting area for herons in late summer when the young have fledged (more than a thousand individuals). It is one of five major heron locations in the state.

It is an important roosting, feeding and staging area for shorebirds in spring and particularly during the fall migration when concentrations numbering in the tens of thousands utilize the area. It is one of six such areas on the northeast Atlantic coast.

Recently, it has been an important staging area for Snow Geese during spring migration and, historically, important for Canada Geese and other migrating waterfowl during both the spring and fall.

The Crane Refuge hosts the last remaining deer herd in the area.

(14) Significant Scenic Site: Because the entire ACEC area is in a natural, undeveloped state, it is extremely scenic and attracts a significant summer tourist trade. The many glacially formed hills which dot the area provide outstanding vistas of the marshes, beaches and ocean. From the higher elevations, one can see downtown Boston, the Isles of Shoals off the New Hampshire coast and Mt. Agamenticus in Maine.

III. Procedures Leading to ACEC Designation

The Parker River/Essex Bay ACEC located in the Towns of Newbury, Rowley, Ipswich, Essex and the City of Gloucester was initially nominated by the Ipswich Conservation Commission on October 25, 1978. Subsequently, nominations were received from the Newbury Board of Selectmen, Planning Board and Conservation Commission, the Rowley Conservation Commission and the Essex Board of Selectmen and Conservation Commission. After reviewing these nominations, the Secretary of Environmental Affairs decided on December 15, 1978 to proceed with a full review of the proposed ACEC.

Notice of the receipt of the nominations and an announcement of a public hearing was published in the Environmental Monitor, the Gloucester Daily Times, the Salem Evening News, the Beverly Times and the Newburyport Daily News on December 22, 1978 and in the Ipswich Chronicle on December 21, 1978. Additional information on the region was collected by the Coastal Zone Management Office staff in consultation with local officials, town boards and natural resource officers. Individual meetings were held with town selectmen, planning boards, and conservation commissions. Two meetings of the regional CZM Citizen Advisory Council were held on the proposal. Two public informational meetings were held on January 11th and January 18th, 1979, with a total attendance of about 45 persons. Over 100 copies of a background report on the resources of the proposed ACEC were sent out to town officials, organized interest groups and to interested private individuals. More than 24 articles appeared in local papers regarding the ACEC nomination.

The public hearing on the designation of the Parker River/Essex Bay area as an ACEC was held at the Ipswich High School on Wednesday, January 31, 1979. Over 100 area residents attended and approximately 30 made formal comments. With one exception, all speakers were in favor of proceeding with the designation. All speakers emphasized the ecological value of the area and its susceptibility to development. Many speakers felt the environmental resources were an important part of their town's character and economy. The importance of recreation and the shellfish industry was stressed. Many saw the ACEC designation as a way to strengthen further efforts by the towns and city involved and citizen groups to protect the area. The overwhelming impression given by the statements at the hearing was one of great concern for the Parker River/Essex Bay area and support for its designation as an ACEC. The hearing record remained open until February 7, 1979 for those persons who wished to submit written comments. All comments received, whether oral or written, were given full consideration.

I then reviewed the hearing record and the results of the staff work with respect to the natural resources of the area and decided to make this ACEC designation.

IV. Discussion of Factors Specified in Section 6.48 of the CZM Program Regulations

Prior to designation of a region as an Area of Critical Environmental Concern, the Secretary must consider the factors specified in Section 6.48 of

the CZM Program regulations. Based on research and information from local residents, I find that the following factors are applicable to the Parker River/Essex Bay area:

Threat to the Public Health: The use of the rivers and bays for shellfishing, water sports, and fishing is dependent upon maintaining the existing high water quality. Any pollutants discharged into these waters could adversely affect their users and consumers. In particular, pollutants could threaten the resource base of the economically important shellfish industry. Public safety could also be threatened if marshes or beaches are destroyed. These features act as storm buffers and their destruction would be potentially damaging to harbors and inland development.

Quality of the Natural Characteristics: Because there has been a minimum of alteration of the natural features of this area, they are presently functioning at their maximum capacity. The vegetation is healthy and wildlife habitat is plentiful; marsh production is unimpaired; the dunes, undiminished, offer highly affective storm protection; and the unpolluted water helps create optimal conditions for water life and recreation. In addition to these functional characteristics, the scenic quality of the area significantly contributes to the recreational enjoyment of its visitors.

Productivity: The high productivity of the area is documented in Section II under the headings: salt marsh, shellfish, estuaries, and anadromous fish runs. This area has a biological productivity that is nearly double that of the most productive agricultural lands.

Uniqueness: There are only ten major barrier beach systems on the Massachusetts mainland that remain undeveloped. This ACEC contains two; the Castle Neck barrier beach system and the Plum Island barrier beach system. The importance of the area to migratory waterfowl, its extensive shellfish resources and vast salt marshes also contribute to its uniqueness. The area is also unique from an archeological perspective, as pointed out in Section II.

Irreversibility of Impact: Man's destruction of estuaries, marshland and barrier beaches is irreversible. Alteration of barrier beaches will result in the loss of a natural storm barrier, the destruction of marshland will decrease the nutrient supply within the adjacent rivers and bay and inappropriate development can pollute ground and surface water. It is technically possible to correct some of this pollution, but the time and money needed to do so usually result in such pollution becoming a permanent condition.

Economic Benefits: The natural resources of this ACEC contribute directly to the financial well-being of the region. The shellfish industry is the largest employer in the area. The average annual harvest of about 60,000 bushels of clams represents $1.5 million in direct income to clammers. By the time the clams end up on someone's plate in a restaurant, they are worth over $200 per bushel or $12 million. The restaurant and tourist trades are heavily dependent on both the scenic qualities of the area and its fish and shellfish resources.

Recreation is a very significant economic factor in the region, but its value is difficult to quantify due to the lack of statistics. But there can be no question but that the beaches are heavily used and recreational boating and fishing activity is substantial during the summer season.

Supporting Factors: The strong public consensus on the intrinsic value of the area weighs heavily in favor of the ACEC designation. There was overwhelming support voiced at the public hearing and in numerous written comments. The presence of the nationally recognized Parker River Wildlife Refuge, the Plum Island State Park, and the Crane Reservation all lend importance to the area. Local wetlands zoning by-laws, shellfish management programs and conservation restrictions further demonstrate local efforts to protect the area.

All of these factors taken together convince me that the Parker River/ Essex Bay area is indeed an Area of Critical Environmental Concern to the Commonwealth. Application of the ACEC designation criteria to this area demonstrates that the area is unique and is valuable in both environmental and economic senses. Local residents have long recognized the importance of the region. Through the designation of this ACEC, I intend to enlist the support of state agencies in the continued protection and appropriate use of this important region.

John A. Bewick
Secretary of Environmental Affairs

March 2, 1979
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) COASTAL Data Sheet

Location: ELLISVILLE HARBOR

Town: Plymouth

USGS Quad sheet: Sagamore

CZM Atlas Sheet: 28

Water Bodies included in ACEC: Ellisville Harbor, Center Hill Pond, Black Pond.

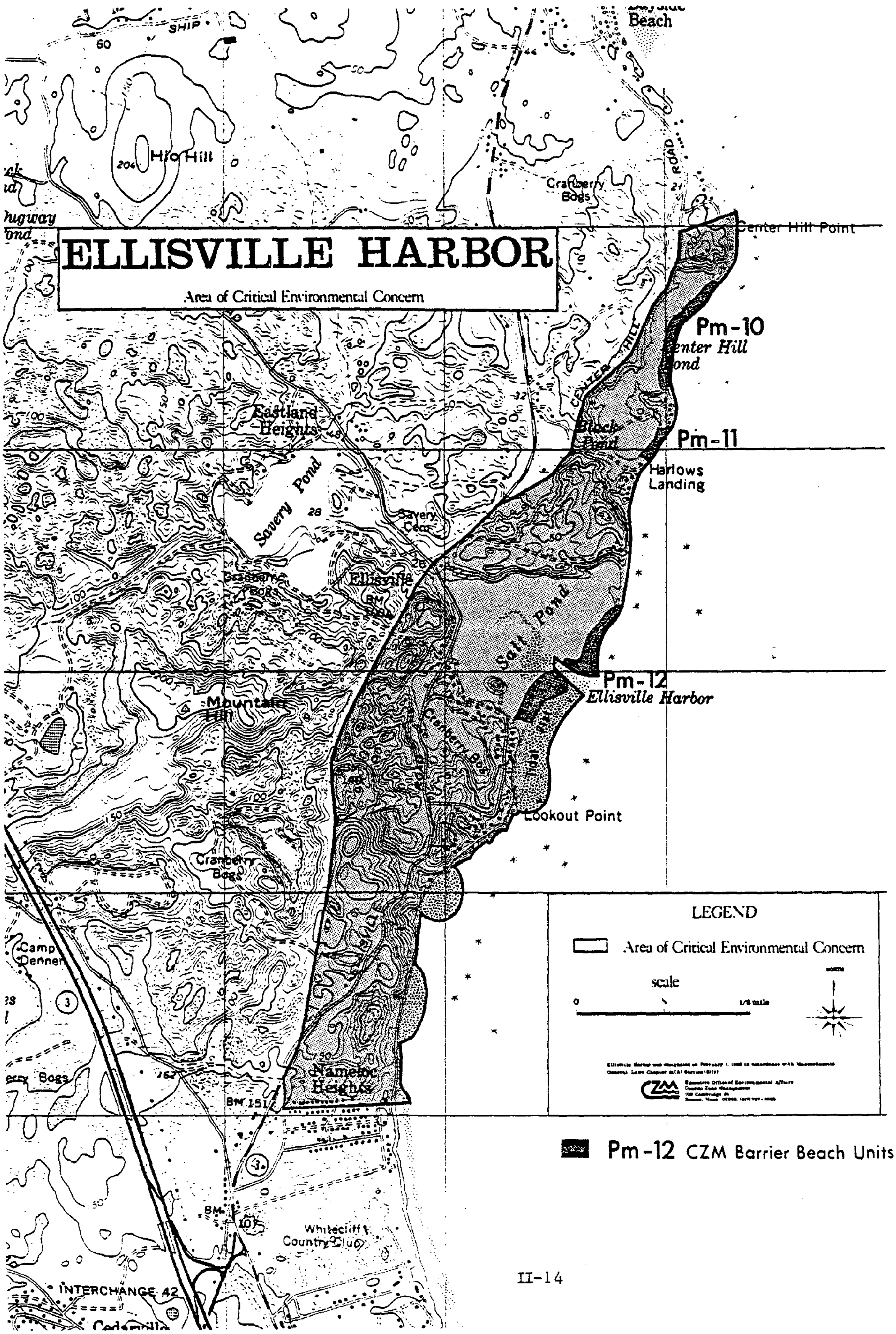
Barrier Beaches included in ACEC: Beaches flanking harbor mouth (Pm-12), areas fronting Black Pond (Pm-11) and Center Hill Pond (Pm-10).

Resource Summary:

This area comprises 614 acres of widely diverse habitats and vegetation including a sheltered harbor, sandy beaches, salt marsh, steep bluffs and scenic, rural upland sites. Its ponds and marshes are feeding and breeding grounds for many aquatic birds, and the salt marsh supports shellfish and fin fish.

State Regulations apply (date of designation): 16 January 1980

Federal Consistency applies (date of OCRM concurrence): 24 March 1980


ELLISVILLE HARBOR
Area of Critical Environmental Concern
Beach
Hio Hill
Cranberry Bogs
ROAD
Center Hill Point
Pm-10
Center Hill Pond
Pm-11
Black Pond
Harlows Landing
Eastland Heights
Savery Pond
Savery Coar
Ellisville
Salt Pond
Pm-12
Ellisville Harbor
Mountain Hill
Cranberry Bog
Lookout Point
Cranberry Bogs
Camp Dennen
Nameloc Heights
Whitecliff Country Club
INTERCHANGE 42
LEGEND
Area of Critical Environmental Concern
scale
Pm-12 CZM Barrier Beach Units

The Commonwealth of Massachusetts
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EDWARD J. KING
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JOHN A. BEWICK
SECRETARY

Designation of Ellisville Harbor as an Area of Critical Environmental Concern and Supporting Findings

Following an extensive process, including nomination, research, informal meetings with local groups, public information meetings, public hearings, on-site visits, and a formal evaluation of all assembled data, I, the Secretary of Environmental Affairs, hereby designate Ellisville Harbor an Area of Critical Environmental Concern pursuant to the authority granted to me by G.L. c. 21A, s. 2(7).

I also hereby, find that the Ellisville Harbor ACEC is significant to flood control, the prevention of storm damage, the protection of land containing shellfish and fisheries; public interests protected by the Wetlands Protection Act, G.L. c. 131, s. 40.

1. Boundary of the Ellisville Harbor ACEC

The Area of Critical Environmental Concern (ACEC) extends from the intersection of the southerly side line of Mayflower Lane and the easterly side line of Center Hill Road, near Center Hill Point, in a southerly direction along the easterly side line of Center Hill Road to the point of intersection with the easterly side line of Route 3A. The ACEC boundary then extends in a southerly direction along the easterly side line of Route 3A to a point of the second intersection with the easterly side line of Ellisville Road. The ACEC boundary extends from this point of intersection in a southerly direction along the easterly side line of Route 3A to a point of the third intersection with the easterly side line of Ellisville Road and continues from this point in a southerly direction to the point of the intersection of the northerly side line of George Street. The ACEC boundary then extends in an easterly direction along the northerly side line of George Street to the eastern most point of George Street and thence in a straight line to the mean low water (MLW) line. The ACEC boundary then proceeds from this point in a northerly direction following the MLW line to a point of intersection with the southerly side of the entrance to the Ellisville Harbor inlet channel. The ACEC boundary continues to follow the MLW line of the southerly side of the Ellisville Harbor inlet channel in a northwesterly direction to a point of intersection coincident with the landward limit of the coastal dunes which comprise the barrier beach spit immediately south of Ellisville Harbor inlet channel. From this point of intersection, the ACEC boundary extends straight across the Ellisville Harbor inlet channel in a northerly direction by the shortest distance to the point of intersection with the MLW line on the northerly side of the Ellisville Harbor inlet channel.

The ACEC boundary then extends from this point of intersection following the MLW line in an easterly direction along the northerly side of the Ellisville Harbor inlet channel. At the northerly side of the entrance to the Ellisville Harbor inlet channel, the ACEC boundary continues along the MLW line in a northerly direction to a point of intersection with a straight line which extends in an easterly direction from the southerly side line of Mayflower Lane. From this point of intersection the ACEC boundary follows the above-mentioned straight line and the southerly side line of Mayflower Lane in a westerly direction to the point or origin.

II. Designation of the Resources of Ellisville Harbor

The Ellisville Harbor area is an extensive and largely unaltered resource system. Among the natural components of the system, many are specified as Significant Resource Areas (SRA's) in the Massachusetts CZM Program. These include a barrier beach system, dunes, three miles of sandy beach, 55 acres of salt marsh, productive shellfish beds, 195 acres of floodplain, and numerous significant scenic sites. The area is a spawning and nursery ground for many marine species as well as an important habitat for upland species and waterfowl. The beaches, dunes, and salt marshes provide protection against storms for low lying inland areas. The area clearly meets the regulatory criterion of the ACEC Program, that an area proposed for designation must contain at least five of the Specified Significant Resource Areas.

III. Procedures Leading to ACEC Designation

The Ellisville Harbor area was first proposed for ACEC designation by the Plymouth Conservation Commission in November of 1978. Active planning began in December, 1978. Public information meetings were held in January, March and June of 1979 at the Little Red School House in Plymouth. These meetings were attended by local officials, a member of the Conservation Commission, members of the CZM Citizens Advisory Committee, local residents and property owners.

On January 30, 1979, the Board of Selectmen unanimously voted to endorse the nomination. As a result of the aforesaid actions, I called for a full public review of the proposed area, which took place on November 29, 1979.

Notice of the receipt of the nomination request and a public hearing notice were published in the Environmental Monitor on November 23, 1979. The public hearing notice also appeared in two local newspapers: the Old Colony Memorial and the Patriot Ledger. Additional information on the area was collected by the CZM staff in consultation with local officials, town boards and natural resource officers. The results of this research were forwarded for comment and review to the Selectmen, Conservation Commissions, Planning Boards and members of the CZM Citizens Advisory Committee for the Plymouth area. Copies also went to interested individuals and were available to the general public upon request.

A public hearing was conducted on November 29, 1979 in the Little Red School House in Cedarville. The record testimony was largely favorable. There were eleven residents of the Plymouth area in attendance. As a result of questions raised by an attorney representing one of the landowners, a comprehensive response was drafted by CZM legal staff and sent to the attorney and other interested persons.

The hearing record remained open until December 10, 1979 for those persons who wished to submit written comments. No written comments were received.

IV. Discussion of Factors Specified in Section 6.48 of the CZM Program Regulations

Prior to designation of an area as an Area of Critical Environmental Concern, the Secretary must consider the factors specifed in Section 6.48 of the CZM Program regulations. Based on research and information from local residents, I find the following factors are applicable to the Ellisville Harbor area.

Quality of Natural Characteristics: The area possesses outstanding natural characteristics. The vegetation and wildlife habitat is diverse. To a certain extent, the area is undeveloped; marsh production is unimpaired; the dunes offer highly effective storm protection; and the unpolluted water helps create optimal conditions for shellfish and waterfowl.

Public Health: The area has a high water table. Building in certain areas may create health problems. The use of the harbor and coastal waters for shellfishing and fishing is dependent upon maintaing the high water quality that exists. Any pollutants discharged into these waters could adversely affect the health and safety of the users. Public safety could also be threatened if dune destruction occurs. Currently, they act as a storm buffer protecting the harbor and residential areas.

Uniqueness: Ellisville is an area on the Massachusetts coast that remains undeveloped. A scenic rural qulaity is given to the area by the farms where horses graze on the upland meadows, by a small harbor that shelters several commercial lobster boats, and by a small cluster of homes known as Ellisville Center.

Irreversability of Impact: The destruction of dunes and marshland is generally irreversible. Uncontrolled development can exacerbate coastal bluff and dune erosion. This may lead directly to potentially greater damage to adjacent homes, beaches, and shellfish resources. Siltation of ponds and marsh areas could cause adverse effect on aquatic and marine life.

Economic Benefits: The barrier beaches of Ellisville Harbor provide an important buffer to storm wave damage. The protection of the adjacent harbor, marshlands and uplands is provided without cost. Without this

naturally functioning system, costly man-made structures would have to be constructed. Although the long-term effectiveness of any of these structures against storm damage is questionable, the costs of maintaining these structures are not.

Ellisville Harbor is also the site for a small amount of shellfishing. In addition, the harbor also serves as a mooring area for 7 commercial lobstermen. Historically, marsh haying was an important economic activity.

Supporting Factors: The ACEC designation will help support local efforts to protect this area. There is also a strong consensus among the area residents that Ellisville Harbor ought to be protected.

John A. Bewick

JOHN A. BEWICK
Secretary of Environmental Affairs

1/16/80
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: SANDY NECK
BARNSTABLE HARBOR

Towns: Barnstable, Sandwich

USGS Quad Sheets: Hyannis, Sandwich

CZM Atlas Sheets: 48, 49

Water Bodies included in the ACEC:

Sandwich
Scorton Harbor
Scorton Creek

Barnstable
Barnstable Harbor
Broad Sound
Creeks: Bass, Boat Cove, Brickyard, Bridge, Eel, Great Island, Mill (portion), Scorton, Smith, Wells.

Barrier Beaches included in ACEC: Sandy Neck (Ba-29, Sd-1), Beach on east side of Scorton Harbor running to Scorton Shores (Sd-2), several areas along southern side of Barnstable Harbor (Ba-25,26,27,28).

Resource Summary:

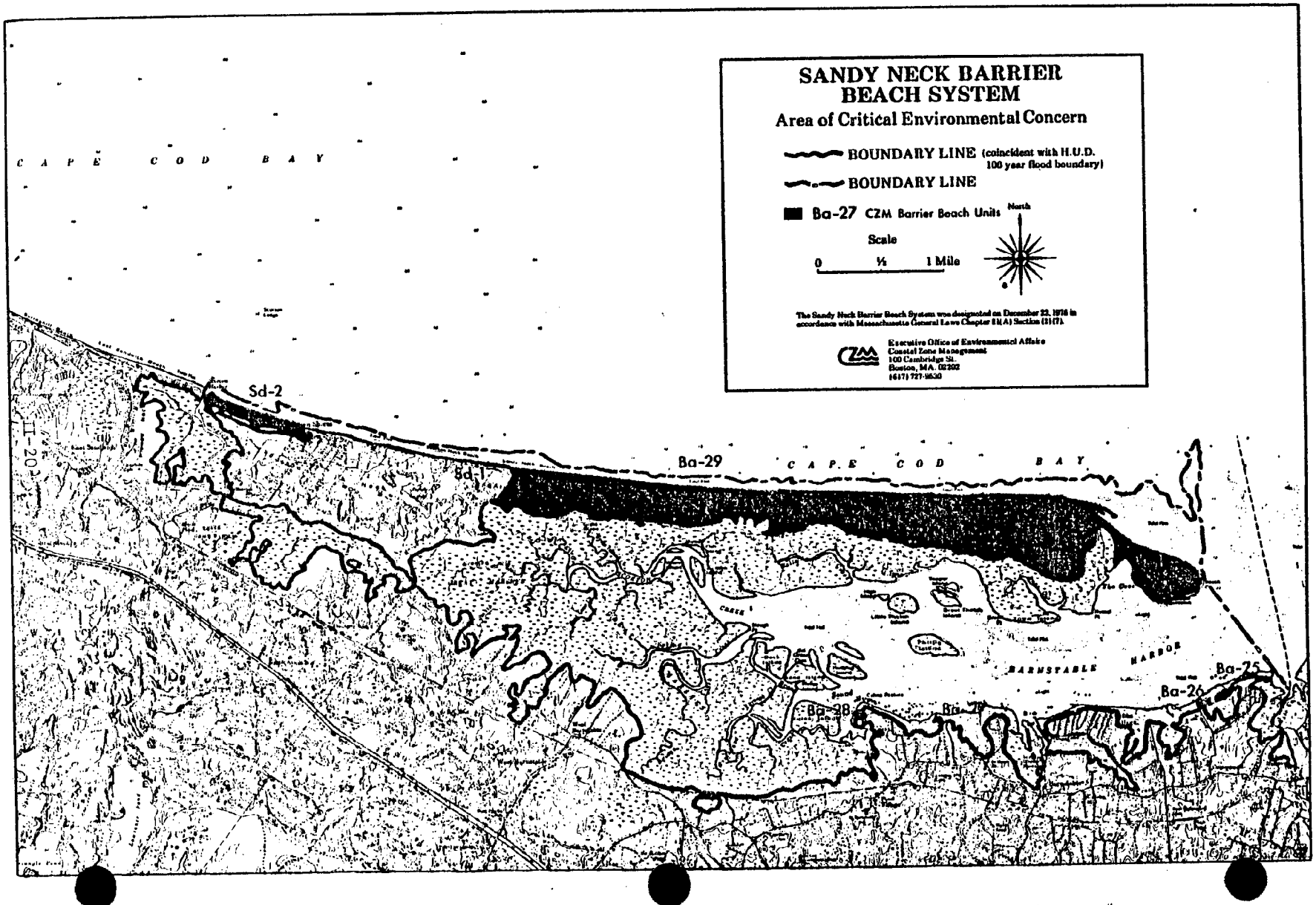
8,447 acres of Sandy Neck barrier beach, Scorton Harbor and Creek, Barnstable Harbor, surrounding saltmarsh, and uplands to the 10.5 foot elevation above mean sea level are included in this ACEC. With the exception of the Cape Cod National Seashore, this is the largest barrier beach complex between Rhode Island and Cape Ann. Thousands of acres of productive salt marsh backing the barrier support substantial shellfish beds and help maintain the high water quality noted here.

Wildlife abounds in the marsh, dunes and beach. Sightings of almost 300 species of birds have been made and over 160 species of vascular plants, including some 85 varieties of wildflowers, have been noted. The marsh and adjacent dunes are feeding and nesting areas for the endangered diamondback terrapin.

Significant scientific studies have been conducted here including major work on the terrapins and a classic study of the historical development of the saltmarsh.

State Regulations apply (date of designation): 15 December 1978

Federal Consistency applies (date of OCRM concurrence): 1 August 1979


SANDY NECK BARRIER
BEACH SYSTEM
Area of Critical Environmental Concern
BOUNDARY LINE (coincident with H.U.D. 100 year flood boundary)
BOUNDARY LINE
Ba-27 CZM Barrier Beach Units
North
Scale
0 ½ 1 Mile
The Sandy Neck Barrier Beach System was designated on December 22, 1978 in accordance with Massachusetts General Laws Chapter 21(A) Section 2(7).
CZM
Executive Office of Environmental Affairs
Coastal Zone Management
100 Cambridge St.
Boston, MA. 02202
(617) 727-9530
CAPE COD BAY
Sd-2
Sd-1
Ba-29
CAPE COD BAY
H-20
BARNSTABLE HARBOR
Ba-25
Ba-26
Ba-28
Ba-27

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

EVELYN F. MURPHY
SECRETARY

Designation of Sandy Neck Barrier Beach System as an Area of Critical Environmental Concern and Supporting Findings

Following an extensive process, including nomination, research, informal meetings with local groups, a public informational meeting, a public hearing, and a formal evaluation of all assembled data, I, the Secretary of Environmental Affairs, hereby designate the Sandy Neck Barrier Beach System an Area of Critical Environmental Concern pursuant to the authority granted to me by G.L. c. 21A, s. 2(7).

I also hereby find Sandy Neck Barrier Beach System is significant to flood control, the prevention of storm damage, the protection of land containing shellfish and fisheries; interests protected by the Wetlands Protection Act, G.L. c. 131, s. 40.

I. Boundary of the Sandy Neck Barrier Beach System ACEC

The ACEC boundary extends eastward along the mean low water line from Scorton Harbor to Beach Point; then follows a closure line extending in a southeasterly direction across Barnstable Harbor to Mill Creek, following the Barnstable town line to Hallet's Mill Pond. The boundary then extends in a westerly direction along the 100 year floodplain line through Barnstable and Sandwich to Scorton Harbor, as delineated on the HUD Flood Insurance Rate map. Three exclusions are made: (1) land in Cobbs Village north of Commerce Road and east of Mill Way; (2) Freezer Road Point and the developed marina; and (3) Scorton Neck, as defined by the land located above the 100 year floodplain line with the exception that the northeastern exclusion boundary is the Sandy Neck Road.

II. Description of the Resources of the Sandy Neck Barrier Beach System

The Sandy Neck area is an extensive and largely unaltered resource system. Among the natural components of the system are many specified as Significant Resource Areas (SRA's) in the Massachusetts CZM Program. These include a seven mile long barrier beach system, dunes and sandy beaches, several thousand acres of salt marsh, productive shellfish beds, a large coastal embayment, an anadromous fish run and floodplain, erosion and accretion areas. The area is a spawning and nursery ground for many marine species, as well as an important habitat for upland species and waterfowl. The beaches, dunes, and salt marshes provide protection against storms for low-lying inland areas. During the

summer months, local residents and visitors flock to Sandy Neck to swim, picnic, walk, fish and use recreational vehicles. The region clearly meets the regulatory criterion of the ACEC Program, that a region proposed for designation must contain at least five of the specified Significant Resource Areas.

III. Procedures Leading to ACEC Designation

The Sandy Neck Barrier Beach System located in the Towns of Barnstable and Sandwich was nominated by a letter from the selectmen of both towns on October 13, 1978. After reviewing this nomination, the Secretary of Environmental Affairs decided on October 20, 1978 to proceed with a full review of the proposed area.

Notice of the receipt of the nomination request and a public hearing notice were published in the Environmental Monitor on October 21, 1978. The public hearing notice also appeared in the Boston Globe as well as in three local newspapers: the Cape Cod Times, the Register, and the Barnstable Patriot. Additional information on the region was collected by the Coastal Zone Management Office staff in consultation with local officials, town boards, and natural resource officers. The results of this research were forwarded for comment and review to the Selectmen, Conservation Commissions, Planning Boards, Park and Recreation Committees, and members of the CZM Citizen Advisory Committee for Cape Cod. Copies also went to interested individuals and were available to the general public upon request. Informational articles about the proposed nomination appeared in several local newspapers, and an informational meeting was held at the Barnstable Town Hall on November 30, 1978. In addition, at the request of the Barnstable Conservation Commission, an explanation of the ACEC Program was given to that group.

The public hearing for the Sandy Neck ACEC proposal was held at the Barnstable High School on Tuesday, December 5, 1978. Approximately eighty residents attended the meeting, and formal comments were made by seventeen persons. All speakers emphasized the extreme importance and fragility of the Sandy Neck barrier beach and marsh system. A number of speakers emphasized the importance of local responsibility for management of the resource system. State support for local management efforts, however, was seen as a positive ramification of the ACEC designation. Several others urged that management efforts should strive to include a wide variety of activities to be conducted in a manner compatible with the various resources. The overwhelming impression was one of great concern for the Sandy Neck system, and an interest in possible state support through the ACEC designation. The hearing record remained open until 3:00 p.m., Friday, December 8, 1978 for those persons who wished to submit written comments. All comments that were received were given consideration.

IV. Discussion of Factors Specified in Section 6.48 of the CZM Program Regulations

Prior to designation of a region as an Area of Critical Environmental Concern, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations. Based on research and information from local

residents, I find that the following factors are applicable to the Sandy Neck Barrier Beach System:

Inappropriate use - Future development of this area is a very real threat because strong development pressures on Cape Cod could threaten public welfare in several ways. The individual resource features of the Sandy Neck Barrier Beach System each perform a specific and important function. Inappropriate use or alteration of any one of these features may impair the ability of the particular resource as well as all the other resources present to function well. The long barrier beach, for example, provides protection from storms to inland areas. The natural tendency of a barrier beach is to slowly migrate landward. Efforts to stabilize the beach by constructing groins or jetties would alter the natural movements of the beach and the existing form of the beach, thereby reducing its ability to absorb storm impacts. Another important resource function is nutrient production in the salt marshes and its export to more open waters. This food production and export system supports large numbers of marine species, among them such endangered species as the diamondback terrapin. Inappropriate construction, dredging, filling or release of pollutants will reduce this marsh productivity with consequences effecting the food chain and the population of at least one endangered species.

Quality of the Area - All of the resources of Sandy Neck are of an extremely high quality. Water quality is designated as the highest, SA, and swimming and shellfishing are popular activities. As described in more detail in the data assembled prior to designation, the region supports extensive and varied vegetation, and bird and animal populations. Among the species found on Sandy Neck are several that have been classified as rare, threatened, or endangered; including the least Tern and the diamondback terrapin. The region is generally undeveloped; the natural areas offer varied opportunities for recreation, fishing, shellfishing, and nature study.

Productivity - The extensive marshes of Sandy Neck produce nutrients which support large numbers of marine species important in the food chain. These nutrients are exported from the marshes to Barnstable Harbor and beyond to Cape Cod Bay. The low-lying lands also provide food and habitat for large waterfowl populations. Upland species in large numbers are also found in the region. Because of its size, this area has a particularly high productivity level.

Uniqueness of Area - Perhaps the most important factor leading to the designation of this area as an ACEC is its uniqueness. Inappropriate use of other coastal areas would also lead to a potential threat to the public welfare. But Sandy Neck's quality, its productivity, its size, present recreational and scientific use elements which contribute to its uniqueness - set it apart and make it a most appropriate area for designation as an ACEC. Sandy Neck is the largest barrier beach system in the Commonwealth outside of the Cape Cod National Seashore. This extensive, undeveloped area provides unique opportunities for active and passive recreation to residents and to visitors alike. Sandy Neck is also unique in that it has served as a model for the study of barrier beach and marsh development through studies conducted by Dr. A.C. Redfield of the Woods Hole Oceanographic Institution. Today, Sandy Neck continues to be the

site of important research being conducted by scientists from Woods Hole and elsewhere. A particularly interesting example of on-going research is that being conducted by Mr. Peter Auger, an ecology teacher from the Barnstable High School. Mr. Auger's work is providing extensive new data on the Northern diamondback terrapin, as well as material for ecology courses at the school. Another endangered species susceptible to study in Sandy Neck is the least tern. Students in this area are presented a unique opportunity to participate in primary research.

There are also sites in Sandy Neck which are being studied for their historical and archaelogical significance, for example, sites indicative of Wampanoag Indian inhabitance of Sandy Neck.

Economic Benefits - Sandy Neck is a substantial economic asset to the Towns of Barnstable and Sandwich. Visitors to the area buy permits for beach use, vehicular use and shellfishing. As stated in the Sandy Neck report, fees of over $50,000 were paid for dune and parking fees during the 1978 season. It is important to note that it is the high quality of the area that attracts many visitors. Continued maintenance of this quality is essential if the area is to remain attractive to many users.

Supporting Factors - Strong public consensus on the intrinsic value of the area weighs in favor of the designation. Residents and officials of Barnstable and Sandwich have long recognized both the environmental and economic importance of the region. Land acquisitons by the two Conservation Commissions, shellfish propagation programs, dune management practices, and general management attempts demonstrate the interest and concern of residents in the future of Sandy Neck. One of the purposes of the ACEC nomination by the Selectmen was to ensure that state agency actions in the area are consistent with the character and environmental integrity of the region. The Selectmen also expressed the hope that, upon request, state authorities might be enlisted to assist local agencies in meeting their stated goals for the region.

All of these factors taken together convince me that the Sandy Neck Barrier Beach System is indeed an Area of Critical Environmental Concern to the Commonwealth.

Application of the ACEC designation criteria to the Sandy Neck Barrier Beach System demonstrates that the area is indeed unique, and is valuable in both environmental and economic senses. Local residents have long recognized the importance of the region. Through the designation of the Sandy Neck Barrier Beach System as an Area of Critical Environmental Concern, I intend to enlist the support of state agencies in the continued protection and appropriate use of this important region.

Evelyn F. Murphy
Secretary of Environmental Affairs

12/15/78
Date

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

BARNSTABLE HARBOR/SANDY NECK

Area of Critical Environmental Concern

As part of my regular review of Areas of Critical Environmental Concern mandated in the regulations of both the Coastal Zone Management Program (301 CMR 20.06 (25)(a)) and Massachusetts Environmental Policy Act (301 CMR 10.17 (9)(a)), I have been asked to more clearly define a portion of the boundary of the Barnstable Harbor/ Sandy Neck Barrier Beach system ACEC. Specifically the area referred to is the excluded marina area in the vicinity of Freezer Point Road and Maraspin Creek in Barnstable. Reference to this portion of the ACEC was made in paragraph I. of the original designation document signed on 15 December 1978 by then-Secretary of Environmental Affairs, Evelyn F. Murphy. At that time the excluded area was defined as "Freezer Point and the developed marina". Neither this description nor the accompanying map provided sufficient detail to determine whether activities on the east (Millway Road) side of the "developed marina" were within the ACEC boundary. Therefore I make the following clarification:

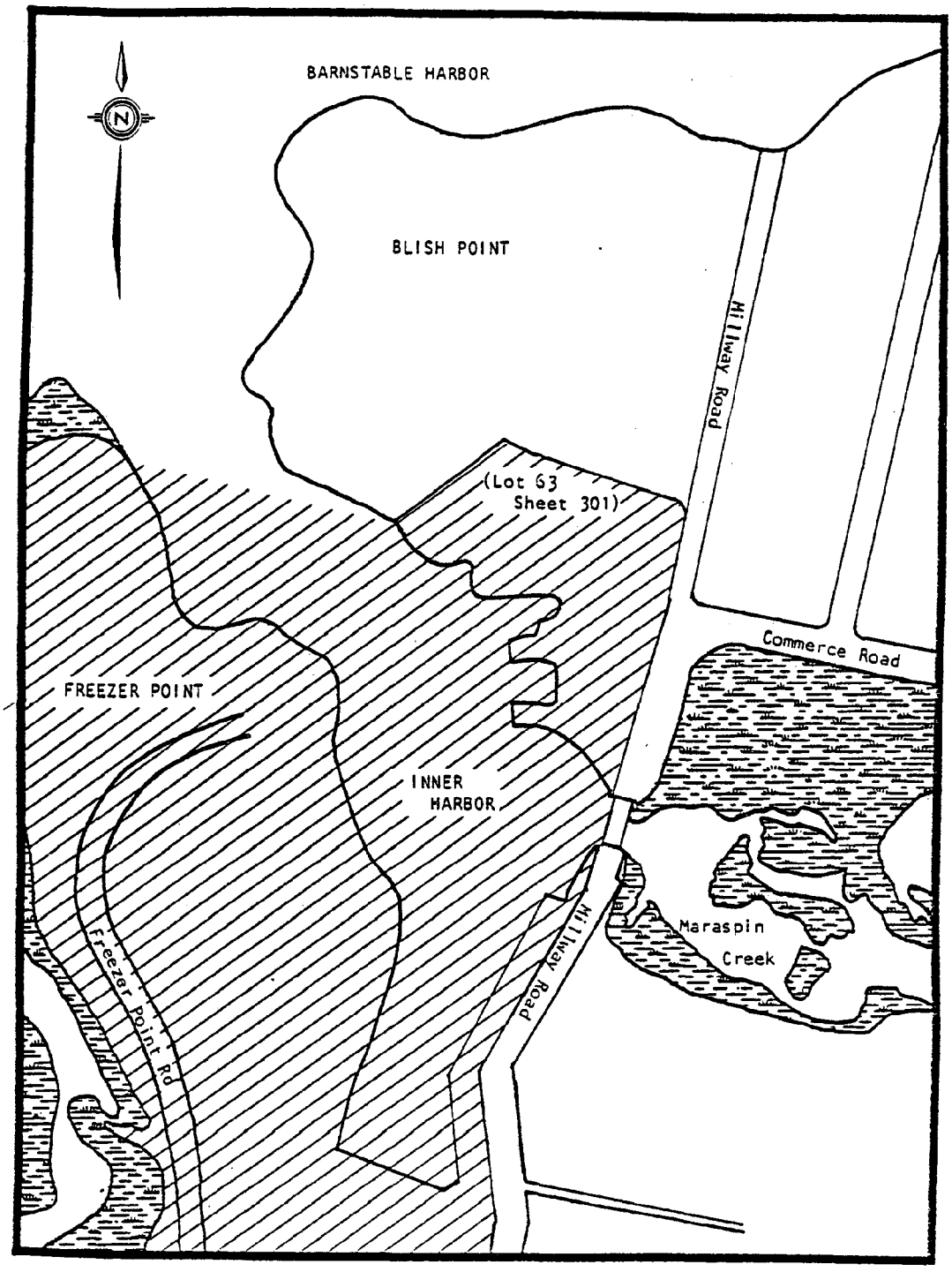
Boundary Clarification

The eastern side of the Freezer Point and developed marina exclusion from the Barnstable Harbor/Sandy Neck Barrier Beach System ACEC shall be defined as follows:

> Beginning at the southeastern corner of the bulkheaded marina area as it exists as of this date, the boundary runs directly east to the western side of Millway Road, then northward along the western side of that road across Maraspin Creek (portions of the Maraspin Creek and marsh complex previous designated that lie east of Millway Road continue to be included in the ACEC) to the northern boundary of Lot 63 on Sheet 301 of the Barnstable Assessors maps. The boundary then runs initially west northwest, then southwest along the western side of Lot 63 to a point where it intersects the mean high water line and thence directly west to Freezer Point. This area is shown on the attached map; the original is on file in the Coastal Zone Management Office in Boston.

James S. Hoyte, Secretary
Executive Office of Environmental Affairs

Date



BOUNDARY CLARIFICATION

BARNSTABLE HARBOR/SANDY NECK AREA OF CRITICAL ENVIRONMENTAL CONCERN

Excluded area along eastern side of "Freezer Road Point and the developed marina".

Map based on Town of Barnstable Assessors' maps and presented for illustrative purposes.

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: POCASSET RIVER

Town: Bourne

USGS Quad Sheet: Pocasset

CZM Atlas Sheet: 43

Water bodies included in ACEC:
Pocasset River (portion)
The Basin
Ponds: Freeman, Mill, Shop, Upper.

Resource Summary:

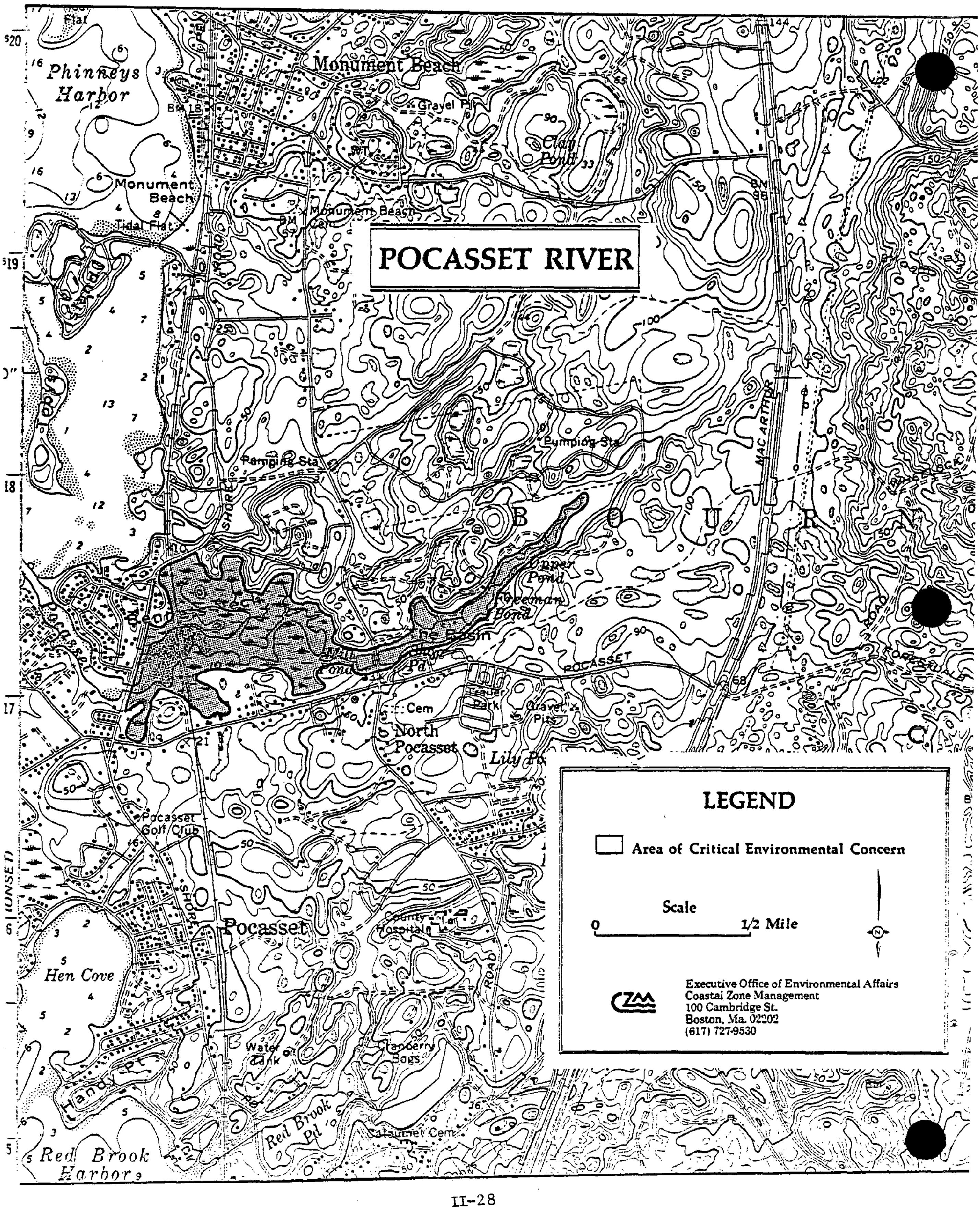
The 192 acres of this relatively small river and estuarine system run from the Shore Road Bridge to the headwaters, and include a diversity of resources ranging from the saltmarsh, tidal lands and floodplains of the estuary to the connecting freshwater wetlands, ponds and streams. With its relatively undeveloped nature, water quality is high throughout the complex.

The freshwater ponds, created originally for use by an iron foundary, are spring fed and generally remain ice-free in winter. Because of this they provide seasonal habitat for water birds and other wildlife. At least 40 bird species are probable or confirmed breeders in the area. The ponds support recreational fishing, while the town's most productive oyster crop is found in the more saline waters of the estuary.

The system has been the site of a fair amount of scientific investigation. A comprehensive ecological inventory of the lower portions has been made and a new species of crustacean was first discovered in the river.

State Regulations apply (date of designation): 5 December 1980

Federal Consistency applies (date of OCRM concurrence): 7 April 1981


POCASSET RIVER
LEGEND
Area of Critical Environmental Concern
Scale
0
1/2 Mile
Executive Office of Environmental Affairs
Coastal Zone Management
100 Cambridge St.
Boston, Ma. 02202
(617) 727-9530
Phinneys Harbor
Monument Beach
Clay Pond
Pumping Sta
Upper Pond
Freeman Pond
The Basin
North Pocasset
Pocasset Golf Club
Pocasset
Hen Cove
Red Brook Harbor
County Hospital
Cranberry Bogs
Water Tank
MAC ARTHUR

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

DESIGNATION OF THE POCASSET RIVER AS AN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Following an extensive public participation process and a formal evaluation of all assembled data, I, the Secretary of Environmental Affairs, hereby designate the Pocasset River as an Area of Critical Environmental Concern (ACEC) pursuant to the authority granted me by G.L. c. 21A, s 2(7).

I also hereby, find that the area of Pocasset River ACEC subject to the jurisdiction of the coastal wetlands regulations of the Wetlands Protection Act, G.L. c. 131, s. 40 is significant to flood control, the prevention of storm damage, the protection of land containing shellfish and fisheries; public interests protected by the Wetlands Protection Act.

I intend to review this designation one year after its effective date under the authorization and procedures established in Section 6.52 of the CZM Program regulations. At that time, I will review any other mechanisms, such as a conservation restriction, that have been legally enacted and which provides at least equal or greater protection to the natural resources of any section of the designated area. Should such restrictions, easements or other protective devices be enacted, I can seek in accordance with Section 6.52 of the CZM Program regulations to amend, repeal or adjust the designation accordingly.

1. Boundary of the Pocasset River ACEC

Within the tidal portion of the Pocasset River, the boundary for the Area of Critical Environmental Concern extends upriver from the easterly side line of Shore Road bridge crossing of the Pocasset River to the landward limit of tidal extent including all of the adjacent intertidal lands and lands within the 100 year flood line elevation (ELE. 14 FT, MSL DATUM). Above the limit of tidal extent, the boundary includes all of the connecting freshwater ponds, surface water courses and adjacent wetlands (as defined in c. 131, s. 40) from Mill Pond to the tributaries of Upper Pond. This boundary also includes a 100 foot setback distance that borders all of the above described freshwater ponds, surface water courses and adjacent wetlands.

2. Discussion of Factors Specified in Section 6.48 of the CZM Program Regulations

Prior to designation of a site as an Area of Critical Environmental Concern, I must consider the factors specified in Section 6.48 of the CZM Programs regulations.

These factors need not be weighed equally, nor must all of these factors be present for an area to be designated. While the more factors an area contains, the more likely its designation, the strong presence of even a single factor may be sufficient for designation. Based on information compiled during the public review process and on the opinions and comments expressed by local officials, residents and landowners, I find that the following factors are applicable to the Pocasset River:

a) Threat to the Public Health, Inappropriate Use:

Inappropriate development of the Pocasset River area may adversely affect the high water quality of this system, particularly in the freshwater ponds and springs. Construction in or near the ponds could increase suspended solid loadings to the detriment of aquatic plants and animals. Storm run-off from paved surfaces near the river could also degrade water quality. The loss or alteration of wetlands could remove a potentially important pollutant filtering mechanism for this entire watershed.

b) Quality of the Natural Characteristics:

The Pocasset River is characterized by a high level of water quality. In the area proposed for ACEC designation, the estuary has been classified as SA waters by the Massachusetts Division of Water Pollution Control. The freshwater portion of the river is classified as B waters. No known discharges from pipes occur within this proposed ACEC.

c) Productivity:

The Pocasset River estuary is a rich, productive coastal resource feature. This type of environment produces large amounts of organic material and helps promo the rapid cycling and availability of nutrients to organisms higher in the food chain. While the Pocasset River is a relatively small coastal stream, it offers a significant diversity of habitats for wildlife ranging from intertidal flats and marshes to small woodland ponds and forests.

d) Uniqueness of Area:

Regionally, the Pocasset River is of special interest because it offers actual and potentially excellent oyster habitat within its estuary. The upstream areas are also significant because the springs which feel the river system seldom freeze. This, in combination with its relative seclusion, offer an important source of freshwater during the winter to indigenous wildlife and migratory waterfowl. The proposed ACEC boundary for the Pocasset River also provides for the first time in Massachusetts the opportunity to designate almost an entire river and its adjacent wetlands as an ACEC. This boundary recognizes the river as an ecological system or unit. This is especially important where the volume and quality of freshwater inflow into the estuary appears to be critical in maintaining the existing faunal assemblage.

e) Irreversibility of Impact:

Significant alterations in water quantity or quality would be likely to seriously adversely affect shellfish populations in the estuary. Removing or altering the wetlands of the Pocasset River would contribute to the degradation of water quality as well as eliminate important wildlife habitat.

f) Economic Benefits:

In Bourne, shellfishing is a significant commercial and recreational enterprise. The Pocasset River contributes to the maintenance of this economic activity.

g) Supporting Factors:

The Town of Bourne considers the Pocasset River as an important natural resource. The area is identified in the Town Master Plan as an environmentally sensitive area, a key open space area and as land appropriate for conservation and/or parks. Also, adjacent to this area if the Town Forest, an important ground-water source of potable water for Bourne.

John A. Bewick
Secretary of Environmental Affairs

December 5, 1980
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: WAQUOIT BAY

Towns: Falmouth, Mashpee

USGS Quad Sheets: Falmouth, Cotuit

CZM Atlas Sheets: 46,47

Water Bodies included in ACEC:

Falmouth
Waquoit Bay
Rivers: Childs (portion), Quashnet (port.)
Ponds: Bog, Bourne, Caleb, Hamblin.

Mashpee
Waquoit Bay
Red Brook (portion)
Ponds: Flat, Hamblin, Jehu, Jim, Little Flat, Sage Lot, Witch.

Barrier beaches included in ACEC:

Falmouth:
Washburn Island: beach to west of bay inlet (Fm-1), beach to east of Eel Pond Inlet (portion)(Fm-11), areas fronting marshes on east side of island (Fm-7,8,9), beach on west side of island opposite Bayview Drive (Fm-10). Within Waquoit Bay: Mouth of Quashnet River (Fm-3,4), area fronting Caleb Pond (Fm-5), fronting pond south of Waquoit cemetary (portion)(Fm-6), fronting Hamblin Pond (Fm-2).

Mashpee:
South Cape Beach/Dead Neck (Ms-5), beach fronting Flat Pond (Ms-9).

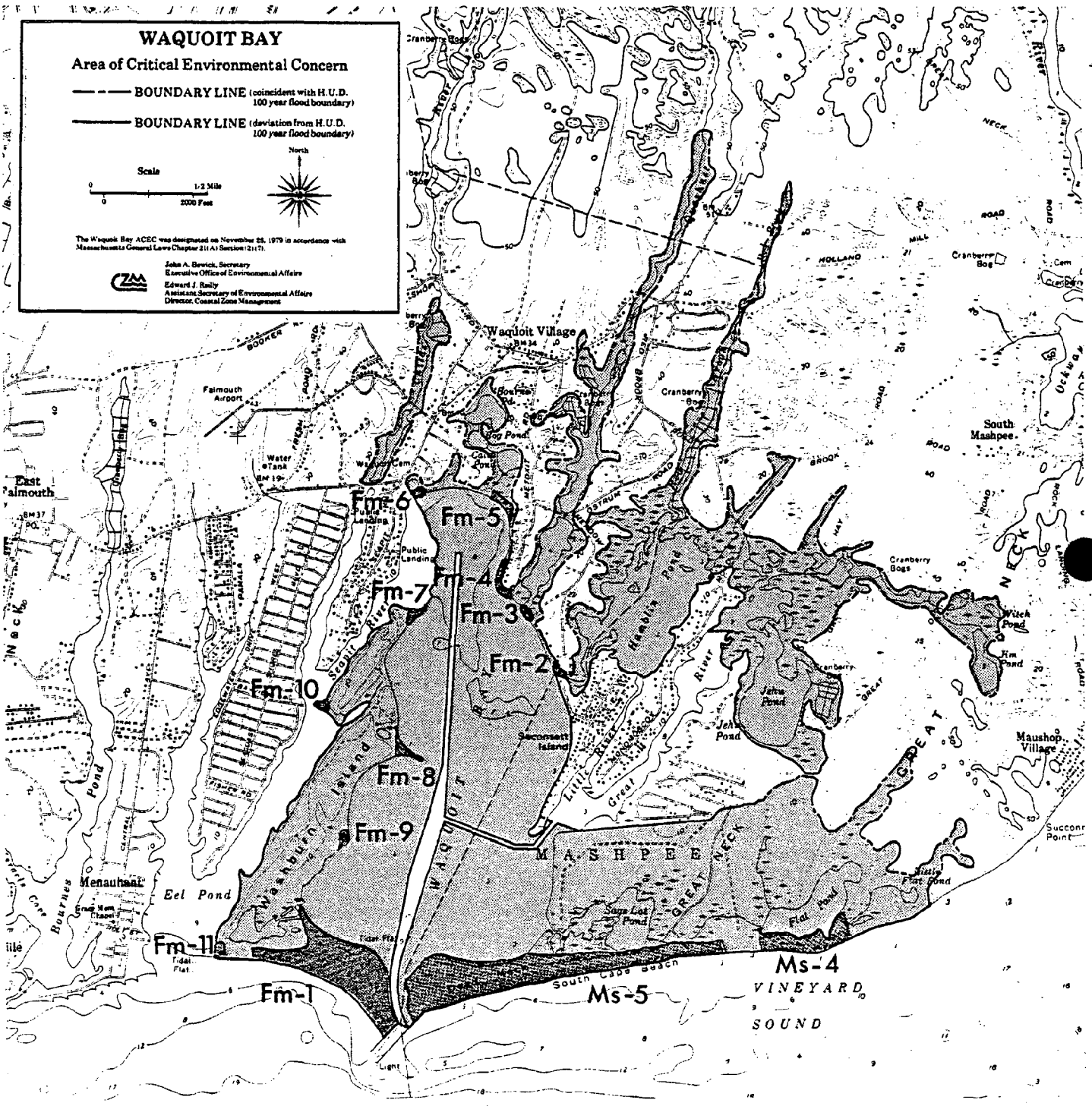
Resource Summary:

This 2,522-acre ACEC includes Washburn Island, South Cape Beach and surrounding areas up to the 11-foot contour above mean sea level (the 100-year storm level). The Great and Little Rivers and a central channel through the bay itself are excluded from the designation. The Waquoit Bay and barrier complex is the most extensive, largely unaltered estuarine system on the south shore of Cape Cod.

High water quality and productivity are reflected in good shellfish crops and a high diversity of finfish. Several commercially important species, including winter flounder, spawn here and use the bay as a nursery. Migratory alewives and blueback herring pass through the bay to their upstream breeding areas. The barriers, bay and marshes support many species of upland, shore and aquatic birds.

State Regulations apply (date of designation): 26 November 1979

Federal Consistency applies (date of CCRM concurrence): 26 March 1980



Fm-3 CZM Barrier Beach Units

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

Designation of Waquoit Bay as an
Area of Critical Environmental Concern
and Supporting Findings

Following an extensive process, including nomination, research, informal meetings with local groups, public informational meetings, public hearings, on-site visits, and a formal evaluation of all assembled data, I, the Secretary of Environmental Affairs, hereby designate Waquoit Bay an Area of Critical Environmental Concern pursuant to the authority granted to me by G.L. c. 21A, s. 2(7).

I also hereby, find that the Waquoit Bay ACEC is significant to flood control, the prevention of storm damage, the protection of land containing shellfish and fisheries; public interests protected by the Wetlands Protection Act, G.L. c. 131, §40.

1. Boundary of the Waquoit Bay ACEC

The Area of Critical Environmental Concern (ACEC) extends from the extreme southwestern end of Dead Neck barrier beach (mean low water, MLW) and extends straight across the entrance channel to Waquoit Bay by the shortest distance to the mean low water line of the western side of the entrance channel. The ACEC boundary then follows the MLW line in a westerly direction (excluding the western jetty of the Waquoit Bay entrance channel) to a point approximately 1370 feet (straight line measure) from the westernmost tip of Washburn Island. This point falls on a line perpendicular to the MLW line of Vineyard Sound and tangent to a segment of shoreline which is both the southeast MLW shoreline of Eel Pond and a western edge of Washburn Island.

The ACEC boundary then follows that perpendicular line to the intersection with the western MLW shore of Washburn Island. The boundary follows the MLW line along the Washburn Island to its extreme northeastern point. The boundary then extends from this point north into Waquoit Bay by the shortest distance to the 6 foot depth curve (datum: MLW). The boundary follows the 6 foot depth curve in a northerly direction to the point of intersection with a true azimuth bearing line of 150°, drawn from the southwestern most point of shoreline of the un-named pond east of Seapit Road. From this point of intersection the ACEC boundary then follows this above-mentioned bearing line in a northwesterly direction to the southwestern most point of shoreline of the un-named pond east of Seapit Road and continues along an extension of this straight line to the intersection with the 100 year flood boundary still east of Seapit Road.

The ACEC boundary then follows the 100 year flood boundary in a generally easterly direction including all of Bourne Pond, Bog Pond, Caleb Pond, parts of the Quashnet River and Red Brook and all of Witch Pond, Fells Pond, and Jehu Pond. At the point of the fifth intersection of the 100 year flood boundary with Great Oak Road, the ACEC boundary extends west on the northern side line of Great Oak Road across the 10 foot contour line (datum: mean sea level) to the second intersection with the 10 foot contour line (MSL). The ACEC boundary extends from this point in a northwesterly direction along the 10 foot contour line (MSL) to the point closest to the eastern shore (MLW) of the Great River. From this point the line extends by the shortest distance to the eastern shore (MLW) of the Great River. The boundary then extends in a northerly direction along the eastern shore (MLW) of the Great River to the western most point of the entrance channel to Jehu Pond. The boundary then extends due west to the MLW line on the west side of Great River and following the MLW line northward to the boundary between Monomoscoy Island and the adjacent northerly salt marsh. The boundary follows a northwesterly trend along the southern edge of this salt marsh, crosses Monomoscoy Road, and continues along the southern edge of this salt marsh to the intersection with the MLW line on the eastern side of Hamblin Pond. The boundary continues in a southerly direction along the MLW line on the east side of Hamblin Pond, across the northern channel entrance of the Little River and continues along the MLW line on the northern edge of Seconsett Island to the intersection of the MLW line and the town boundary between Falmouth and Mashpee. The ACEC boundary follows the town boundary to the intersection with the MLW line on the eastern shore of Waquoit Bay. The ACEC boundary extends from this point in a southerly direction along the MLW line, around Seconsett Island and then in a northerly direction to the point of intersection (Point A) with a true azimuth bearing line of 290°, drawn from the point (Point B) along the MLW line on the eastern shore of the Great River which is also the northernmost point (Point B) of property along the MLW line on the eastern shore of the Great River as described in the Plan of Land, South Cape Beach, Mashpee, Mass., prepared for the Department of Environmental Management, Scale 1"=200', February 16, 1976, Briggs Engineering and Testing Co., Inc., Norwell, Mass., as revised March 31, 1976. The ACEC boundary then proceeds southeasterly from Point A along the previously described true azimuth bearing line of 290° to Point B and continues in an easterly direction along the northern boundary line of said Plan of Land for South Cape Beach to the intersection with the southern side line of Wills Work Road. The ACEC boundary follows the southerly side line of said Road to the intersection with Great Oak Road and then follows the southerly side line of Great Oak Road to the intersection with 100 year flood boundary. The ACEC boundary follows the 100 year flood boundary in a north-easterly direction to the intersection of the southerly side line of Great Oak Road. The ACEC boundary then follows the southerly side line of said Road to the next intersection with the 100 year flood boundary. From this point, the ACEC boundary follows the 100 year flood boundary in a southerly direction to the southernmost extent of the 100 year flood boundary in Mashpee. The boundary then extends due south in a straight line to the MLW line of Vineyard Sount and thence in a westerly direction along the MLW line along South Cape Beach to the point of origin.

Also included within the ACEC boundary is the land along the upper reaches of the Child's River. The ACEC boundary begins at the intersection of the northerly side line of Rt. 28 and the 100 year flood boundary on the eastern side of the Childs River. The ACEC boundary proceeds northerly along the 100 year flood boundary on the eastern side of the Childs River to the point where the 100 year flood boundary crosses in a westerly direction the Childs River. The ACEC boundary then follows the 100 year flood boundary on the western side of the Childs River in a southerly direction to the point of intersection with the northern side line of Rt. 28. The ACEC boundary then proceeds from this point in an easterly direction across the Childs River to the point of origin.

Within the boundary the following exclusions exist:

1) The existing Waquoit Bay navigational channel (6 foot depth, Mean Low Water) extending in a northerly direction from the entrance jetties of Waquoit Bay to the head of Waquoit Bay. Specifically, this measn the channel delineated by existing U.S. Coast Guard buoys (See National Oceanic and Atmospheric Administration, nautical chart #13229, 15th Ad., February 3, 1979, page C, Waquoit Bay and U.S. Coast Guard navigational buoys). Where the channel is unmarked by buoys, the west channel boundary will be delineated by a straight line drawn from buoy C-7 northerly to the western edge of Bourne Pond. This channel would extend no further than 100 feet to the east of the west channel boundary and not exceed a dredged depth of 6 feet below mean low water. This channel will extend no further north than the present Falmouth town landing (near Seapit Road).

2) The existing Seconsett navigational channel extending from U.S. Coast Guard buoy N-6 (see NOAA nautical chart #13229, 15th Ad., February 3, 1979, page C, Waquoit Bay and U.S. Coast Coast navigational buoys) to the entrance of the Great and Little Rivers, Mashpee. The southern boundary of the Seconsett channel extends from buoy N-6, southeasterly in a direct line not to extend beyond Seconsett point. The width of the Seconsett channel will not exceed 100 feet from the southern boundary line. The Seconsett channel will not exceed a dredged depth of 6 feet below MLW.

3) The existing small culvert beneath Monomoscoy Road, Mashpee.

II. Designation of the Resources of Waquoit Bay

Waquoit Bay area is an extensive and largely unaltered resource system. Among the natural components of the system are many specified as Significant Resource Areas (SRA's) in the Massachusetts CZM Program. These include a long barrier beach system, dunes and sandy beaches, many acres of salt marsh, productive shellfish beds, a large estuary, anadromous fish runs and floodplain, erosion and accretion areas. The area is a spawning and nursery ground for many marine species, as well as an important habitat for upland species and waterfowl. The beaches, dunes, and salt marshes provide protection against storms for low-lying inland areas. The region clearly meets the regulatory criterion of the ACEC Program, that a region proposed for designation must contain at least five of the specified Significant Resource Areas.

III. Procedures Leading to ACEC Designation

The Waquoit Bay Area was first proposed for ACEC consideration by local citizens at a CZM planning meeting over two years ago. Active planning commenced in March 1979. Meetings on May 3, May 24, and August 2 were held in Falmouth and Mashpee and attended by local officials and local planning boards, committee members, owners of the area's three marinas and some property owners.

On August 2 a proposed boundary was unanimously endorsed by the six officials and marina owners present at this meeting. On July 9, 1979, a letter nominating the Waquoit Bay Estuarine System as an Area of Critical Enviornmental Concern was submitted by the Selectmen, Conservation Commission and Waterways Committee/ Harbormaster of the Towns of Falmouth and Mashpee. After reviewing this nomination, the Secretary of Environmental Affairs decided, on August 21, 1979 to proceed with a full review of the proposed area.

Notice of the receipt of the nomination request and a public hearing notice were published in the Environmental Monitor on August 22, 1979. The public hearing notice also appeared in two local newspapers: The Cape Cod Times and The Falmouth Enterprise. Additional information on the region was collected by the Coastal Zone Management office staff in consultation with local officials, town boards and natural resource officers. The results of this research were forwarded for comment and review to the Selectmen, Conservation Commissions, Planning Boards, Waterways Committee, and Natural Resource Officers and members of the CZM Citizen Advisory Council for Cape Cod. Copies also went to interested individuals and were available to the general public upon request. Informational articles about the proposed nomination appeared in the local newspaper. A final informational meeting was held at Mashpee Town Hall on August 30, 1979.

A public hearing was conducted on September 27, 1979 in the Falmouth Town Hall. The recorded testimony was largely favorable and an informal vote was 50-3 in favor of the designation. As the result of a number of concerns raised at this meeting, on-site visits were also arranged. On October 19, eighteen citizens and officials toured Waquoit Bay by boat following existing main navigational channels. In addition, CZM staff conducted site visits with individual landowners who had concerns.

A second public hearing was scheduled for October 25, 1979. A public hearing notice was published in the Environmental Monitor on October 22, 1979. The public hearing notice also appeared in the Cape Cod Times and The Falmouth Enterprise.

The hearing record remained open until November 7, 1979 for those persons who wished to submit written comments. After careful consideration of all public comments, final boundary modifications were defined.

IV. Discussion of Factors Specified in Section 6.48 of the CZM Program Regulations

Prior to designation of a region as an Area of Critical Environmental Concern, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations. Based on research and information from local residents, I find that the following factors are applicable to the Waquoit Bay Barrier Beach System.

Quality of Natural Characteristics: This estuarine system is a relatively large unaltered physical and biological resource. Its unpolluted water attracts a wide range of finfish species and nurtures large numbers of shellfish. The undeveloped stretches of Washburn Island and Dead Neck accommodate contiguous environments of beach, dune, marsh, and low wooded hills. Minimum alteration of the natural features of this area will allow them to function at their maximum capacity. These undeveloped expanses also contribute significantly to the scenic beauty enjoyed by users of the area.

Public Health: The high water quality currently existing supports many important activities, including swimming, boating, fishing and shellfishing. Clean water must be maintained to ensure the safety of the recreational users of the area. Activities that would degrade water quality would have both environmental and economic consequences. The barrier beach formed by Washburn Island and Dead Neck acts as a natural storm buffer to protect the property of shore dwellers within the system. Development of this barrier would impair its natural form and protective function.

Uniqueness: An estuary, where fresh water inflow meets and mixes with salt water, is the most significant of all coastal features in the amount and variety of biological production. The largely unaltered Waquoit Bay estuarine system makes this area both a highly significant and uncommon feature of the Massachusetts coast. The availability of nutrients supports a great number and variety of species. These conditions provide excellent opportunities for scientific research. In a study conducted in the late 1960's, the Massachusetts Division of Marine Fisheries determined that of nine sample estuaries in the state, Waquoit Bay supported the greatest diversity of estuarine-associated fin-fish. Currently, a biologist from the Woods Hole Oceanographic Institution is studying the genetics and distribution of quahogs in the estuary.

Productivity: The region contains diverse and viable populations of fish, shellfish and waterfowl. The biological productivity of this area is sustained by its ponds and salt marshes which contribute large quantities of nutrients to the coastal food chain.

Imminence of Threat to the Resource: Alterations which could severely impact the natural functions or reduce productivity of the components of the Waquoit Bay system have been considered for the area. The ACEC designation would focus attention on the area's significant environmental and economic resources, and would serve as a guide regarding future activity in the area.

Irreversibility of Impact: Because the estuary has only limited access to the open Sound through the narrow cuts at the east end of Washburn Island, the entire basin is susceptible to inadequate flushing. The discharge of pollutants into this system would tend to remain concentrated rather than to disperse. As a result, impacts on shellfish and finfish could be severe, thereby damaging an important economic resource of the Waquoit basin. Other habitat alterations such as filling or removal could also severely affect sensitive spawning or nursery areas, thereby decreasing the abundance of valuable commercial, recreational, and aesthetic resources.

Economic Benefits: This ACEC brings significant income to Falmouth and Mashpee through tourists and area residents who purchase shellfish permits, the use of area services such as boatyards, and the wholesale trade in shellfish. Any alteration in the area that threatens to disrupt its utilization and/or attractiveness carries a potentially detrimental economic impact. Damage to the groundwater is also an important consideration because the shore-dwellers depend on private groundwells for their fresh water supply.

Supporting Factors: Residents, business persons and other users of the ACEC agree that the area carries environmental importance, economic utility and aesthetic qualities. Groups at many levels, including local residents, town authorities and state administrative agencies, have voiced their concern about the need to preserve the undeveloped portions, particularly Washburn Island and South Cape Beach.

John A. Bewick
Secretary of Environmental Affairs

11/26/79
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) COASTAL

Data Sheet

Location: BACK RIVER

Towns: Hingham, Weymouth

USGS Quad Sheet: Weymouth

CZM Atlas Sheet: 18

Water bodies included in ACEC:

Hingham
Weymouth Back River
Fresh River
Bouve, Brewer Ponds
Bear Swamp

Weymouth
Weymouth Back River
Herring Brook
Whitmans Pond (portion)

Barrier Beaches included in ACEC: none

Resource Summary:

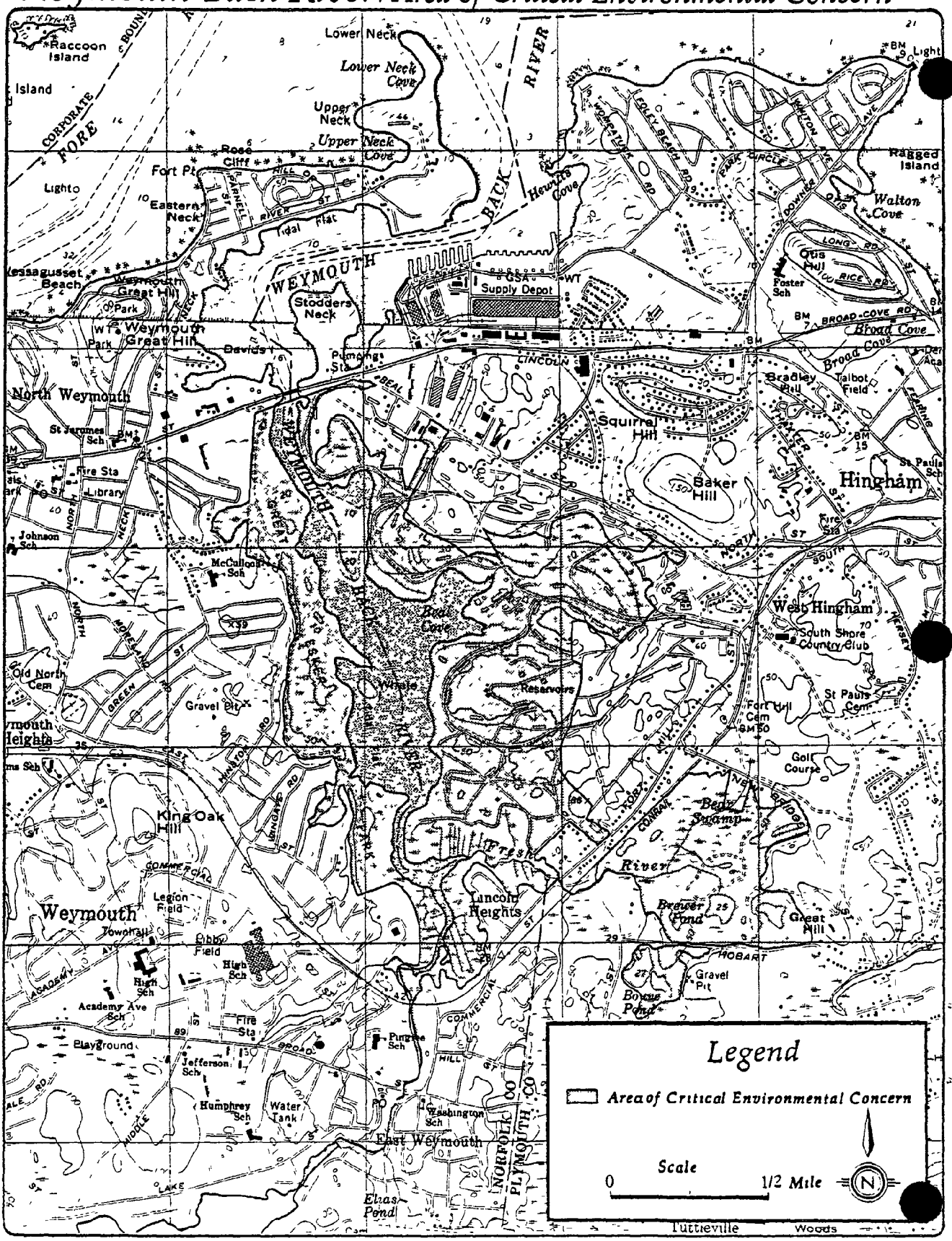
A unique natural area nestled into an urban/suburban environment, this 954 acre ACEC includes a variety of resources. Slightly over 180 acres are tidal waters flushing into Hingham Bay. Here there are productive clam flats and nursery and feeding areas for a wide variety of finfish. Herring Brook in Weymouth annually provides passage to Whitmans Pond for thousands of alewives, locally referred to as herring. The lower portion of Herring Brook, Hingham's Fresh River, and several unnamed tributaries provide spawning sites for an annual smelt run. The 100+ acres of salt marsh and several salt ponds are vital links to the marine food web. Also included in the ACEC are portions, or all, of ponds and swamps that form the headwaters of various tributaries to the Back River.

Most of the uplands within the ACEC are parks managed by the two towns: Great Esker Park in Weymouth and Hingham's Bare Cove and Brewer-More Parks. Within these areas are several outstanding examples of glacial eskers, numerous historical and scenic sites, and breeding and/or feeding habitat for some 150 species of birds. These conservation areas provide buffers for the waters of the river and space for passive recreation.

State Regulations apply (date of designation): 22 September 1982

Federal Consistency applies (date of OCRM concurrence): 8 November 1982

Weymouth Back River/ Area of Critical Environmental Concern



Massachusetts Coastal Zone Management

DESIGNATION OF THE WEYMOUTH BACK RIVER

as an AREA OF CRITICAL ENVIRONMENTAL CONCERN

with supporting findings

Following the extensive formal review required by the regulations of the Massachusetts Coastal Zone Management program (301 CMR 20.00 et seq) and the Massachusetts Environmental Policy Act (301 CMR 10.00 et seq), including nomination review, research, meetings, and evaluation of all public comments, I, the Secretary of Environmental Affairs, hereby designate a portion of the Weymouth Back River and surrounding lands in the towns of Hingham and Weymouth as an Area of Critical Environmental Concern (ACEC). This action is taken pursuant to the authority granted to me under Massachusetts G.L. c. 21A, s. 2(7).

I also hereby find that the coastal resource areas included in the Back River ACEC are significant to flood control, the prevention of storm damage, the protection of land containing shellfish, and fisheries; public interests defined in the Wetlands Protection Act (G.L. c. 131, s.40; 310 CMR 10.00 et seq.).

I. Boundary of the Back River ACEC.

The area generally includes the Weymouth Back River estuary and certain surrounding lands and watershed areas. All elevations referred to are NGVD datum as indicated on USGS topo sheet of the Weymouth Quadrangle dated 1971, photorevised 1979. A map showing the ACEC boundaries is available in the Massachusetts Coastal Zone Management office at 100 Cambridge Street, Boston.

Specifically, the boundary is defined as follows:

Beginning at the point just south of the Route 3A bridge where the northern boundary of Weymouth's Great Esker Park meets the western bank of the Back River, and moving west, south and finally east to encompass all lands included in Great Esker Park (Town of Weymouth Assessor Plans 5,8,11; Block 14; Lot 1) to the intersection of the 10' contour on the line between the Park and the town owned property surrounding the Weymouth compacting station. In two instances the ACEC boundary extends westward beyond the Park bounds; in an area generally surrounded by Irving Road, Call Road, Seabury Street, and Fairfax Street, the ACEC boundary follows the 10' contour around the salt marsh; in an area generally bounded by Puritan Road and Calhoun Street, the ACEC boundary is again the 10' contour surrounding the marsh.

From the southern edge of the Park referred to in the previous paragraph, the boundary follows the 10' contour generally southward to the culvert under the Conrail tracks. This boundary includes the stream and its banks to the height of the annual flood elevation to the point of intersection with the culvert under Wharf Street and latterally to the height of the annual flood elevation.

The boundary includes Herring Brook in Weymouth from the south of the railroad

culvert to a point in Whitmans Pond 25 feet above the upper end of the highest fish ladder, using a bank elevation of the annual highwater mark in the fresh waters and the 10-year flood elevation (10.5') in the tidal portions.

From the east side of the railroad culvert on Herring Brook, the boundary is coincident with the 10' contour until reaching the south bank of Fresh River where it passes under Fort Hill Street in Hingham (extension of Commercial Street in Weymouth).

The boundary follows the course of the Fresh River, at its annual flood elevation, under Fort Hill Street and the Conrail tracks and up the eastward branch of the Fresh River under French Street. The lands under the management of the Hingham Conservation Commission known as Brewer-More Park and generally bounded by the Conrail tracks, New Bridge Street, the so-called Wilmon Brewer Estate, and Hobart Street are entirely included (see plan entitled "Sub-division Plan for New Bridge and Hobart Streets" prepared by Perkins Engineering Inc., 10 Industrial Pond Road, Hingham dated 15 December 1980, 4 sheets, as filed with the Hingham Conservation Commission, for surveyed bounds). Also included are the lands under the control of the Hingham Conservation Commission located around Bouve Pond (see Town of Hingham Assessors sheet 106, Lots 8,31,32.)

From the north bank of the Fresh River as it passes under Fort Hill Street, the boundary moves generally northwest along the 10' contour to the Bare Cove Park boundary line. With one exception, all of Bare Cove Park is included in the ACEC. That one exception is the land to the east of the road between the music conservatory and the Tucker Swamp well field, which is excluded.

Three additional areas adjacent to Bare Cove Park are within the boundaries of the ACEC. The first includes a section of Tuckers Swamp on land owned by the Hingham School Department. It is generally bounded by the beds of unnamed roads and railroad lines from the former naval installation. Beginning at the juncture of the roadbed and the Park boundary just south of the Tucker Swamp well field and extending northeast to the railroad bed, northwest and northeast to the first intersecting roadway, northwest along the west side of that roadbed to a point 50' to the south of the brook, in a northeast direction to north side of the first roadbed, thence southeast along the north side of the road to the west side of the first intersecting road, north along the west side of that roadbed to the first intersection, west along the south side of the road to the intersection with the railroad bed, southeast along the north side of the railroad to the intersection with the 20' contour line, south and west along this contour line and extending west to the railroad bed and northwest to the Park boundary.

The second area surrounds the Great Blue Heron pond to the northeast of Beal Cove. The bounds are defined on a "Plan of Land at Beal Street and Hockley Drive, Hingham", prepared for the Ships Cove Co. by Perkins Engineering Inc., dated 27 March 1980, revised 7 May 1980 and endorsed by the Hingham Planning Board 27 May 1980 as not requiring approval under the sub-division law. This plan is on file with the Hingham Planning Office.

The third area includes the eskers, salt marshes and salt ponds on the so-called Salah property at the northern end of Bare Cove Park. The line surrounding this section begins at the junction of the Park boundary and the 10' contour to the east of a small wetland and just to the west of former Naval Depot warehouse #142, and extends northeast and then northwest to the northernmost point on that contour line, extends directly north to the 30'contour, moves west and north to a point north of the salt marsh, directly west to the 20' contour on the west side of the esker, then moves south in a straight line down the esker slope to the 10' contour, across a level area to the nearest point of the 10' contour of the next esker, west along the 10' contour to the Bare Cove Park boundary at a point approximately 25' north of former Naval Depot warehouse #54 which lies partly within Bare Cove Park and partly within the Salah property.

From the northern juncture of the Bare Cove Park boundary and the eastern bank of the river, the boundary extends directly across to the starting point at the Great Esker Park northern boundary.

II. Designation of the Resources of the Back River ACEC.

In my letter of acceptance of the nomination of the Back River, I noted that the number of significant resource areas exceeded the minimum required for eligibility. The resources of the Back River, its surrounding lands and portions of its watershed have remained largely unaltered despite the generally urban setting. These significant resource areas within the ACEC include: anadromous and catadromous fish runs, fish spawning and nursery areas, an estuary with over 200 acres of water surface, flood plains, over 100 acres of salt marsh, several salt ponds, and over 100 acres of productive clam flats. Within the ACEC, habitat is available for many forms of wildlife, particularly birds. There are several important historic sites and many significant scenic vistas.

The presence of these resource areas clearly indicates that the site is important to the region and to the state.

III. Procedures Leading to ACEC Designation.

Initial consideration of ACEC status for the area designated began in September of 1981 during a review of various environmental protection techniques by the Back River Committee. This group, consisting of appointees by the Boards of Selectmen of Weymouth and Hingham, met several times with staff of the CZM office. Subsequent informal meetings were held between CZM, the Back River Committee, Boards of Selectmen, Planning Boards and Conservation Commissions of the two towns to explain the ACEC program and ramifications of such a designation.

On 12 April 1982, a letter of nomination was signed by representatives of the above town Boards, Commissions and the Committee and by the Hingham Bare Cove Park Committee and the Weymouth Parks Board. Acceptance of the nomination was indicated by letter on 26 May 1982 and the review process was begun.

Notice of the acceptance of the nomination and of an informational meeting and

a public hearing was published in the Environmental Monitor of 7 June 1982. Notice was also given in the Boston Globe (7 June), Patriot Ledger (7 June), Weymouth News (9 June), Hingham Journal (9 June), and CZM Newslines (31 May). Several informational articles and editorials appeared in local and regional papers and notice of meetings was sent to property owners whose land was nominated for inclusion within the ACEC.

An informational meeting was held in the Hingham Town Office Building on 14 June 1982 with a formal public hearing in Weymouth's Town Hall on 13 July 1982. The public comment period was extended until 20 July 1982. Testimony at the hearing, and via written comments, was unanimously favorable.

IV. Discussion of Factors Specified in Sections 6.48 of the CZM Program Regulations and 10.17(6) of the MEPA regulations.

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations and Section 10.17(6) of the MEPA regulations. As stated in these regulations, the factors need not be weighed equally, nor must all of these factors be present for an area to be designated. While the more factors an area contains the more likely its designation, the strong presence of even a single factor may be sufficient for designation.

Based on information in the nomination letter, presented at the public hearing and through written comments, and on research of my staff, I find the following factors applicable to the designated ACEC:

Quality of the Natural Characteristics: The Back River remains a natural area in the midst of expanding urban/suburban development. The expanses of marshland and the eskers act as a buffer against the activity of surrounding residential, commercial, and industrial areas. This, in turn, provides habitat for wildlife and high quality passive recreation. The size and scope of the eskers are unique in Massachusetts. Each year thousands of alewives and smelt pass through the estuary and spawn in the tributaries and headwaters.

Productivity: The high productivity of estuarine/saltmarsh ecosystems has been well documented in the scientific literature. The plant growth within the marsh is exported by the tides and ultimately incorporated into the marine food web. The protected, shallow waters of the estuary act as a nursery to shellfish and finfish and the relatively high water quality of the tributaries and the headwaters provides spawning sites for anadromous fishes.

Uniqueness of the Area: That the Back River estuary has remained relatively unchanged while located in the state's largest metropolitan area (within a 45 minute drive of over 1 million people) makes it truly unique to the region. The eskers are remarkable both for their size and state of preservation. The Massachusetts Division of Marine Fisheries lists the Back River as a major anadromous fish run, again particularly notable considering the urban setting.

Irreversibility of Impact: The upper reaches of the Back River, designated as an ACEC, is a shallow basin with a narrow downstream opening under the Route 3A bridge. This portion of the estuary, therefore, is susceptible to problems due

to inadequate flushing. Discharge of pollutants or changes in bottom topography within the ACEC could have major impacts on fin and shellfish. Alterations in water quality or quantity or in bottom features could permanantly impact alewife and smelt runs and spawning.

Imminence of Threat to the Resources: Alterations that could impact resources of the ACEC have been proposed in the recent past. This designation will focus attention on the value and sensitivity of the area and will serve as a guide regarding future activity in the area.

Supporting Factors: There has been virtually unanimous agreement on the appropriateness of the designation among local residents, environmental groups, and Boards and Commissions from the two towns. There has also been support from state legislators. It is therefore my strong feeling that the portions of the Back River estuary, the surrounding uplands and tributaries that have been nominated are very appropriate for designation as an Area of Critical Environmental Concern.

John A. Bewick
Secretary of Environmental Affairs

9/10/82
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: Inner Cape Cod Bay

Towns: Brewster, Eastham, Orleans

USGS Quad Sheet: Orleans

CZM Atlas Sheet: 54

Water Bodies Included in ACEC:

Brewster
Cape Cod Bay (portion)
Creek: Namskaket (portion)

Eastham
Cape Cod Bay (portion)
Creek: Rock Harbor (portion)
Rivers: Boat Meadow, Herring
Pond: Herring

Orleans
Cape Cod Bay (portion)
Creeks: Namskaket (portion), Little Namskaket, Rock Harbor (portion)
Ponds: Cedar

Barrier Beaches included in ACEC:

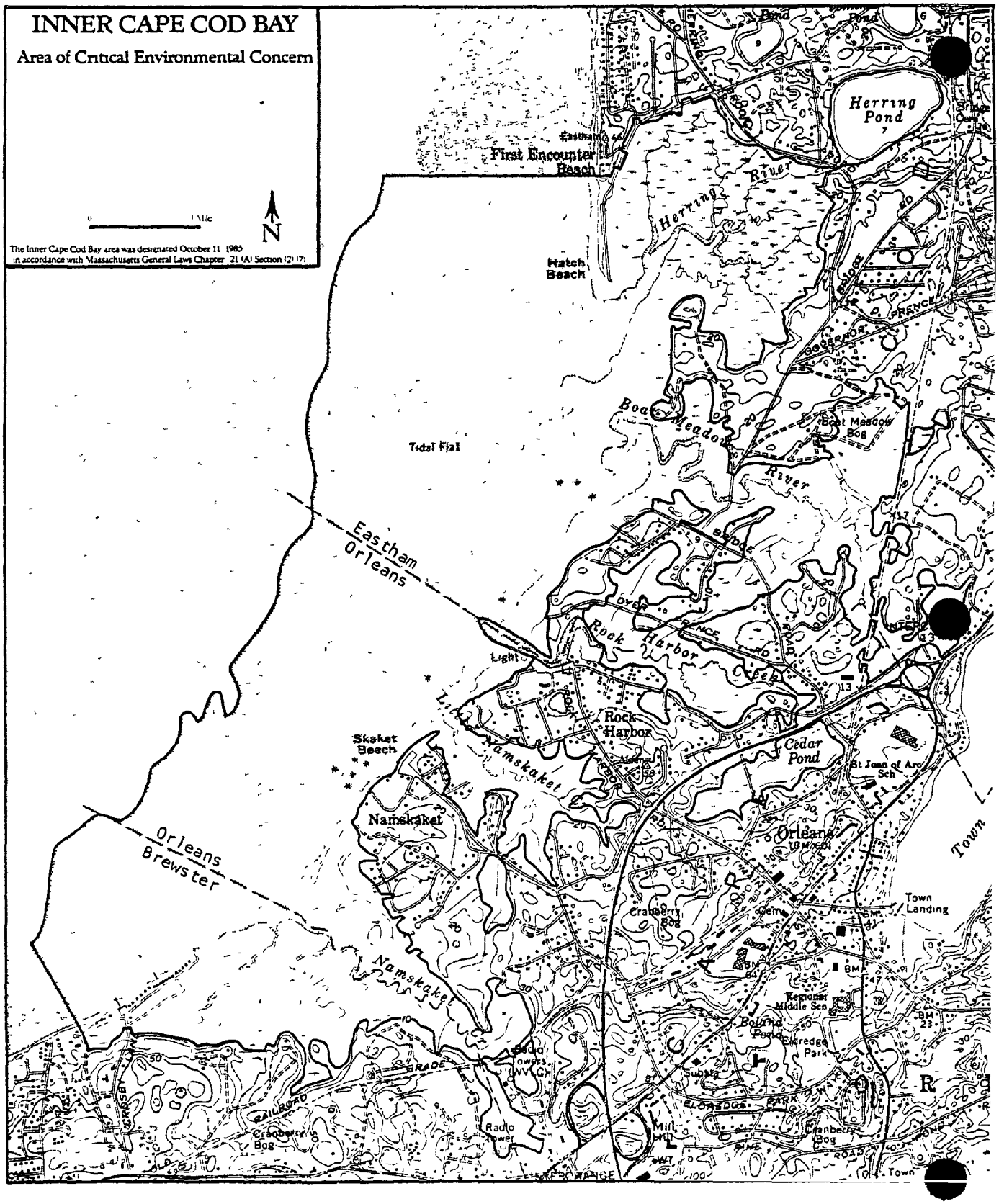
Eastham: First Encounter Beach/Hatch Beach (Eh-2), beach south of Herring River (Eh-3), beach south of Boat Meadow River (Eh-4), beach north of Rock Harbor (Eh-5).
Orleans: Beach between Rock Harbor and Little Namskaket Creek, Skaket Beach (Ol-2), beach north of Namskaket Creek (Ol-3), beach south of Namskaket Creek (Ol-4; connected to Bt-1)
Brewster: Beach south of Namskaket Creek

Resource Summary:

Within this 2500 acre ACEC are almost 900 acres of salt marsh, hundreds of acres of highly productive shellfish beds, extensive undisturbed wildlife habitat, barrier beaches, salt ponds, tidal rivers and creeks, as well as significant historic, recreational, and aesthetic attributes. Encompassing the "inside corner" of Cape Cod Bay from First Encounter Beach in Eastham to Namskaket Creek in Brewster, this area is noted for its pristine character, including feeding and nesting areas for the endangered diamond-back terrapin, and exceptional coastal and estuarine ecosystem productivity.

State Regulations apply (date of designation): 11 October 1985

Federal Consistency applies (date of OCZM concurrence): _____


INNER CAPE COD BAY
Area of Critical Environmental Concern
1 Mile
N
The Inner Cape Cod Bay area was designated October 11 1985
in accordance with Massachusetts General Laws Chapter 21 (A) Section (2) (7)
Herring Pond
First Encounter Beach
Herring River
Hatch Beach
Tidal Flat
Boat Meadow River
Eastham
Orleans
Rock Harbor
Rock Harbor Creek
Skaket Beach
Namskaket
Cedar Pond
St Joan of Arc Sch
Orleans
Orleans
Brewster
Namskaket
Town Landing
Cranberry Bog
Radio Tower
Mill
Town

DESIGNATION OF PORTIONS OF THE TOWNS OF
BREWSTER, EASTHAM and ORLEANS

as the

INNER CAPE COD BAY AREA OF CRITICAL ENVIRONMENTAL CONCERN

With Supporting Fundings

Following an extensive formal review required by the regulations of the Massachusetts Coastal Zone Management program (301 CMR 20.00 et seq) and the Massachusetts Environmental Policy Act (301 CMR 10.00 et seq), including nomination review, research, meetings, and evaluation of all public comments, I, the Secretary of Environmental Affairs, hereby designate portions of the Towns of Brewster, Eastham, and Orleans (Barnstable County) and portions of Cape Cod Bay adjacent to those Towns, as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted to me under Massachusetts G.L. c. 21A, s.2(7).

I also hereby find that the coastal wetland resource areas included in the Inner Cape Cod Bay ACEC are significant to flood control, the prevention of storm damage, the protection of land containing shellfish, and fisheries; public interests defined in the Wetlands Protection Act (G.L. c. 131, s.40; 310 CMR 10.00 et seq).

I. Boundary of the Inner Cape Cod Bay ACEC

The area generally includes the salt marshes surrounding Namskaket Creek, Little Namskaket Creek, Rock Harbor Creek, Boat Meadow River, and Herring River; Herring and Cedar Ponds; and the barrier beaches and tidal flats along the shoreline between First Encounter Beach in Eastham and Weathervane Way in Brewster. The seaward boundary is the mean low water line while the landward boundary is generally based on the 10' contour or certain man-made structures. All elevations referred to are NGVD datum as indicated on the USGS 7 1/2 minute topographic sheet of the Orleans, Mass. Quadrangle dated 1974. A map showing the ACEC boundaries is attached; a larger version is available at the Coastal Zone Management Office, 100 Cambridge Street, Boston.

Specifically the boundary is defined as follows:

Beginning at the 10' contour adjacent to Samoset Road in Eastham where it enters First Encounter Beach, the boundary follows the 10' contour around the Herring River marsh and Herring Pond. It continues along the 10' contour on the marshes north of Boat Meadow River to the landward end of the dike separating Boat Meadow Bog from the marshes. The boundary goes north across the base of the northern end of the dike and follows the

10' contour around Boat Meadow Bog, cutting across the southern landward end of the dike. The boundary continues along the 10' contour around the upper reaches of the Boat Meadow River marshes to the point where that contour intersects Smith Lane and Rock Harbor Road near the Route 6 rotary.

The boundary follows the northern side of Rock Harbor Road into Orleans until it intersects with the 10' contour. It then moves northward and westward along that contour back into Eastham, eventually crossing Dyer Prince Road, then moving southeast into Orleans to the east side of the culvent under Route 6 connecting with Cedar Pond. The area south of Route 6 including and surrounding Cedar Pond up to the 10' contour is part of the ACEC. From the west side of the Route 6 culvert (on the north side of the highway) the boundary follows the 10' contour along the south side of Rock Harbor Creek to a point approximately 550 feet east of the intersection of Rock Harbor Road and Bay View Drive thence, north across Rock Harbor Creek into Eastham to the mean sea level mark on the northern side of the Creek and generally northwest along the mean sea level line to a point where the creek and the 10' contour to the north are in closest proximity. The boundary then moves due north to the 10' contour line and follows that line around the marsh, crossing and recrossing Dyer Prince Road to a point 150' east of Windjammer Lane, thence northeast to rejoin the 10' contour. The boundary continues along the 10' contour generally east, north, and southwest to the point where it intersects Bridge Road and Charlie Noble Way. It follows the northern side of Bridge Road to the point where it again meets the 10' contour and follows that contour line generally east, northeast, northwest and southwest to the point between Bayview Road and Beach Road.

The line then runs directly west to the 10' contour (to include the barrier beach within the ACEC) and proceeds south to the end of Dyer Prince Road where it enters the Rock Harbor parking lot. From that point it runs directly south, along the west side of the parking lot to the mean sea level elevation on the northern side of Rock Harbor, thence extending westward along the mean sea level line and beyond to a point 300' outside the mouth of the harbor. The boundary then runs back to the 10' contour on the Orleans side of Rock Harbor. It follows the 10' contour around Little Namskaket Creek, including an area south of Namskaket Road, and along Skaket Beech to the end of Willie Atwood Road. The line then cuts southeast to the 10' contour, thereby including the barrier beach north of Namskaket Creek. Following the 10' contour, the line runs around the Namskaket Creek marshes, in two areas extending south of the Cape Cod Rail Trail, until it reaches Weathervane Lane in Brewster. From this point it crosses the barrier beach and extends into Cape Cod Bay on a bearing of 330 north by north-west to the mean low water line, thence generally north along the mean low water line to a point due west from the starting position. By proceeding directly east to the starting point the boundary is completed.

II. Designation of the Resources of the Inner Cape Cod Bay ACEC

In my letter of acceptance of the nomination of the Inner Cape Cod Bay area as an ACEC, I indicated that our evaluation indicated that it easily met the minimum threshold for consideration. The nomination letter clearly lists the quantity and quality of the resources present.

The presence of these resources, and their undisturbed nature, clearly indicate their value to the region and the state.

III. Procedures Leading to ACEC Designation

Initial consideration of ACEC status for the area designated herein began in February of 1982. As documented on pages 22 and 23 of the nomination letter for this area (dated 25 February 1985) informal public discussions and working meetings continued for three years with Boards and Commissions of the three Towns involved. Fifteen separate meetings are documented in the nomination letter. At these meetings the ACEC program and its ramifications were discussed and various boundary proposals were reviewed.

On 25 February 1985, a letter of nomination was signed by the Chairs of the Boards of Selectmen, Planning Boards, and the Conservation Commissions of the Towns of Brewster, Eastham, and Orleans. The letter was received in my office on 1 March 1985. Acceptance of the nomination was indicated by letter dated 8 April 1985 and the review process was begun.

Notice of the acceptance of the nomination and of an informational meeting and a public hearing was published in the Environmental Monitor of 8 May 1985. Notice was also given in the Cape Codder (16 April 1985) and CZM Newslines (8 April 1985). Several informational articles appeared in local and regional papers.

The information meeting was held on 18 April 1985 in the Eastham Town Hall with a formal public hearing at the same location on 15 May 1985. The public comment period was held open until 24 May 1985. Testimony and comments were received from 15 individuals or organizations and are on file in the CZM office at 100 Cambridge Street, Boston, MA. The public hearing was recorded with the tapes also available at the CZM office.

IV. Discussion of Factors Specified in Sections 6.48 of the CZM Program Regulations and 10.17(6) of the MEPA Regulations

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations and Section 10.17(6) of the MEPA regulations. As stated in these regulations, the factors need not be weighed equally, nor

must all of these factors be present for an area to be designated. While the more factors an area contains the more likely its designation, the strong presence of even a single factor may be sufficient for designation.

Based on information in the the nomination letter, presented at the public hearing and through written comments, and on research by my staff, I find the following factors applicable to the designated ACEC:

Threat to Public Health Through Inappropriate Use

As noted in the nomination letter, portions of the designated area are used for public shellfish harvesting. Inappropriate discharges, either direct or indirect, into this system could have public health repercussions through contamination of these shellfish. Salt marshes are valuable for their ability to remove contaminants from adjacent waters. Disruptions of this function of the marsh could also have detrimental effects on the quality of harvested shellfish. The high quality of the waters within the designated ACEC also makes the area safe for water contact activities.

The nine barrier beaches within the ACEC act as natural storm buffers to protect landward areas and structures from damage. The marsh system also aids in this protective role. Distruption of this protection could lead to significant storm damage to public property and private homes of shore dwellers.

Quality of the Natural Resources

The generally unaltered barrier beaches, saltmarsh, tidal creeks, and flat system are in themselves outstanding natural resources. The nomination letter and public comments refer to shellfish, fishery, recreational, and aesthetic resources. Additionally the size and nature of the area make it important breeding, feeding, and resting area for many species of birds (the nomination letter lists over 80) and mammals.

Productivity

The high productivity of estuarine/saltmarsh ecosystems has been well documented in the scientific literature. The plant growth within the marsh is exported by the tides and ultimately incorporated into the marine food web. The protected, shallow waters of the estuary act as a nursery to shellfish and finfish and the relatively high water quality of the tributaries and headwaters provides spawning sites for anadromous fishes. The ACEC includes almost 900 acres of salt marsh and thousands of acres of tidal flats.

Uniqueness of the Areas

The size of this unaltered (except for Rock Harbor) system of flats, marshes, and tidal creeks makes this area unusual for the generally developed Massachusetts coastline. As previously noted, the area is highly productive and remarkable for its natural resources. The geology

of the area is unique in that it includes the dividing line between the cliff-edged plains of Nauset and the kame fields of Eastham.

Imminence of Threat to the Resources

Cape Cod, in the past decades, has been under ever-increasing developmental pressures. All predictions see these pressures increasing even more rapidly in the future. These development activities present two particular forms of threat to the areas included within the ACEC.

First is the incremental effect of construction along the edges of the marshes and waterways. Run-off from roadways and landscaped areas can bring increased levels of nutrients to the aquatic system resulting in eutrophication, possible algal blooms, and resultant lowering of oxygen levels in the water to the detriment of marine organisms. Run-off can also carry pathogens (often indicated by elevated counts of coliform bacteria), oil and gasoline residues, or other contaminants. Even properly designed, installed and maintained septic systems can allow the leaching of nutrients into the marshes and waterways in levels that cannot be easily taken up, while failing septic systems can discharge raw sewage into surface waters.

Despite laws and regulations to the contrary, construction along marshes and waterways can also bring incremental filling over time.

Secondly, the increasing population has led to increased proposals for dredging tidal creeks and flats for boating activities. Historically this has taken place along much of the Cape, including Rock Harbor. The inclusion of Namskaket and Little Namskaket Creeks and Herring and Boat Meadow Rivers within the ACEC will prevent such pressures from leading to dredging of these creeks and flat areas.

It is hoped that this designation will serve to focus attention on the value and sensitivity of the area and will serve as a guide for future development proposals.

Economic Benefits

This area has intrinsic values related to the region's economic stability. Cape Cod, and each town's, economy is based on the fishing, tourism, and retirement industries. The fisheries are supported through the healthy and productive marsh and estuarine systems and serve a regional recreational, commercial and sport fin and shellfish industry centered at Rock Harbor. People come to Cape Cod communities, either to visit or live, for its unspoiled beauty, recreational opportunities, and quality of life. Tourism is supported through the bayside scenic vistas, the historical significance, and the recreational facilities of the public beaches. The retirement community is attracted to the region because of the serenity of the landscape and relatively untouched nature of the environment. Any alteration of the area that results in a decrease in its productivity, attractiveness, and use carries a potential adverse economic impact.

Other Supporting Factors

There has been virtually unanimous agreement on the appropriateness of the designation among local residents, environmental groups, and Boards and Commissions from the three Towns. Each of the Towns has taken steps to protect their natural resources and have indicated that the AECE designation will be an important part of planning and protection policies.

James Hoyte

James S. Hoyte
Secretary of Environmental Affairs

October 11, 1985

Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) COASTAL

Data Sheet

Location: Weir River

Towns: Hull, Hingham, Cohasset

USGS Quad Sheets: Hull, Nanatasket Beach, Weymouth, Cohasset

CZM Atlas Sheets: 16, 17, 19

Water Bodies Included in ACEC:

Hingham	Hull	Cohasset
Weir River	Weir River	Straits Pond
	Straits Pond	

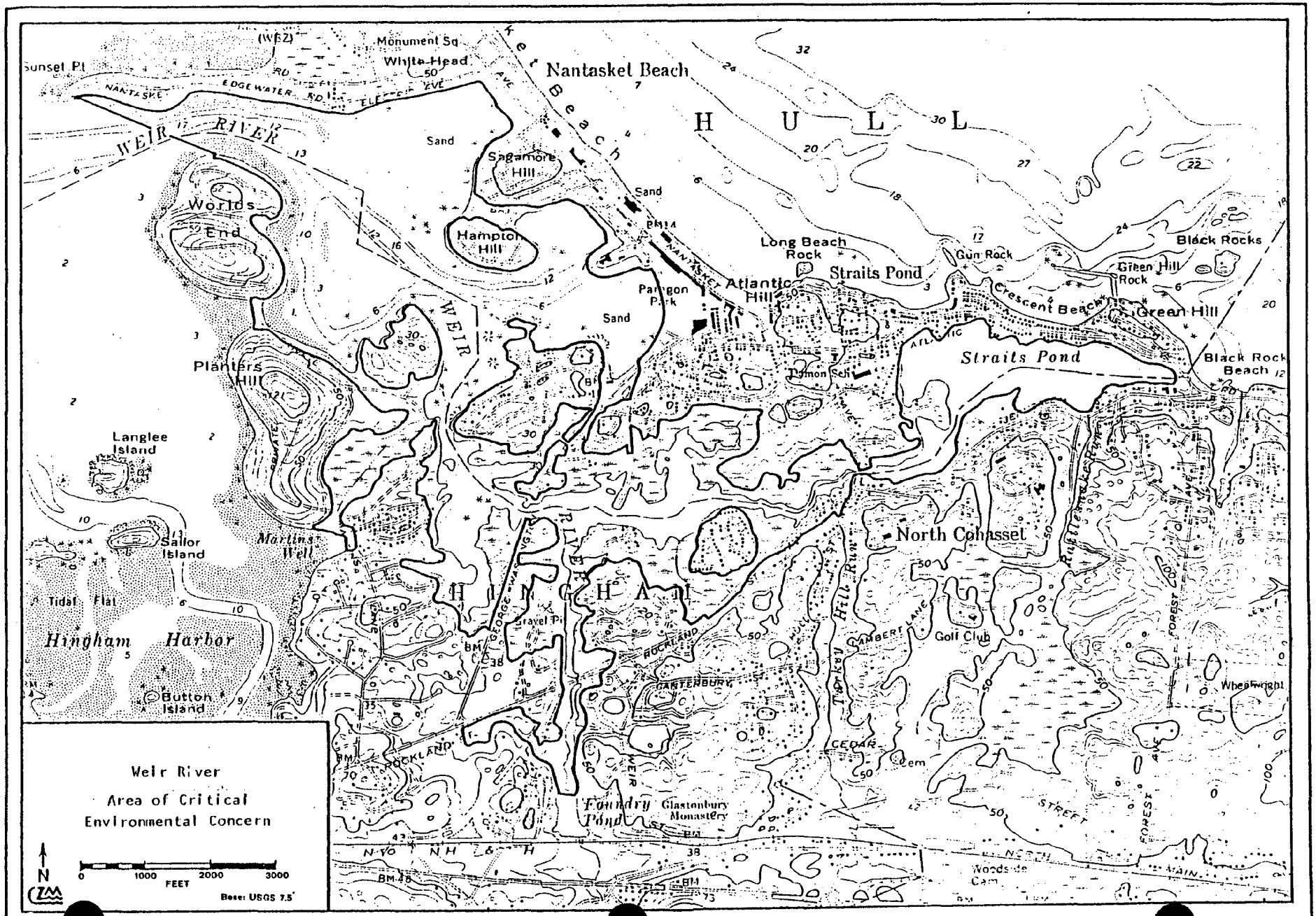
Barrier Beaches included in ACEC: None Included

Resource Summary:

Much like the nearby Back River ACEC, this relatively large tract of salt marsh and tidal flats is situated in an area subject to intense development pressure. Given the areal extent of the ACEC, it is sufficient in size, unlike the many small pockets of marshland that dot the urban landscape, to support significant migratory and resident waterfowl populations as well as numerous species of small mammals. The marshes and flats are also nursery and feeding areas for a wide variety of finfish, including alewives, smelt, flounder, bluefish, and stripped bass. While not included within the boundary of the ACEC, the area abuts Nantasket Beach, a designated barrier beach, and "World's End", a park owned and managed by the Trustees of Reservations.

State Regulations Apply (date of designation): 11 December, 1986

Consistency applies (date of OCZM concurrence): 25 February, 1987


Monument Sq
White Head
Nantasket Beach
H U L L
WEIR RIVER
Sand
Sagamore Hill
Worlds End
Hampton Hill
Long Beach Rock
Gun Rock
Straits Pond
Black Rocks
Green Hill Rock
Green Hill
Atlantic Hill
Parragon Park
Crescent Beach
Black Rock Beach
Planters Hill
Langlee Island
Sailor Island
Martins Well
Tidal Flat
Hingham Harbor
Button Island
H I N G H A M
North Cohasset
Golf Club
Wheatwright
Gravel Pit
Foundry Pond
Glastonbury Monastery
Weir River
Area of Critical
Environmental Concern
N
0 1000 2000 3000
FEET
Base: USGS 7.5'

DESIGNATION OF PORTIONS OF THE TOWNS OF COHASSET, HINGHAM, AND HULL

AS THE

WEIR RIVER AREA OF CRITICAL ENVIRONMENTAL CONCERN

WITH SUPPORTING FINDINGS

Following an extensive formal review required by the regulations of the Massachusetts Coastal Zone Management program (301 CMR 20.00) and the Massachusetts Environmental Policy Act (310 CMR 10.00) including nomination review, research, meetings, and evaluation of all public comments, I, the Secretary of Environmental Affairs, hereby designate portions of the Towns of Cohasset, Hingham, and Hull and portions of the Weir River estuary adjacent to these Towns as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted me under Massachusetts General Law c. 21A, s. 2(7).

I also hereby find that the coastal wetland resource areas included in the Weir River ACEC are significant to flood control, the prevention of storm damage, the protection of land containing shellfish, and fisheries; public interests defined in the Wetlands Protection Act (MGL c. 131, s. 40; 310 CMR 10.00).

I. Boundary of the Weir River ACEC

Upon review of the boundaries as recommended in the nomination letter and subsequent recommendations made in testimony received, the final boundaries generally include the Weir River estuary for its entire length including Straits Pond in Hull and Cohasset. The landward boundary, in large part, is the 100 year flood elevation as delineated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and Floodway Maps. However, in certain specific locations described herein, the landward boundary may change to the mean high water (MHW) line or other artificial boundaries and excluded areas. A larger scale boundary map is on file at the CZM Office at 100 Cambridge Street, Boston, MA.

Specifically, the boundary is defined as follows: The area includes the Weir River beginning at its mouth where it empties into Hingham Bay. The closure line runs between the northern-most point of the World's End Reservation in Hingham and Sunset Point in Hull. From Sunset Point, the line follows the shore at the MHW line east and southeast to a point on the shore at at the "private way" listed on the Town of Hull Assessor's Map, Sheet 33 dated December, 1939, 1"=100', which is an extension of Porrazzo (formerly Summit) Street. From this point, the boundary follows the shoreline at the 100 year flood elevation, including the portions of Hampton Hill below this elevation, to the southeasterly corner of Lot 126, Subdivision Lot 5, Sheet 34, Town of Hull Assessor's Map dated December,

1939, 1"=100', adjacent to Bay Street. From this point the boundary follows the MHW line to the southwesterly corner of Subdivision Lot 1, Town of Hull Assessor's Map dated December, 1939, 1"=100', listed as "Town of Hull".

From this point, the boundary defines the excluded area surrounding Nantasket Pier. The boundary follows a line, originating from the last point of reference, which is 100' seaward from the MHW line. At a point 150' from the northerly side of the pier, the boundary turns southwesterly and follows the outline of the pier at a distance of 150'. This line continues until it reaches a point where it is 150' from the pier and 100' from MHW where it turns southwesterly and follows the MHW line at a distance of 100'for 150'. At this point, the line moves in a perpendicular direction shoreward to the MHW.

The boundary follows the revetment along George Washington Boulevard (GWB) until it reaches a point 300' from a line extended from the northerly side of Rockaway Street to the water's edge, across GWB. From this point, the boundary follows the thread of the shore at the 100 year flood elevation until it reaches the southerly lot line, extending to the water, of Subdivision Lot 53, Sheet 45, Town of Hull Assessor's Map dated March, 1950, 1"=100', listed as "public landing" at the southerly end of Onset Street. The boundary follows the shore from this point at the MHW line until it reaches the southerly lot line, extending to the water, of Subdivision Lot 3, Sheet 45, Town of Hull Assessor's Map dated March, 1950, 1"=100', listed as "public landing" and adjacent to the confluence of Orleans, Barnstable, and North Truro Streets. The boundary follows, from this point, the thread of the shore at the 100 year flood elevation in a southerly and easterly direction and includes all lands below this elevation. The line extends easterly to a point on Atlantic Avenue in Hull where Straits Pond is directly adjacent, this point defined as the northerly corner of Subdivision Lot 8, Sheet 51, Town of Hull Assessor's Map dated June 2, 1944, 1"=100', where the boundary again reverts to MHW. The line extends around Straits Pond at this elevation until it reaches a point, on the Cohasset/Hull line in an area known as West Corner, where Nantasket Avenue crosses the river, at or adjacent to to intersection of Nantasket Avenue and Rockland Street. At this point, the boundary reverts to the 100 year flood elevation and proceeds southerly and westerly along and under Rockland Street to the dam and fish ladder at Foundry Pond. The line follows the westerly side of the floodway along the 100 year flood elevation north and west to a point in Hingham Harbor in an area known as Martin's Well where the boundary is defined as the MHW line on the Hingham Harbor shore. At this point, the boundary reverts to the 100 year flood elevation as it proceeds north and east until it reaches the isthmus connecting Planter's Hill and World's End, where it again follows the MHW line on the Hingham Harbor shore. Upon reaching World's End, the line moves east and north around the shore of World's End until it reaches the northern-most tip, from whence the closure line began.

II. Designation of the Resources of the Weir River ACEC

In my letter of acceptance of the nomination of the Weir River as an ACEC, I indicated that our evaluation indicated that it easily met the minimum threshold for consideration. The nomination letter clearly lists the quantity and quality of the resources present.

The presence of these resources, and their relatively undisturbed nature, clearly indicate their value to the region and the state.

III. Procedures Leading to ACEC Designation

On 5 March, 1986, a letter of nomination, signed by ten citizens of the Commonwealth and pursuant to 301 CMR 20.06:15(a), was received by my office. After additional information, which was requested 9 April, 1986, was received, the nomination was formally accepted by letter on 10 July, 1986, and the review process was begun.

Notice of the acceptance of the nomination and of an informational meeting and a public hearing was published in the Boston Globe and Patriot Ledger on 9 September, 1986, and in the Massachusetts Environmental Monitor on 10 September, 1986. Numerous informational articles appeared in the local and regional newspapers and several programs were aired on the local cable television station.

A meeting for town officials was held on 21 August, 1986, and an informational meeting for the general public followed on 18 September, 1986. The public hearing was held on 16 October, 1986, and the public comment period was held open until 1 November, 1986. Written and oral testimony was received from 20 individuals and organizations and is on file at the CZM office.

IV. Discussion of Factors Specified in Sections 6.46 of the CZM Program Regulations and 10.17(6) of the MEPA Regulations

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations and Section 10.17(6) of the MEPA regulations. As stated in these regulations, the factors need not be weighed equally, nor must all of these factors be present for an area to be designated. While the more factors an area contains the more likely its designation, the strong presence of even a single factor may be sufficient for designation.

Based on the information in the nomination letter, presented at the public hearing, and through written comments, and on the research of my staff, I find the following factors relevant to the designated ACEC:

Quality of the Natural Characteristics

The Weir River estuary, situated landward of the barrier beaches of the Hull peninsula, contains one of the most extensive salt marsh systems in the greater Boston metropolitan area. This approximately 100 acres of marsh, while perhaps significant for its size alone, is important in providing a rather large tract of relatively undisturbed marshland wildlife habitat. Home to over 100 migratory and indigenous bird species, as well as numerous species of small mammals, this large an area so close to a population center is, to say the least, uncommon. The estuary itself supports an active anadromous fish run and a significant shellfish resource, including both soft shell clams and mussels.

Productivity

The high productivity of estuarine/saltmarsh ecosystems has been well documented in the scientific literature. The plant growth within the marsh is exported by the tides and ultimately incorporated into the marine food web. The protected, shallow waters of the estuary act to a nursery to shellfish and finfish. In addition to the alewife run, the estuary provides an appropriate environment for significant year-round and seasonal populations of blueback herring, smelt, eel, bluefish, striped bass, and flounder. The diverse benthic population supported by the marshes and estuary is also extremely important as a food source for migratory waterfowl.

Uniqueness of the Area

Given its close proximity to a major metropolitan center with a population in excess of one million, this relatively undisturbed estuary and marsh complex is indeed unique. Much like the Back River ACEC nearby, this relatively large tract of marshland habitat, situated in an area subject to intense development pressure, provides the resource base necessary to maintain the diversity and productivity of an ecosystem which must, despite stringent regulation, accommodate the cumulative impacts arising from this development. While there may be smaller parcels of marshland which dot the urban landscape, the inventory of larger marshes capable of supporting these vital resources is dwindling.

Irreversibility of Impact

Changes in the salinity regime of estuaries may eliminate or substantially alter the broad mixing zone important as a nursery for juvenile fishes and shellfish. Both coastal development, which changes the runoff characteristics of the adjacent upland, and dredging of channels within the marsh, which may lead to overdrainage of watersheds, saltwater intrusion into groundwater, and disrupt nutrient inputs, can act to irreversibly alter estuarine ecosystems such as the Weir River.

Threats to Public Health through Inappropriate Use

The potential for increased runoff, which carries with it increased loadings of suspended sediment, heavy metals, hydrocarbons, and bacterial and viral contaminants, will add additional environmental stress to shellfish beds which have already shown the effects of this development. The cumulative effects of this alteration to the adjacent uplands, effects not currently taken into consideration in the state's regulatory process, may act to preclude any possibility of recovery of this once economically valuable resource.

Imminence of Threat to Resources

Despite laws and regulations to the contrary, construction on the fringes of marshes and waterways can result in incremental filling over time. This is especially true in the Weir River basin when both the Town of Hull sanitary landfill and, more recently, a private developer have been cited for just such a violation of the Wetlands Protection Act.

The intensity of development, especially within the Town of Hull, is ever increasing in the vicinity of the Weir River estuary. Written comments in support of testimony provided at the public hearing reported submissions to the municipal planning agencies of the Town of Hull for approximately 1000 new housing units and 56,000 square feet of commercial space, all within the Weir River watershed. Given the existing intensity of development in the area, the chronic and cumulative impacts associated with this proposed development activity may exceed the system's capacity to accommodate its effects.

It is hoped that this designation will serve to focus attention on the value and sensitivity of the area and will provide a guide for future development proposals.

Economic Benefits

Within the context of the metropolitan Boston area, Cohasset, Hingham, and Hull are "bedroom communities", so-called because those that work in downtown Boston chose to live in these suburban areas. These people chose to live here because of the "quality of life" provided, wishing to live in a more natural and unspoiled setting than the city can provide. As the economic base of these communities is services to the area's residents, any alteration of the area that results in a decrease in its productivity, attractiveness, and use carries with it a potential for adverse economic impact.

Supporting Factors

There has been virtually unanimous agreement on the appropriateness of the designation among local residents, environmental groups, and Boards

and Commissions from the affected towns. There has also been support from State Legislators. It is therefore my strong feeling that the Weir River estuary is very appropriate for designation as an Area of Critical Environmental Concern.

James S. Hoyte
Secretary of Environmental Affairs

Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)	COASTAL
Data Sheet	

Location: Pleasant Bay

Towns: Brewster, Chatham
Harwich, Orleans

USGS Quad Sheets: Harwich, Orleans, Chatham

CZM Atlas Sheets: 53, 54

Water Bodies Included in the ACEC:

Chatham	Orleans		Harwich
Pleasant Bay	Pleasant Bay	Uncle Seths Pond	Pleasant Bay
Ryder Cove	Pilgrim Lake	Broad Creek	Round Cove
Bassing Harbor	Quanset Pond	Sarahs Pond	
Muddy Creek	The River	Hog Is. Creek	Brewster
Frost Fish Cr.	The Narrows	The Horseshoe	
Stillwater Pond	Crystal Lake	Areys Pond	Pleasant Bay
Lovers Lake	Paw Wah Pond	Gould Pond	
Mill Pond	Namequoit R.	Frostfish Cove	
Ministers Pond	Kescayo Gansett Pond		
Crows Pond	Meeting House Pond		

Barrier Beaches Included in ACEC:

Chatham: CM-3, Strong Is. East Spit; CM-4, Strong Island North Barrier; CM-5, Strong Is. West Spit; CM-6, Fox Hill Tombolo; CM-7, Foreside Harbor Spit; CM-8, Sedge Lane Beach; CM-9, Shell Drive; CM-10, Kendrick Road Barrier; CM-11, Salt Marsh Way Barrier. Harwich: HW-6, Round Cove Spit; HW-7, Muddy Creek Inlet Barrier Complex. Orleans: OL-7, Nauset (North) Beach; OL-9, Old Field Point; OL-10, Sampson Is. North Barrier; OL-11, Sampson Is. South Spit; OL-12, Hog Island; OL-13, The Horseshoe Spit; OL-14, Davis Road Barrier Spit; OL-15, Quanset Road Northeast; OL-16, Quanset Road Cranberry Bog; OL-17, Quanset Road.

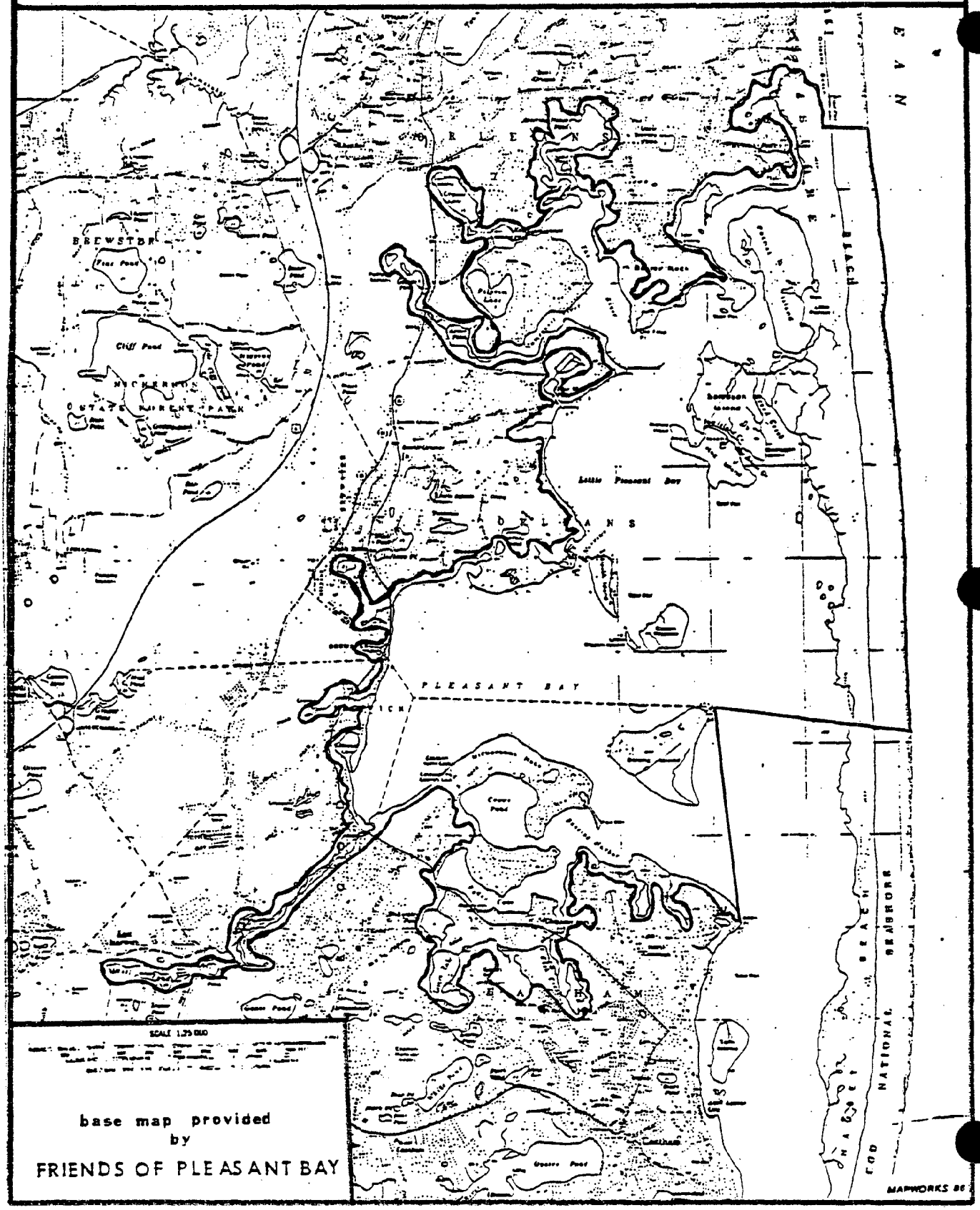
Resource Summary:

The Pleasant Bay system possesses outstanding natural resource attributes such as well-preserved and largely unaltered barrier beaches and islands, approximately 1200 acres of saltmarsh and thousands of acres of tidal flats, numerous fresh and saltwater ponds, and a significant estuarine habitat. Despite recent rapid growth and development in the area, most of the marshes and tidal flats are have not yet experienced significant degredation from this activity. Because of this relatively unaltered state of the resources, the marshes, barrier beaches, and tidal flats can function at their maximum capacity as habitat areas, nursery and spawning grounds, and, with regard to barriers, for the purposes of storm damage prevention. There is little doubt that the Pleasant Bay system is a resource of great importance to both the region and the Commonwealth.

State Regulations Apply (date nomination accepted) 29 October, 1986

Consistency Applies (date of OCRM concurrence) 10 July, 1987

FOUR TOWNS PLEASANT BAY ACEC



base map provided
by
FRIENDS OF PLEASANT BAY

DESIGNATION OF PORTIONS OF THE TOWNS OF BREWSTER, CHATHAM, HARWICH, AND ORLEANS

AS THE

PLEASANT BAY AREA OF CRITICAL ENVIRONMENTAL CONCERN

WITH SUPPORTING FINDINGS

Following an extensive formal review required by the regulations of the Massachusetts Coastal Zone Management program (301 CMR 20.00) including nomination review, research, meetings, and evaluation of all public comments, I, the Secretary of Environmental Affairs, hereby designate portions of the Towns of Brewster, Chatham, Harwich, and Orleans and portions of the Pleasant Bay adjacent to these Towns as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted me under Massachusetts General Law c. 21A, s. 2(7).

I also hereby find that the coastal wetland resource areas included in the Pleasant Bay ACEC are significant to the protection of groundwater and public water supplies, the prevention of pollution, flood control, the prevention of storm damage, the protection of land containing shellfish, and fisheries; those public interests defined in the Wetlands Protection Act (MGL c. 131, s. 40; 310 CMR 10.00).

I. Boundary of the Pleasant Bay ACEC

Upon review of the boundaries as recommended in the nomination letter and subsequent recommendations made in testimony received, the final boundaries generally include those areas north of Allen's Point and Strong Island and generally landward to 100 feet beyond the 10 foot elevation above mean sea level. The nominated boundary differs from the one described herein in two significant ways: 1) The phrase "...within 100 feet of a continuum of points 10 feet above the level of any stream..." has been changed to "within 100 feet of a continuum of points 10 feet above the natural high water mark, as defined in 310 CMR 9.02, of any stream...". This revision was made to further define the "level" of the stream or other water body. 2) All of the exclusions of channels from the improvement dredging prohibitions have been eliminated from the boundary description. These were eliminated because they were found to lack the necessary level of specificity and were seen as somewhat contrary to the intent of the designation. Should these areas require dredging in the future, this can be accomplished through a revision in the boundary. A larger scale boundary map is on file at the CZM Office at 100 Cambridge Street, Boston, MA.

Specifically, the boundary is defined as follows: Beginning at the most easterly point on the 10 foot contour line at Allen Point as shown on the Chatham quadrangle of the USGS topographical map, as revised to 1974, thence in a northerly direction to a point on the Chatham-Orleans town

line 500 feet easterly of the town boundary rock at the northeasterly end of Strong Island, thence easterly by said town line and an extension thereof to the easterly boundary of Cape Cod National Seashore, thence northerly by said easterly boundary to a point due east of the southerly end of the 10 foot contour line approximately 750 feet southerly of the Nauset Beach Municipal Parking Lot in East Orleans, thence due west to a point 100 feet east of said 10 foot contour line, thence northerly by a line 100 feet easterly of the 10 foot contour line, thence westerly, southerly, easterly, and northerly, as the case may be, by a line 100 feet inland of said 10 foot contour line as it follows the perimeter of several channels, bays, coves, ponds, marshes, and swamps of the greater Pleasant Bay to a point 100 feet west of the point of beginning, thence to the point of beginning, including any areas inland within 100 feet of a continuum of points 10 feet above the natural high water mark, as defined in 310 CMR 9.02, of any stream, swamp, marsh, bog, pond, or other wetland the outflow of which flows into Pleasant Bay. The fact that an artificial improvement such as a road or driveway has interrupted or may in future interrupt such contour line shall not exempt such areas from the ACEC designation. All areas seaward of the above defined boundary shall be included in the ACEC designation.

II. Designation of the Resources of the Pleasant Bay ACEC

In my letter of acceptance of the nomination of the Pleasant Bay as an ACEC, I indicated that our evaluation indicated that it easily met the minimum threshold for consideration. Indeed, this nomination cited all fourteen criteria as being resources of the Pleasant Bay system. The nomination letter clearly lists the quantity and quality of the resources present.

The presence of these critical resources, and their relatively undisturbed nature, clearly indicate their value to the region and the state.

III. Procedures Leading to ACEC Designation

On 29 October, 1986, a letter of nomination, signed by the selectmen and chairmen of the conservation commissions and planning boards of the affected towns, pursuant to 301 CMR 20.06:15(a), was received by my office. The nomination was formally accepted by letter on 28 November, 1986, and the review process was begun.

Notice of the acceptance of the nomination and of an informational meeting and a public hearing was published in the Boston Globe, Cape Codder, and in the Massachusetts Environmental Monitor on 24 December, 1986. Numerous informational articles appeared in the local and regional newspapers.

In addition to the many public meetings held by the nominating committee during the preparation of the nomination and its local review,

an informational meeting for the general public was held on 20 January, 1987. The public hearing was held on 27 January, 1987, and the public comment period was held open until 10 February, 1987. Written and oral testimony was received from 27 individuals and organizations and is on file at the CZM office.

IV. Discussion of Factors Specified in Sections 6.46 of the CZM Program Regulations

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 6.48 of the CZM Program regulations. As stated in these regulations, the factors need not be weighed equally, nor must all of these factors be present for an area to be designated. While the more factors an area contains the more likely its designation, the strong presence of even a single factor may be sufficient for designation.

Based on the information in the nomination letter, presented at the public hearing, and through written comments, and on the research of my staff, I find the following factors relevant to the designated ACEC:

Quality of the Natural Characteristics

The Pleasant Bay system possesses outstanding natural resource attributes such as well-preserved and largely unaltered barrier beaches and islands, marsh systems, salt and fresh water ponds, rivers, bays and tidal flats. Although there has been significant development in the region, Pleasant Bay has not yet experienced significant degradation from this activity, though the warning signs are evident. Most of the marshes, tidal flats and barrier beaches are unaltered and undeveloped, allowing them to function at their maximum capacity as habitat areas, nursery and spawning areas, and, in the case of barrier beaches, for the purposes of storm damage prevention.

Productivity

The high productivity of estuarine/saltmarsh ecosystems has been well documented in the scientific literature. The plant growth within the marsh is exported by the tides and ultimately incorporated into the marine food web. The protected, shallow waters of the estuary act to a nursery to shellfish and finfish and the relatively high water quality of the tributaries and headwaters provide spawning sites for anadromous fishes. The diverse benthic population supported by the marshes, estuary and tidal flats is also extremely important as a food source for migratory and resident shorebirds and waterfowl. The ACEC includes almost 1200 acres of saltmarsh and several thousands acres of tidal flats.

Uniqueness of the Area

Beyond the unique quality of the area containing all fourteen

criteria for designation, as cited in 301 CMR 20.06:21, The Bay is extremely important as an area of transition between two biogeographic provinces, areas which by virtue of their unique physical characteristics contain significantly different types of plants and animals. As such, the biological communities of Pleasant Bay are made up of organisms which are as far north as they can be reasonably expected to be found, and others in the far southerly portions of their range. Given that many of these animals and plants are living at the extremes of their ranges, they are somewhat more sensitive to changes in their environment, hence the need for greater protection of this unique resource.

Irreversibility of Impact

Changes in the salinity regime of estuaries may eliminate or substantially alter the broad mixing zone important as a nursery for juvenile fishes and shellfish. Both coastal development, which changes the runoff characteristics of the adjacent upland, and dredging of channels within the marsh, which may lead to overdrainage of watersheds, saltwater intrusion into groundwater, and disrupt nutrient inputs, can act to irreversibly alter estuarine ecosystems such as Pleasant Bay.

Threats to Public Health through Inappropriate Use

As noted in the nomination, portions of the designated area are used for public shellfish harvesting. Inappropriate discharges, either direct or indirect, into this system could have public health repercussions through contamination of these shellfish. Salt marshes are valuable for their ability to remove contaminants from adjacent waters. Disruptions of this function of the marsh could also have detrimental effects on the quality of the harvested shellfish. The high quality of the waters within the designated ACEC also makes the areas safe for water contact activities.

The numerous barrier beaches within the ACEC act as natural storm buffers to protect landward areas and structures from damage. The marsh system also aids in this protective role. Disruption of this protection could lead to significant storm damage to public property and private homes in exposed coastal areas..

Imminence of Threat to Resources

Cape Cod, in the past decades, has been under ever increasing development pressure. All predictions see these pressures increasing in the future, especially in the towns affected by this designation. These development activities present two particular forms of threat to the areas included in the designated area.

First is the incremental effect of construction along the edges of marshes and waterways. Run-off from roadways and landscaped areas can bring increased levels of nutrients to the aquatic system resulting in eutrophication, possible algal blooms, and the resultant lowering of oxygen levels in the water to the detriment of marine organisms. Run-off

can also carry pathogens (often indicated by elevated counts of coliform bacteria), oil and gasoline residues, and other contaminants. Even properly designed, installed, and maintained septic systems can allow leaching of nutrients into marshes and waterways in levels which cannot be easily assimilated, while failing systems can discharge raw sewage into directly into surface waters.

Despite laws and regulations to the contrary, construction along marshes and waterways can also bring incremental filling over time.

Secondly, the increasing population has led to increased proposals for dredging tidal creeks and flats for boating activities. The protections afforded by designation will act to limit this activity to only those areas excluded by nomination and supported by full and sufficient documentation.

It is hoped that this designation will serve to focus attention on the value and sensitivity of the area and will serve as a guide for future development proposals.

Economic Benefits

This area has intrinsic values related to the region's economic stability. Cape Cod's, and each town's, is based on fishing, tourism, and retirement industries. the fisheries are supported through the healthy and productive marsh and estuarine systems and serve a regional recreational, and commercial fin and shellfish industry. People come to Cape Cod communities, either to visit or to live, for its unspoiled beauty, recreational opportunities, and quality of life. Tourism is supported through the waterfront vistas, the historical significance, and the recreational facilities of the public beaches. The retirement community is attracted to the region because of the serenity of the landscape and the relatively untouched nature of the environment. Any alteration of the area that results in a decrease in its productivity, attractiveness and use carries a potential for adverse economic impact.

Supporting Factors

There has been virtually unanimous agreement on the appropriateness of the designation among local residents, environmental groups, and Boards and Commissions from the affected towns. There has also been support from State Legislators. Each of the Towns has taken steps to protect their natural resources and have indicated that the ACEC designation will be an important part of planning and protection policies. It is therefore my strong feeling that Pleasant Bay is very appropriate for designation as an Area of Critical Environmental Concern.

James S. Hoyte
Secretary of Environmental Affairs

March 20, 1987
Date

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) INLAND

Data Sheet

Location: WESTBORO CEDAR SWAMP

Towns: Hopkinton, Westboro

USGS Quad Sheet: Marlboro

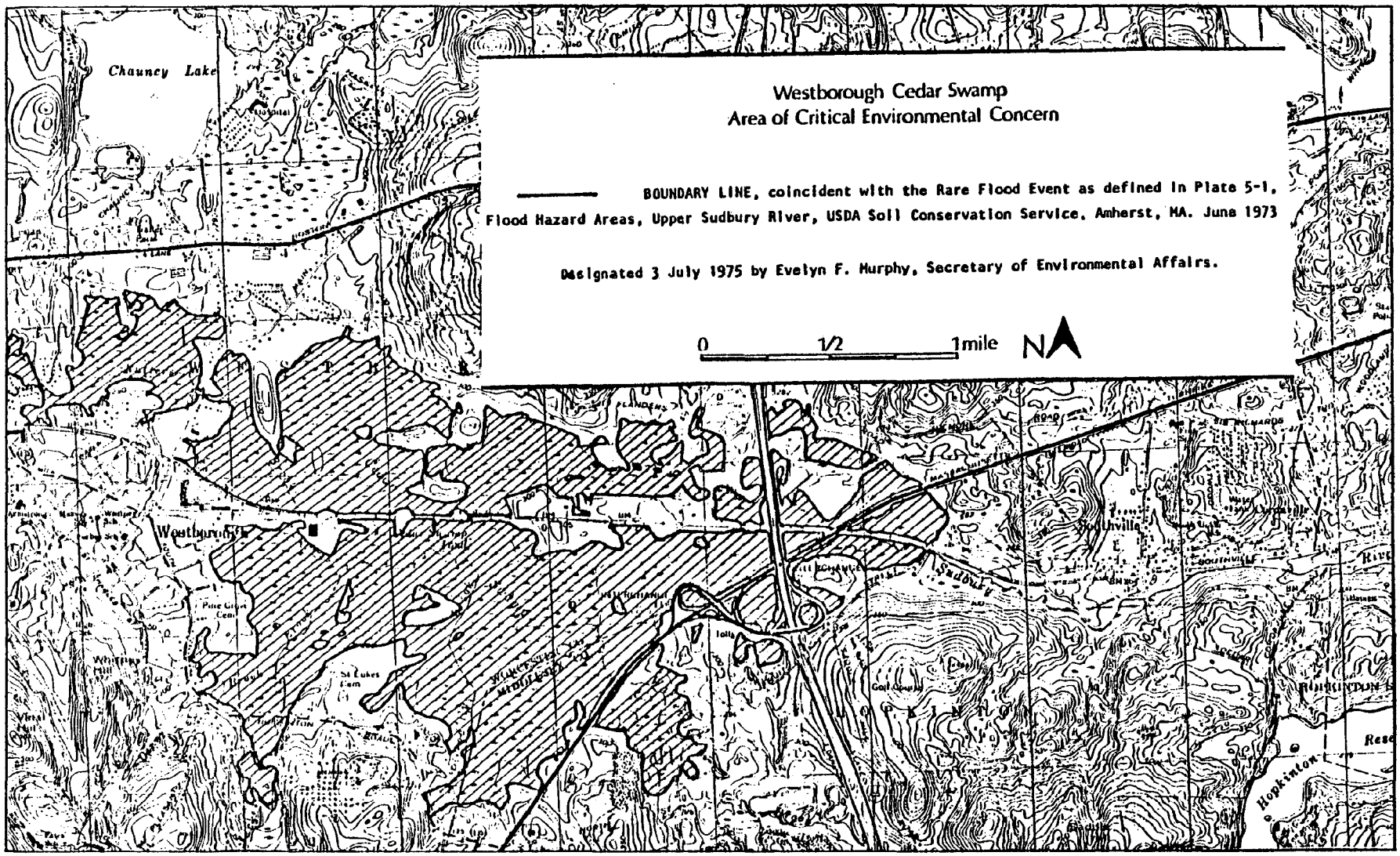
Water Bodies included in ACEC:

Sudbury River
Cedar Swamp Pond
Brooks: (portions of) Denny, Jackstraw, Picadilly, Rutters, Whitehall

Resource Summary:

This inland ACEC contains some 1500 acres of cedar swamp in the towns of Westboro and Hopkinton which form the headwaters of the Sudbury River. Two principal benefits derived from the swamp are flood storage and protection for downriver areas. The ACEC, defined by the rare flood boundaries, acts to hold water during times of high flow and to release it during low flow periods. Cedar Swamp overlies a major aquifer and provides high water quality for MDC reservoirs downstream, thus playing a large role in protecting public water supplies. Traditionally the area has been used for recreational activities including hiking, birdwatching, hunting, canoeing, and fishing.

State Regulations apply (date of designation): 3 July 1975


Chauncy Lake
Westborough Cedar Swamp
Area of Critical Environmental Concern
BOUNDARY LINE, coincident with the Rare Flood Event as defined in Plate 5-1, Flood Hazard Areas, Upper Sudbury River, USDA Soil Conservation Service, Amherst, MA. June 1973
Designated 3 July 1975 by Evelyn F. Murphy, Secretary of Environmental Affairs.
0
1/2
1mile
N
Westborough
Southville
Hopkinton

Evelyn F. Murphy
Secretary

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
18 Tremont Street
Boston, Massachusetts 02108

ORDER DESIGNATING AN AREA

OF

CRITICAL ENVIRONMENTAL CONCERN

I. Background

On January 23, 1975 the Executive Office of Environmental Affairs (EOEA) received a request to designate land in Westboro known as Cedar Swamp as a particularly sensitive environmental area or as an area of critical environmental concern. This request was made pursuant to Section 8.2 of the Regulations of EOEA adopted under Massachusetts General Laws, Chapter 30, Section 62.

II. Purpose of the Designation

Pursuant to Massachusetts General Laws, Chapter 30, Section 62 each executive office and agency of the Commonwealth has promulgated rules and regulations governing the preparation of environmental impact reports. Most secretaries and agencies have listed certain relatively minor projects which, in their judgement, had an "insignificant" environmental affect, and therefore did not require the preparation of an Environmental Assessment Form. These relatively minor projects and activities are thereby exempted from the Environmental Impact Report Process and are referred to as "categorical exemptions." The purpose of a designation of a particular land area under Section 8.2 of the EOEA regulations, is to render ineffective all categorical exemptions for that particular land area. The result is that any state agency which performs any work,project or activity within that land area must file an Environmental Assessment Form and, if necessary, an Environmental Impact Report before proceeding with such work, project or activity.

III. Public Notice of the Proposed Designation

Notice was published in consecutive issues of the Environmental Monitor beginning with theMarch 21, 1975 issue and ending with the April 7, 1975 issue of the Monitor. In addition, a public hearing was held in Westboro, Massachusetts on May 14, 1975.

In response to the notice published in the Monitor, over 100 written comments have been received by EOEA on the proposed designation. The Metropolitan District Commission favors the proposed desigation. The Department of Public Works and the Division of Fisheries and Game oppose it. In general, business interests in the Westboro-Worcester area oppose the designation while residents of the Town of Westboro and representatives from towns down river support the designation.

IV. Values of Cedar Swamp

A. Flood Storage Capacity

In 1971 Arthur W. Brownell, Commissioner of the Department of Natural Resources, recognized the flood storage importance of this area and declared a moratorium on all current and future Hatch Act applications which involved Cedar Swamp until a comprehensive study was completed by the Division of Water Resources. The report, entitled "Flood Hazard Analyses, Upper Sudbury River, Massachusetts" dated June, 1973 states:

> "No additional impoundment sites are available on the Sudbury River which could feasibly provide the flood storage equal to the present capacity of Cedar Swamp. The loss of present flood water storage capacity and increased urbanization in the study area would directly increase flood damage anddanger downstream."

The area proposed for designation is with minor exceptions the same area designated as a rare flood flood-plain by the Soil Conservation Service in June, 1973, in a report entitled "Flood Hazard Analyses, Upper Sudbury River, Massachusetts."

B. Public Water Supply

The Town of Westboro has two wells on the margin of Cedar Swamp. These wells provide approximately 30% of Westboro's water supply capacity or between 500,000 and 800,000 gallons per day.

In addition, the Metropolitan District Commission maintains public drinking water reservoirs in Framingham which are supplied by Cedar Swamp and the Sudbury River. In its letter to this office dated May 6, 1975, William J. Byrne, Jr., Commissioner, Metropolitan District Commission stated:

> "We are also particularly concerned with the possible effect of development in the Swamp on water quality. Increased industrial and water discharge directly into the swamp appears nearly inevitable. Any reduction in water quality would impact on M.D.C.'s plans for utilizing the Sudbury as a major increment to our present water yield capabilities."

C. Public Recreation

Located in the area between the Framingham and Worcester urban centers and easily reached by road, Cedar Swamp is accessible to many urban people in the middle eastern part of Massachusetts. It naturally lends itself to passive and active recreation such as hiking, bird watching, canoeing, hunting, and fishing. In a letter dated January 18, 1972, Paul Mugford, Acting Assistant Director of the Massachusetts Division of Fisheries and Game, wrote:

> "Located as it is between Framingham and Worcester, the Westboro Area's contribution to the public's recreation needs and to local resource values is of inestimable value."

House No. 5364 of 1975, the Special Report of the Executive Office of Environmental Affairs Relative to the Identification, Designation and Protection of Critical Environmental Concern Areas, identifies the criticality of inland wetlands:

> "The inland wetlands constitute an extremely varied category of land and water areas; they are similarily varied when viewed in terms of their local, regional and statewide significance. Those related

directly or indirectly, to the water supply of communities and regions undoubtedly fall into a critical category, and would include reservoirs and their watersheds, aquifers and recharge areas. Floodplains should similarly be included in a critical category. The criticality of the others, however, cannot be judged fairly on the basis of a single environmental value even though some values should, in particular instances, be given greater weight than others. Not every wetland need fall within restrictive controls, but each should be evaluated in terms of local or regional significance, its intrinsic interest or character, and particularly its linkage to other areas of environmental concern or value.

V. Potential for Development in Cedar Swamp

At the present time Cedar Swamp is crossed by the Massachusetts Turnpike, Interstate 495, and the main track of the Penn. Central Railroad. In addition, major portions of the swamp are zoned for industrial use. The combination of access to major transportation lines, and zoning favorable to commercial and industrial development, indicates the likelihood that future such development will be proposed in the Cedar Swamp.

In addition, the Town of Westboro turned down a flood plain zoning by-law at its 1975 town meeting. At the public hearing, many town officials requested that EOEA not make a designation of Cedar Swamp because the town would amend its zoning by-laws for Cedar Swamp. Since that action has not been taken by the town, the potential for development and environmental damage in the Cedar Swamp area remains high.

VI. Designation

I have reviewed the documents, reports and written comments submitted to this office, In addition, I have taken into account the oral statements made at the public hearing on May 14. Based on this review I hereby determine that Cedar Swamp is a particularly sensitive environmental area where an otherwise insignificant impact could become significant and is an area of critical environmental concern. The land area so designated is delineated by the outer boundary of the Rare Flood on plate 5-1, Flood Hazard Areas, Upper Sudbury River, Flood Hazardous Analyses, Upper Sudbury River, Massachusetts, Soil Conservation Service, U.S.D.A., June 1973. This order will take effect immediately. However, additional comments and requests for specific amendments by state agencies or other interested parties may be submitted within the next 14 days for my consideration.

3 July 75
DATE

Eve[illegible]. Murphy, Secretary

AREA OF CRITICAL ENVIRONMENTAL CONCERN

(ACEC) INLAND

Data Sheet

Location: BRAINTREE CRANBERRY BROOK WATERSHED

Towns: Braintree, Holbrook

USGS Quad Sheets: Weymouth, Blue Hills

Water bodies included in ACEC:

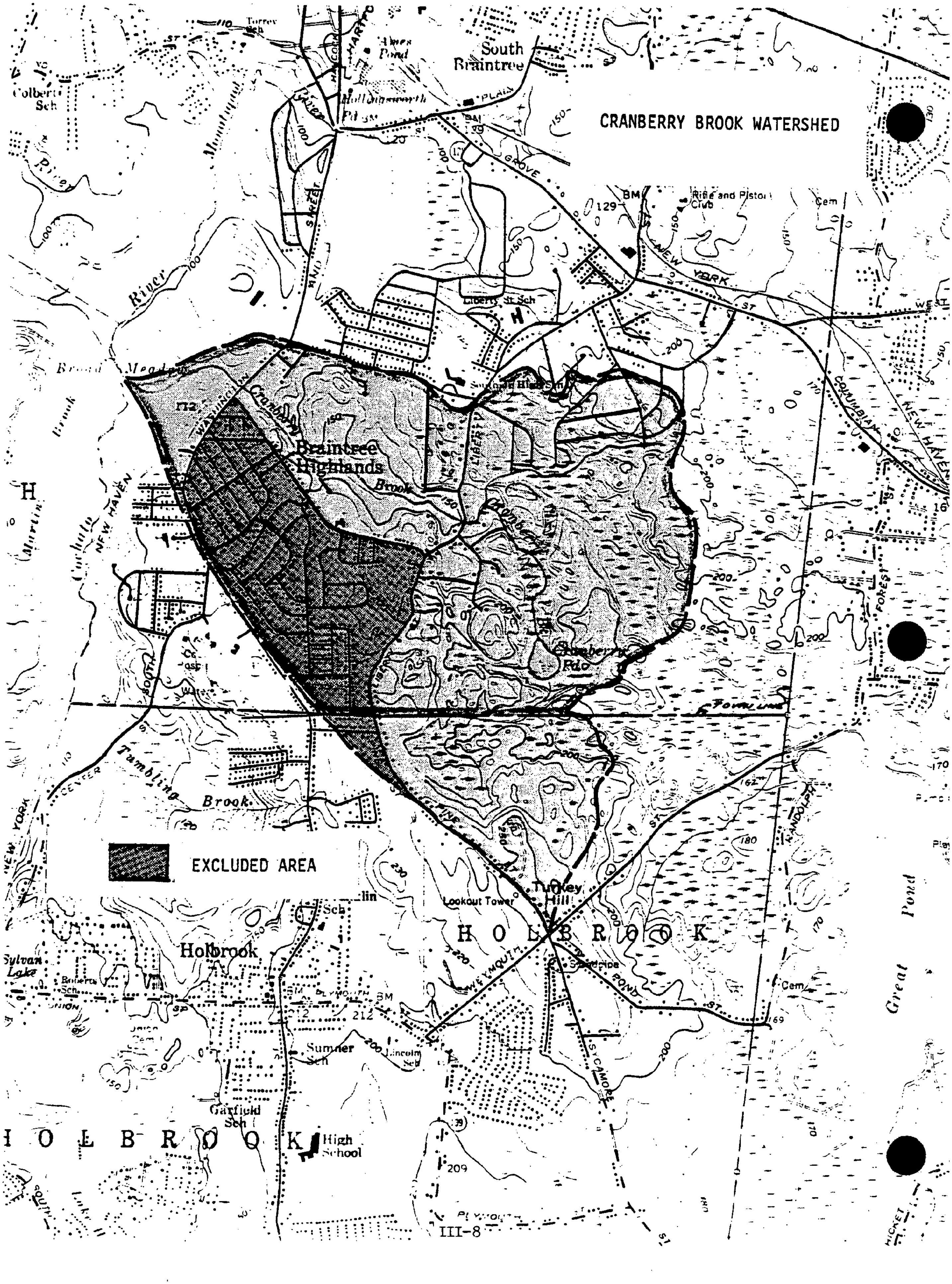
Cranberry Pond, Cranberry Brook

Resource Summary:

The area of this watershed that has been designated as an ACEC totals some 1150 acres (925 acres in Braintree and 225 in Holbrook). Within the boundaries are 160 acres of various types of wetlands including wooded swamps, a marsh, a 7.5 acre pond (Cranberry Pond), 10,000 linear feet of stream, and two quaking sphagnum bogs. The bogs include several unusual plant species - two species of orchids and two species of carnivorous plants (sundews and pitcher plants). Also within the boundaries of the ACEC is the 112 acre Braintree Town Forest.

Wetlands and other undeveloped areas of the watershed help protect the quality of water in Ricardi Reservoir which provides 50% of the water supply for Braintree, Holbrook, and Randolph.

State Regulations apply (date of designation): 28 July 1983


CRANBERRY BROOK WATERSHED
EXCLUDED AREA
South Braintree
Braintree Highlands
Cranberry
Brook
Liberty St Sch
Rifle and Pistol Club
Tumbling Brook
Turkey Hill
Lookout Tower
HOLBROOK
Holbrook
Sylvan Lake
Sumner Sch
Garfield Sch
High School
NEW YORK
NEW HAVEN
Great Pond

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

DESIGNATION OF CRANBERRY BROOK WATERSHED AS AN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Following an extensive review in compliance with regulations of the Massachusetts Environmental Policy Act (301 CMR 10.17), including nomination, research, informal meetings with local groups, public hearings, on-site visits and evaluation of all public comments and assembled data, I, the Secretary of Environmental Affairs, hereby designate a portion of the Cranberry Brook Watershed in the towns of Braintree and Holbrook as an Area of Critical Environmental Concern. This action is taken pursuant to the authority granted to me by Massachusetts G.L. c. 21A, s. 7.

I. Boundary of the Cranberry Brook Watershed ACEC

The boundary of the nominated area, as shown on the attached map, includes the entire Cranberry Brook watershed in Braintree and Holbrook except the presently developed portion of the watershed which is bordered by the east sideline of Pine Street in Holbrook and Liberty Street in Braintree to Wildwood Avenue, thence the north sideline of Wildwood Avenue to the PC at Station 9 + 90± (Park Street), thence northerly by S33-53'-50"E to the intersection with the northwest sideline of Washington Street, thence southerly by the west sideline of Washington Street, to its intersection with the boundary near South Street.

A map showing the boundaries of the ACEC, entitled

"Town of Braintree Department of Planning and Conservation Plan of Wetlands in Cranberry Brook Watershed Area",

dated Spetember 1981 and revised August 1982, is on file in the Braintree Town Hall.

II. Description of the Resources of the Cranberry Brook Watershed ACEC

The resources of the Cranberry Brook Watershed have remained largely unaltered despite its generally urban setting. Significant features within the ACEC include floodplains, freshwater wetlands, marshes, swamps, a stream and a 7 1/2 acre pond. The area is used by the public for passive recreation and for natural science education. Wetlands, bogs and the pond within the ACEC are productive habitats for a variety of plant and animal species. Two natural quaking bogs, which contain wildflowers in abundance and are surrounded by Atlantic white cedars, tupelos and chestnut oaks, constitute significant scenic vistas.

The site clearly meets the regulatory criterion that an area proposed for designation must contain at least five of the specified features.

III. Procedures Leading to ACEC Designation

The Braintree Conservation Commission began its research and data collection for the proposed ACEC in December 1980. In the ensuing year the Commission discussed the proposal with local groups, the Metropolitan Area Planning Council, the Massachusetts Association of Conservation Commissions and staff members of Coastal Zone Management and the Massachusetts Environmental Policy Act Unit of the Executive Office of Environmental Affairs.

On December 22, 1981, a letter nominating the portion of the Cranberry Brook Watershed in Braintree was submitted to this office by the Braintree Conservation Commission. A hearing was held in Braintree on February 17, 1982. Subsequently, a letter from the Holbrook Conservation Commission dated April 27, 1982 requested inclusion of the Holbrook portion of the watershed in the ACEC. A second informational meeting and slide presentation was held in my office on April 29, 1982. The nomination was accepted in a letter to the Braintree and Holbrook Conservation Commissions on June 23, 1982, marking the commencement of the review process for designation of the ACEC.

Notice of a public hearing was published in the Environmental Monitor on August 9, 1982. Notice was also given in the Patriot Ledger (September 1) and the Braintree Forum (September 2) and was widely circulated in Braintree and Holbrook by mail. A public hearing was held on September 15 in the Braintree Town Hall.

In addition to testimony at the public hearing, 23 written comments favoring the designation and one opposing it were received. During the review period, members of my staff met with the opponent (Tedeschi Realty, a landowner) and his consultants to discuss the reasons for his opposition, set forth in a letter dated February 26, 1982, and made several on-site visits to the watershed. Supporters of the nomination and designation included town boards in Braintree, Holbrook and Weymouth, local and regional civic and environmental organizations, members of the state legislature and the U.S. Congress.

On November 18, 1982, the Braintree Conservation Commission, withdrew the request for designation which stopped any further actions or review at that time.

On March 8, 1983, I received a new request for nomination, filed by the Conservation Commissions of both Braintree and Holbrook. The boundaries of the area and the resources identified were identical to those in the original proposal. On May 5, 1983, I placed the area in nomination and, since the area and resources had not changed, determined that the comments received on the original application would also be reviewed in connection with the current application. A public hearing was held on June 9, 1983, at 7:00 P.M. in the Braintree Town Hall after notification through the May 9 Monitor, newspapers, and mailings.

On June 28, 1983, a second letter was received on behalf of Tedeschi Realty. Arguments made in the letter in opposition to the ACEC designation can be summarized as follows:

(1) the wetlands are already protected by existing regulations and, in some instances, by town ownership;

(2) soils in the watershed are not characteristic of groundwater recharge areas;

(3) the proposed ACEC acreage is but a small fraction of the water supply watershed; therefore, measurable effects on water quality attributable to the designation are unlikely;

(4) road improvements necessary to develop the area will trigger MEPA review regardless of ACEC designation.

After reviewing these issues I have reached the following conclusions:

(1) While it is true that much of the proposed ACEC is under town ownership, most of the remainder, owned by Tedeschi Realty, is industrially zoned. In fact, the owner proposed a landfill on a portion of this site several years ago. The two quaking bogs and considerable wetland acreage are downstream of industrially-zoned land and could be affected by its development.

(2) I concur with the statement that soils in the watershed are not characteristic of groundwater recharge areas. However, I find that protection of surface water quality in the watershed is of critical importance.

(3) The proposed ACEC is approximately 12% of the watershed of Ricardi Reservoir, a water supply for Braintree, Holbrook and Randolph. Its importance to the reservoir is greater than 12%, as other portions of the watershed are developed, and one portion is threatened by a hazardous waste site. This issue is further elaborated in section IV, Threat to Public Health.

(4) Although the traffic study by Vanasse-Hangen Associates referred to in the letter is not part of the record herein, it is possible that without ACEC status no MEPA review of the development would occur or that MEPA's jurisdiction would be limited to traffic-related issues.

All comments received are on file at the MEPA office.

IV. Discussion of Factors Specified in Section 10.17(6) of the MEPA Regulations

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 10.17(6) of the MEPA Regulations. As stated in these regulations, the factors need not be weighed equally, nor must all these factors be present for an area to be designated. While the more factors an area contains, the more likely its designation, the strong presence of even a single factor may be sufficient.

Based on information in the nomination letter, at the public hearing, in written comments and from research and site inspections by my staff, I find the following factors applicable to the designated ACEC:

Threat to the Public Health

Protection of the water supply has been a primary concern in seeking the ACEC designation. Recent water shortage in Braintree has been well documented. In October 1980 the Department of Environmental Quality Engineering

declared Braintree to be in a state of water emergency, in accordance with Chapter 40, Section 41A, restricting outdoor water use. The Cranberry Brook watershed comprises about 12% of the total watershed which supplies the Richardi Reservoir. This reservoir, for which the Joint Board of Water Commissioners for Braintree, Holbrook and Randolph are currently seeking Class A designation, provides 50% of the three towns' water supply. A local hazardous waste situation in another portion of the Richardi Reservoir watershed has underscored the importance of the Cranberry Brook Watershed, which contributes the high quality water needed to dilute lesser-quality contributions. Loss of wetlands which collect, store and filter surface water, or pollution of wetlands from inappropriate use of upland areas, could jeopardize this vital water supply source.

Quality of Natural Characteristics

Most of the undeveloped land in the watershed is either wetlands, including extensive cedar swamps on both the town-owned and privately-owned parcels or second-growth woodlands. Nearly all traces of the past have disappeared, except for old stone walls and a system of trails.

The area contains two pristine sphagnum bogs - one in the privately-owned and the other in the town-owned portion - considered to be among the three or four best examples of natural quaking bogs in southeastern Massachusetts. The bogs are large and relatively shrubless, producing an unusual diversity of vegetation including cranberries; leatherleaf; two varieties of insectivorous plants (Drosera, or sundews, and Sarracenia, or pitcher plants); two orchid species, Calopogon and Pogonia; meadow beauty; pond lillies; grasses and sedges. They are surrounded by Atlantic white cedars, providing a breathtaking vista. The surrounding rock outcrops support large numbers of chestnut oaks, also unusual in southeastern Massachusetts.

Productivity

The two bogs and Cranberry Pond support a variety of trees, wildflowers and sphagnum moss. In addition to the Atlantic white cedars which encircle the bogs, tupelos, chestnut oaks, azaleas and high-bush blueberries abound beyond their edges. The aquatic environment in which they are situated, encompassing the pond, brook and approximately 157 acres of wetlands, forms a unique and uncommon assemblage of plants and organisms. The watershed also serves as a habitat for birds, small animals and deer.

Uniqueness of the Area

In a town which has undergone rapid urbanization, this tract is one of the few remaining natural areas. Its recreational use is limited to passive activities - hiking, ski touring, bird watching, or just sitting by a pond out of sight of manmade structures. In urbanized areas, wetlands and watersheds which may have less functional value in absolute terms than those in rural areas can have greater value to man, since they serve more people and are unusual in the urban environment. Scarcity or rareness depends on frequency of occurence and amount of similar habitat in the present landscape of the region. It is this test of regional scarcity of wetland-watershed type which should be applied to Cranberry Pond and the Cranberry Brook Watershed. By any test, however, the two quaking bogs and the richness of their habitats qualify as outstanding and unique resources. Their urban surroundings make them all the more spectacular.

Irreversibility of Impact

One resource which could be irreversibly damaged, the tri-town water supply was discussed earlier. Pollutants, loss of wetlands or excessive impervious cover within the watershed could adversely affect the water quality and quantity of Cranberry Brook.

The two quaking bogs and the aquatic systems on which they depend constitute a second resource which could be permanently altered by inappropriate activities in the watershed. The environmental requirements of plants and organisms in sphagnum bogs are narrow. Changes in the acidity level or in the amount and rate of water entering the bogs would irreversibly alter their habitats.

Imminence of Threat to the Resource

Undeveloped lands in the watershed are zoned for industrial and residential development. Although it remains undeveloped, several proposals, including one for a landfill, have been put forth for the industrially-zoned land. Residentially-zoned portions of the watershed have experienced rapid growth during the past few years. Two large subdivisions are near completion, and construction of a third is soon to begin. Designation of the ACEC will focus attention on the value and sensitivity of the area as future development takes place.

Supporting Factors

With the exception of one owner of land within the ACEC, there has been unanimous agreement of the appropriateness of the designation among local residents, environmental and civic groups, boards, and commissions in Braintree, Holbrook and Weymouth, as well as state and federal legislators. Public ownership of land within the watershed provides further evidence of local awareness of the importance of the area. The watershed's approximately two square miles include 116 acres owned by the Braintree Conservation Commission, 112 acres of Town Forest in Braintree and 80 acres of town-owned land in Holbrook. I am convinced that, except for a portion of the watershed in Braintree where housing is already built and which I have therefore chosen to exclude, the Cranberry Brook Watershed is very appropriate for designation as an Area of Critical Environmental Concern.

July 28, 1983
DATE

JAMES S. HOYTE, SECRETARY

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) INLAND DATA SHEET

Location: Golden Hills

Towns: Saugus, Wakefield

USGS Quad Sheet: Boston North

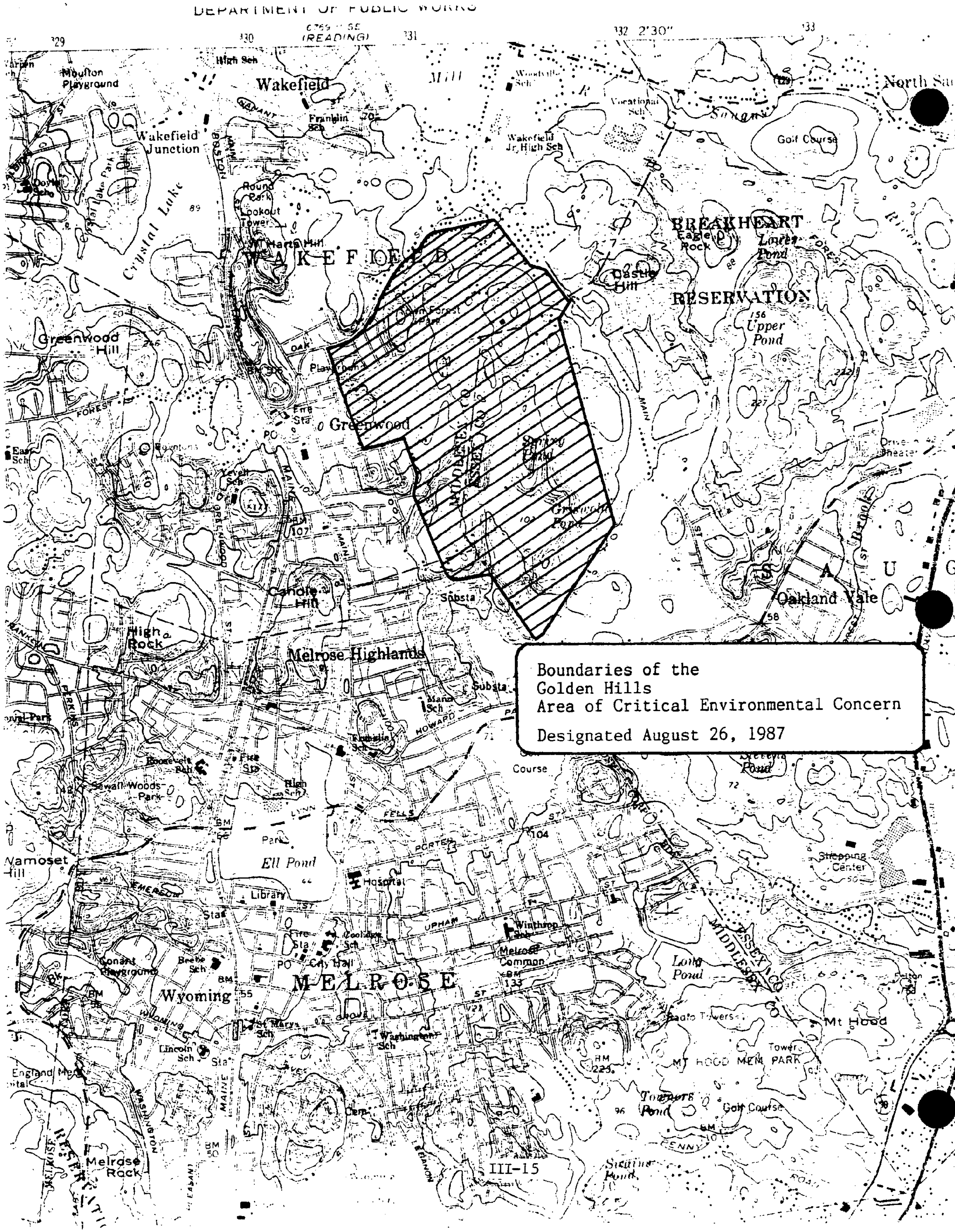
Water bodies included in ACEC:

First Pond, Griswold Pond and Spring Pond

Resource Summary:

The Golden Hills Area that has been designated as an ACEC totals some 450 acres. Approximately 300 areas of this land is currently open land. The Golden Hills area straddles the Saugus and Wakefield Town Line. The terrain of the area is generally hilly, but there are also low, flat areas, as well as three ponds. Wetlands are found in depressions throughout the area. Bedrock outcrops, or ledge, are prevalent throughout the area, especially in hilly sections. The three ponds are owned by the Town of Saugus, as noted at a special Town meeting of October 19, 1970. The MDC's Breakheart Reservation is just to the north of the Golden Hills Area. Large parcels of land are owned by both Towns: Wakefield owns some 50 acres which are mostly Town forest, and Saugus own several acres under the jurisdiction of the Saugus Conservation Commission. The Golden Hills area contains a local historical landmark known as Castel Clare.

State Regulations apply (date of designation): August 26, 1987.


DEPARTMENT OF PUBLIC WORKS
(READING)
Wakefield
Moulton Playground
Wakefield Junction
Crystal Lake
Round Park
Lookout Tower
W A K E F I E L D
BREAKHEART
RESERVATION
Castle Hill
Upper Pond
Lower Pond
Golf Course
Vocational Sch
Wakefield Jr. High Sch
Greenwood Hill
Greenwood
Melrose Highlands
Oakland Vale
S A U G
High Rock
Sewall Woods Park
Ell Pond
Library
Hospital
Melrose Common
M E L R O S E
Wyoming
Long Pond
Mt Hood
MT HOOD MEM PARK
Golf Course
Melrose Rock
Shopping Center

Boundaries of the
Golden Hills
Area of Critical Environmental Concern

Designated August 26, 1987

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

DESIGNATION OF THE GOLDEN HILLS AREA OF AS AN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Following an extensive review in compliance with regulations governing Areas of Critical Environmental Concern (301 CMR 12.00), including nomination, research, informal meetings with local groups, public hearings, on-site visits and evaluation of all public comments and assembled data, I, the Secretary of Environmental Affairs, hereby designate a portion of the Golden Hills Area Watershed in the Towns of Wakefield and Saugus as an Area of Critical Environmental Concern. This action is taken pursuant to the authority granted to me by Massachusetts General Laws, chapter 21A, section 7.

I. Boundary of the Golden Hills ACEC

The boundary of the nominated area is shown on the attached map. The power lines that form the boundaries to the east and southeast are not included in the ACEC, but are only meant to mark the boundary of the area.

II. Description of the Resources of the Golden Hill ACEC

The Golden Hills has an unusual blend of residential and ecological resources within the heavily urbanized Boston Metropolitan area. The area was popular for summer cottages, and later for year round residences. The area contains approximately 450 acres, of which about 300 is open space. It contains varied terrain: both flat and hilly areas with rocky outer openings, forested areas, and wetlands and three ponds - First, Griswold, and Spring Ponds. The area has an abundance of wildlife.

Most of the Golden Hills has been subdivided. The Town of Wakefield owns some 50 acres (mostly Town forest). Saugus owns several acres under the jurisdiction of the Conservation Commission and also owns the three ponds.

The site clearly meets the regulatory criterion that an area proposed for designation must contain features from four or more specified resource groups.

III. Procedures Leading to ACEC Designation

The Golden Hills Association, a group of concerned citizens, initiated the nomination of the Golden Hills area as an ACEC. The nomination was filed with the Secretary of Environmental Affairs on March 24, 1987.

On May 20, 1987, Secretary Hoyte accepted the nomination of the Golden Hills area. A public hearing was scheduled for June 26, 1987, at 9:00 AM at the Laurel Gardens Meeting Room in Saugus.

Notice of the public hearing was published in the Environmental Monitor on May 26, 1987, and in the Boston Globe on June 17, 1987. Official Town boards in Wakefield and Saugus were notified of the meeting. The hearing was held on June 26, 1987 at the Laurel Gardens Meeting Room.

In addition to the testimony at the public hearing, written comments in favor of the designation were received from MA Representative Steven Angelo, MA Representative Richard Tisei, the Wakefield Conservation Commission, and the Metropolitan District Commission's Director of Reservations and Interpretive Services, Garret VanWart. Letters of concern for potential affects on operations (transmission lines and substations) were received from both Boston Edison and New England Power Service. All comments are on file at the MEPA office.

IV. Discussion of Factors Specified in Section 12.09 of the ACEC Regulations

In the review process leading to the decision on a nominated area, the Secretary must consider the factors specified in Section 12.09 of the MEPA Regulations. As stated in these regulations, the factors need not be weighed equally, nor must all these factors be present for an area to be designated. While the more factors an area contains, the more likely its designation, the strong presence of even a single factor may be sufficient.

Based on information in the nomination letter, at the public hearing, in written comments and from research and site inspections by my staff, I find the following factors applicable to the designated ACEC:

I. Quality of Natural Characteristics:

The area has many undeveloped vistas and promontories that set it apart from the surrounding landscape. Hikers, joggers, bird watchers, and cross country skiers often pass through the Golden HIlls Area enroute to the Breakheart Reservation.

2. Productivity:

The area supports a large diversity of plant and animal life. It is a stop over location for migratory birds and provides an important open space corridor for mammals, including the white tail deer that have been sighted recently in the area.

3. Irreversibility of Impact:

This area is a documented habitat for several predatory mammals. This indicates that it supports a more complex ecosystem than is commo in urban areas.

The area has shallow soils and steep slopes, which make it particularly sensitive to the impacts of development. Impacts to Golden HIlls will create losses to plant and animal diversity within the entire Breakheart biotope. Tolerance to environmental degradation of many of the plants and animals is limited.

4. Imminence of Threat to the Resource:

Although much of the land in Golden Hills is currently owned by development interests, plans are not immediately known. Given the tremendous development pressure on land in this, the Metropolitan Boston area, development proposals are likely to be forthcoming.

5. Magnitude of Impact:

Development in the area will affect the hydrology of the Golden Hills, thus potentially impacting the three ponds.

6. Supporting Factors:

The MDC's Breakheart Reservation is within 200 yards of the Golden Hills. A new thrust of the MDC's program will be to incorporate an awareness and appreciation for open space preservation in surrounding communities. Preservation of open space areas is fostered by adding protection, such as an ACEC designation, to these areas that are geographically close to areas already preserved or protected. Further, both Wakefield and Saugus own land and/or water bodies. There is clear local support for building on the environmental assets that already exist.

August 26, 1987
Date

James S. Hoyte, Secretary

JSH/JD/bk

THE IMPLEMENTING AGENCIES AND THEIR REGULATIONS

The guidelines for an Area of Critical Environmental concern are not found in one set of laws or regulations, but rather are implemented through policies and regulations promulgated by a variety of agencies within Massachusetts state government. Presented here are synopses of the roles of those agencies and regulations pertaining to ACEC's. As these regulations are quite complex, the following discussions will provide only an introduction and broad overview. Detailed or specific questions should be directed to the particular agency in question.

It should be noted that there are two types of ACEC: those located in the coastal zone and those located inland. For information on inland ACEC's, other potential inland sites, or the applicable regulations, contact:

Massachusetts Executive Office of Environmental Affairs, MEPA Unit
100 Cambridge Street
Boston, MA 02202 (617) 727-9530

For general information on coastal ACEC's contact:

Massachusetts Coastal Zone Management Office
100 Cambridge Street
Boston, MA 02202 (617) 727-9530

Agency: Executive Office of Environmental Affairs

Area of Critical Environmental Concern (ACEC) Designation Process

Reference: Mass. G.L.C. 21A s. 2(7), St. 1974, C.806,S.40(a)
301 CMR 12.00

Purpose: To establish the procedure for designation of an Area of Critical Environmental Concern (ACEC).

Overview:

Nomination

Area may be nominated for designation as ACEC's by;

a) any 10 citizens of the Commonwealth
b) the Board of Selectmen, City Council or Mayor, the Planning Board or the Conservation Commission of any city or town which would be affected by designation;
c) any state agency or a regional planning agency; or
d) the Governor or any member of the General Court.

Nomination must be accompanied by summary information regarding the resources of the proposed area; a suggested boundary for the area; and a general description of the benefits that would be achieved by designation.

Eligible Areas: To be eligible for nomination, an area shall contain features from at least four of the following categories:

a) Fishery Habitat -- anadromous/catadromous fish runs, fish spawning areas, fish nursery areas, or shellfish beds;

b) Coastal Features -- barrier or coastal beaches, rocky intertidal shores, or dunes;

c) Estuarine Wetlands -- embayments, estuaries, saltponds, saltmarshes, or beaches; Inland Wetlands -- freshwater wetlands, marshes, flats, wet meadows, or swamps;

d) Inland Wetlands -- freshwater wetlands, marshes, flats, wet meadows, or swamps;

e) Inland Surface Waters -- lakes, ponds, rivers, streams, creeks, or ox bows;

f) Water Supply Areas -- surface water reservoirs, reservoir watersheds, groundwater aquifer, or aquifer recharge areas;

g) Natural Hazard Areas -- floodplains, erosion areas, or unstable geologic areas;

h) Agricultural Areas -- land of agricultural productivity, foresty land, or agriculture sites;

i) Historical/Archaeological Resources -- buildings, sites, or districts of historical, archaeological, or paleontological significance;

j) Habitat Resources -- habitat for threatened or endangered plant or animal species, habitat for species of special concern, or other significant wildlife habitat;

k) Special Use Areas -- underdeveloped or natural areas, public recreational areas, or significant scenic sites.

Review of the Nomination

On receipt of the nomination, the Secretary of Environmental Affairs will make an initial review of the proposed area and the reasons for its nomination. The Secretary may request further information on the nomination as is deemed necessary. Within 45 days of receiving the nomination, or the additional information requested, the Secretary must either decline the nomination or accept it and proceed with a full public review.

Public Notice and Hearings

Before a site is designated as an ACEC, the Secretary of Environmental Affairs must hold a public hearing within 25 miles of the nominated area. Notice of this hearing shall be published at least 30 days in advance in the Environmental Monitor as well as in a local paper of general circulation. Notice will also be sent to the appropriate local boards and agencies and may be sent to individuals and organizations that have expressed an interest.

Criteria for Designation:

The Secretary shall base his designation decision on the following criteria: threat to public health through inappropriate use, quality of the natural characteristics, productivity, uniqueness of area, irreversibility of impact, imminence of threat to the resources, economic benefits, and other supporting factors.

Decision of Secretary:

The Secretary shall make a decision whether or not the designate and ACEC within 60 days of the hearing. If he decides to designate, a notice must be published in the Environmental Monitor. The publication date becomes the effective date of state regulations pertinent to the ACEC. If the area is located in the designated coastal zone, CZM must then notify the Federal Office of Ocean and

Coastal Resource Management (OCRM) that the designation of the ACEC was done as part of the routine program implementation of the Massachusetts Coastal Zone Management Plan. This action is also subject to public notice and comment. The date of concurrence by OCRM is the date that federal consistency requirements begin to apply to federally funded or permitted actions within the ACEC.

Effects of Designation:
Designation of ACEC will require all agencies under the Secretary of Environmental Affairs to take action, administer programs, and revise regulations in order to:

a) acquire useful scientific data on the ACEC,

b) preserve, restore, or enhance the resources of the ACEC, and

c) ensure that activities in or impacting on the area are carried out so as to minimize adverse effects on:

- marine and aquatic productivity
- surface and groundwater quality
- habitat values
- flood control and prevention of storm damage
- historic and archeological resources
- scenic and recreational resources
- other natural resource values of the area.

All EOEA agencies are further directed to subject the projects of federal, state, and local agencies and private parties to the closest scrutiny to assure that the above standards are met for any action subject to their jurisdiction.

If the ACEC is located in the coastal zone, activities which require a federal action or permit or are being undertaken with federal funds must be consistent with the designation to the maximum extent practicable with the CZM Program Policies.

Review of the Designation:
The Secretary will periodically review designated ACECs to evaluate whether they should be amended or repealed. At any time after one year from the designation date, any of the parties who may make a nomination may seek to amend or repeal the designation. This process shall be the same as that for nominations as described above.

Agency: Massachusetts Environmental Policy Act (MEPA) Unit
Executive Office of Environmental Affairs

Massachusetts Environmental Policy Act (MEPA)

Reference: Mass. G.L. C. 30 s. 61-62H
301 CMR 11.00

Purpose: To provide a uniform method of gathering information to be used in evaluating the impact of an activity. MEPA also provides for public and state agency review and comment on certain activities/levels of activities which either require a state permit, are conducted by state agencies, or use state funds.

Overview: Projects which are within the jurisdiction of MEPA require the filing of an Environmental Notification Form (ENF). The MEPA unit publishes notice of the ENF in the Environmental Monitor, issued twice monthly. The public has 20 days from date of publication of the Monitor notice in which to comment to the MEPA unit on the project. The Secretary of Environmental Affairs has 30 days in which to decide if an Environmental Impact Report (EIR) is required. If an EIR is required and submitted, notice is published in the Monitor of its availability and the public has 30 days from date of publication to comment on the project, again to the MEPA unit.

ACEC: Designation of an ACEC has the following effects on the MEPA process.

Under the provisions of 301 CMR 11.00, any state-regulated or -funded project within an ACEC will trigger a MEPA review and call for public input, including such activities as:

- Replacement or reconstruction of existing structures, facilities and equipment.
- Construction, demolition, abandonment, addition, expansion or installation of structures, facilities or equipment.
- Alteration affecting land, water or vegetation, including ordinary maintenance.
- Acquisition or disposition of interests in real property.
- Planning and policy development

Agency: Massachusetts Coastal Zone Management Office (CZM)
Executive Office of Environmental Affairs

Massachusetts Coastal Zone Management Program

Reference: Mass.G.L. C.21A s. 2(7)
301 CMR 20.00

Purpose: "To ensure that the diverse powers and responsibilities with the Executive Office of Environmental Affairs which operates or affect the resources of the coastal zone are administered in a coordinated and consistent manner" (301 CMR 20.02)

Overview: In addition to the administration of the coastal ACEC program, CZM is the agency responsible for the overall coordination and oversight of EOEA agency actions within the designated coastal zone of the commonwealth. CZM provides technical assistance to communities, other state and agencies as individually regarding coastal hazards, dredging, harbor planning, OCS activities, and other such areas. The Office is responsible for the administration of the Coastal Facilities Improvement Program (CFIP) and ensures, through its Federal Consistency review, that all federal actions proposed within, or directly affecting, the coastal zone are consistent with the CZM program policies.

ACEC: Under the provisions of Policy #2 of the MCZMP, ACECs are to be protected, preserved & restored. Once a coastal ACEC is designated, the CZM regulations (301 CMR 20.00) call for all apropriate EOEA agencies to take action, including the review of permit applications, administer programs and/or revise regulations in order to protect the area and to ensure that activities in or impacting the area are designed and carried out to minimize adverse effects on marine productivity, habitat values, water quality, and the storm buffering characteristics of the area in accordance with CZM policy 2."

CZM regulations further stipulate that any federal agency conducting or supporting an activity directly affecting the coastal zone shall do so consistently with the CZM Program to the maximum extent practicable. Proposed activities shall be consistent with the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values.

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* Policy 2 - Protect complexes of marine resource areas of unique productivity [Areas of Preservation or Restoration (APR)/Areas of Critical Environmental Concern (ACEC)]; ensure that activities in or impacting such complexes are designed and carried out to minimize adverse effects on marine productivity, habitat values, water quality, and storm buffering of the entire complex.

Agencies: Local Conservation Commissions, and
Division of Wetlands and Waterways Regulation,
Department of Environmental Quality Engineering

Wetlands Protection Act

Reference: Mass. G.L. C. 131 s.40
301 CMR 10.00

Purpose: To establish uniformity of process and standards for implementing the provisions of the Wetlands Protection Act.

Overview: The Wetlands Protection Act requires that no one shall remove, fill, dredge or alter any coastal or freshwater wetlands without a review by the local Conservation Commission to protect specific interests as stated in the Act. The definition of wetlands provided by the Act includes such resource areas as coastal banks, dunes, beaches, saltmarshes, land under waterbodies and land subject to flooding. The Conservation commission must hold an open hearing to determine whether the area or the impacts of the project are significant to the eight public interests specified by the Act. These are:

1) public or private water supply
2) ground water supply
3) flood control
4) storm damage protection
5) prevention of pollution
6) land containing shellfish
7) fisheries
8) wildlife habitat

The Conservation Commission will then issue an Order of Conditions regulating the project to protect those interests.

Under the regulations governing activities in coastal sites (310 CMR 10.13-10.28), performance standards are set for projects proposed for various resource areas. The standard for most work in a coastal bank; coastal beach; dune; land under a salt pond; land containing shellfish; wildlife habitat; and banks of , or land under, the ocean, rivers, streams, creeks, ponds or lakes that are part of an anadromous/catadroumous fish run is "no adverse effect:. The standard for a salt marsh is even more stringent, stating that a project "shall not destroy any portion of the salt marsh and shall not have an adverse effect on the productivity of the salt marsh."

For most activities proposed on land under the ocean, tidal flats, coastal dunes (when activity is accessory to existing building, excluding coastal engineering structures), and rocky intertidal shores, the standard is to "minimize" adverse effects on the seven interests of the Act.

ACEC: In issuing the designation of an ACEC, the Secretary of Environmental Affairs may make a finding of significance for the resource areas within that ACEC. This finding of significance shall be presumed by the permitting authority in any project proposed. Further, within an ACEC, the performance standard for land under the ocean, tidal flats, coastal dunes and rocky intertidal shores becomes "no adverse effect". An exception to this is maintenance dredging of land under the ocean for navigation improvement; such dredging must "minimize adverse effects using best available measures as defined by regulation" and may not expand on pre-existing channels (310 CMR 10.17 (4)).

The only mention of ACEC's in the regulations for the Wetlands Protection Act is in those for coastal areas (Part 2). There is no mention of ACEC's in the regulations for all wetlands (Part 1) or in the regulations for inland wetlands (part 3).

It should be noted that land already in agricultural use (including aquaculture and mariculture) is exempted from the Wetlands Protection Act as are approved mosquito control projects.

A variance procedure does exist, however it will be granted only in rare and unusual cases by the Commissioner of DEQE.

Agency: Division of Wetlands and Waterways Regulation
Department of Environmental Quality Engineering

Waterways Licensing Program (Chapter 91)

Reference: Mass. G.L. C.91 s. 1-63
310 CMR 9.00 et seq.

Purpose: To establish uniform procedures for licensing activities in the waterways and subtidal lands of the Commonwealth, incorporate programs of, and coordinate with, other agencies of the Executive Office of Environmental Affairs, and integrate the public trust doctrine into the administration of Chapter 91.

Overview: The Division reviews and licenses activities, and/or carries out those activities, to improve or modify waterways or sub-tidal lands including, but not limited to, dredging and wharf and pier construction. The standard of waterways projects proposed for areas outside and ACEC is to "minimize" adverse effects to the environment [310 CMR 9.07:20(j)]. As a matter of policy, the Division defers issuing a license until a permit under the Wetlands Protection Act has been written for the project; the conditions under that Order are generally included in the waterways permit to provide environmental protection standards. A variance procedure does exist but will be used only in very rare or unusual cases.

ACEC: Within the ACEC the standard becomes "no adverse impact" using the same definition as is used in the Wetlands Protection Act [310 CMR 9.23:2(c)]. The Division may not license improvement dredging in any portion of an ACEC, except for the purposes of shellfish enhancement or other marine productivity [310 CMR 9.25:4(c)]. Further, maintenance dredging shall not be licensed in any shellfish bed, salt pond or salt marsh located in an ACEC [310 CMR 9.25:4(b)].

Dredged material shall not be disposed of within an ACEC except if clean, non-degrading and used for salt marsh creation, beach nourishment or dune stabilization [310 CMR 9.26:4(b)].

Note: At this writing, new regulations are undergoing public review and revision. It is strongly recommended that applicants contact DEQE, Division of Waterways Regulation at (617) 292-5995 before embarking on a project located in an ACEC.

Agency: Division of Wetlands and Waterways Regulation
Department of Environmental Quality Engineering

Coastal Wetlands Restriction Act

Reference: Mass. G.L. C.130 s.105
302 CMR 4.00-4.19

Purpose: To protect coastal wetlands as significant environmental entities on a regional, rather than a site-specific basis. (The latter procedure is covered under the Wetlands Protection Act, Mass. G.L. C.131 s.40.)

Overview: This statute authorizes the Commissioner of The DEQE following a public hearing to restrict or prohibit large scale alterations of significant coastal wetlands. The tool used is an "Order of Restriction", fashioned to affect land use, to promote public health, safety and welfare and to protect public and private property, wildlife, and marine fisheries. Ownership rights, however, are not affected. The Order generally prohibits large scale alterations of wetlands such as filling, dredging and discharge of pollutants. Permitted activities include agriculture and aquaculture; building and maintenance of docks and piers; upkeep of existing roads, marine channels and structure; and construction and maintenance of temporary structures erected on pilings.

The Order of Restriction is recorded in the local Registry of Deeds and a marginal notation is made either on the deed of a recorded parcel or the Land Court Certificate of a registered parcel.

ACEC: Within an ACEC, DEQE will restrict the coastal wetlands within 15 months of designation; if this cannot be completed, a single 3 month extension may be requested from the Secretary of Environmental Affairs (302 CMR 4.01:4).

Inland Wetlands Restriction Act

Reference: Mass. G.L. C. 131 s.40A, 302 CMR 6.00-6.21

Purpose: As above, but for inland, or freshwater, wetlands.

Overview: As above, but protection is provided to the interests listed above plus fisheries, water resources, flood plain areas, and agriculture. Activity pertaining to any inland wetland within the coastal zone must agree with the policies of the CZM program.

ACEC: As above (302 CMR 6.01:4).

Agency: Division of Water Pollution Control
Department of Environmental Quality Engineering

Water Quality Standards

Reference: Mass. G.L. c.21 s. 27
314 CMR 4.00

Purpose: To enhance the quality and value of the water resources of the Commonwealth through the designation of uses for which the waters shall be maintained and protected, prescription of quality criteria required to sustain the designated usage, and, where appropriate, prohibition of discharges.

Overview: The Division classifies the waters of the Commonwealth and establishes parameters for each class. The classification procedure involves setting attainment goals for the various water bodies. Standards to prevent or minimize any degradation are establishes and testing criteria are provided.

ACEC: The CZM Program calls on the Division to classify waters within ACECs at high quality standards, SA in marine waters and B in fresh (see below), and to incorporate strict antidegradation standards. This will serve to eliminate discharges of hazardous substances, new industrial discharges and direct discharges from new sewage treatment facilities.

Class SA - Marine or coastal waters assigned to this class are designated for the uses fo protection and propagation of fish, other aquatic life and wildlife; for primary and secondary contact recreation; and for shellfish harvesting without depuration in approved areas.

Class B - Fresh waters assigned to this class are designated for the uses of protection and propagation of fish, other aquatic life and wildlife; and for primary and secondary contact recreation.

Agency: Energy Facilities Siting Council

Energy Facilities Siting Program

Reference: Mass. G.L. C. 164 s. 69H-69R
980 CMR 1.00-10.04

Purpose: To provide a necessary power supply for the Commonwealth with a minimimum impact on the environment at the lowest possible cost. Implementation of this policy includes a reveiw process ensuring itmely and appropriate locaion of new facilities. In addition, the Council has the authority, upon appeal by an electric, gas, or oil company, to balance energy needs against environmental impact should construction of that company's facility be prohibited or unduly delayed for failure to meet standards imposed by state or local agencies. procedures for review of such an appeal, known as a petition for a Certificate of Environmental Impact and Public Need, are established in Chapter F of the Council's regulations.

Overview: A gas, oil, or electic company petitioning for a Certificate of Environmental Impact and Public Need may do so pursuant to procedures set forth in MGL C.164 s.69L-P. If issued, the Certificate is the equivalent of all the various permits, approvals, and authorizations required by state or local agencies which would otherwise be necessary for the construction and operation of the facility (MGL C.164 s.69K), except that the Council shall not issue a Certificate the effect of which would be to grant or modify a permit which, if so granted or modified, would conflict with applicable federal laws and regulations.

ACEC: The Council specifically recognizes the policies of the Massachusetts Coastal Zone Management Program in its proceedings and gives "prime consideration" to the protection of ACECs against degradation. "Prime consideration" is defined as giving "special weight to the environmental impact of a facility in or impacting such environmentally sensitive areas" [Rule 83.1 (1), (2) Regulations of the Energy Facilities Siting Council, 980 CMR 1.00-1.04].

Agency: Miscellaneous

Policy #2 of the CZM Program is included as departmental policy in various other sets of regulations, including:

Department of Environmental Quality Engineering
Division of Water Pollution Control
Regulations for Water Quality Certification for Dredging, Dredged Materials Disposal and Filling in Waters of the Commonwealth.
[MGL C.21 s.26-53, 314 CMR 9.01:2]

Department of Environmental Management
Ocean Sanctuaries Regulations
[MGL C.132A s.13-16, 189, 302 CMR 5.05:1]

301 CMR 12.00 AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Section

12.01: Authority

301 CMR 12.00 is promulgated by the Secretary of the Executive Office of Environmental Affairs pursuant to M.G.L. c. 21A, s. 2(7), which charges the Secretary and the EOEA agencies with developing policies regarding the acquisition, protection, and use of "areas of critical environmental concern to the Commonwealth", and St. 1974, c. 40(e), which directs the Secretary to designate such areas.

12.02: Purpose

301 CMR 12.00 establishes procedures by which Areas of Critical Environmental Concern (ACECs) may be designated, provides for dissemination of information on areas so designated, and establishes general policies for Commonwealth actions within designated ACECs.

12.03: General Provisions

ACECs are those areas within the Commonwealth where unique clusters of natural and human resource values exist and which are worthy of a high level of concern and protection. The designation process comprises five steps: nomination, review by the Secretary, public hearings, decision by the Secretary, and publication of notice of the results in the Environmental Monitor. The purpose of the designation process is to determine if the nominated area is of regional, state, or national importance or contains significant ecological systems with critical interrelationships among a number of components. After designation, the aim is to preserve and restore these areas and all EOEA agencies are directed to take actions with this in mind.

12.04: Definitions and Abbreviations

As used in these regulations, the following terms shall have the following meanings:

Action: a project undertaken directly by an agency, the granting of a permit by an agency, or the granting of financial assistance by an agency.

Area of Critical Environmental Concern: an area designated by the Secretary pursuant to these regulations (301 CMR 12.00).

Agency: any board, body, commission, corps, council, department, division, office, or administrative unit of the Commonwealth, however labeled, and any authority of any political subdivision which is specifically created as an authority under special or general law. In cases of doubt as to whether a body

12.04: continued

is an "agency" for purposes of these regulations, an opinion of the Secretary should be sought under M.G.L. c. 30A, s. 8.

Environmental Monitor: semi-monthly publication of actions and projects published by the Secretary pursuant to M.G.L. c. 30, ss. 62-62H and 301 CMR 11.19.

EOEA Agency: any agency, as defined above, created by, falling under, or falling within the Executive Office of Environmental Affairs.

Executive Office of Environmental Affairs: the agency created by M.G.L. c. 21A.

Financial Assistance: any direct or indirect financial aid provided by any agency, which shall include but not be limited to mortgage assistance, special taxing arrangements, grants, loans, loan guarantees, debt or equity assistance, and the allocation of state or federal funds.

Permit: a permit determination, order, or other action, including the issuance of a lease, deed, license, permit, certificate, variance, approval, or other entitlement to use, granted to any person, firm, or corporation, including trusts, voluntary associations, or other forms of business organization by an agency for or by reason of a project. "Permit" does not include a general entitlement to a person to carry on a trade or profession or to operate mechanical equipment which does not depend upon the location of such trade, profession, or operation.

Project: work, activity, or use directly undertaken by an agency or, if undertaken by a person, which seeks financial assistance from an agency or requires a permit by an agency. "Project" does not include a grant in aid for medical services or personal support, such as welfare or unemployment funds, to an individual or a third party on behalf of an individual.

Secretary: the Secretary of the Executive Office of Environmental Affairs.

(2) Abbreviations: The following abbreviations for agency names and other terms are used in these regulations:

ACEC Area of Critical Environmental Concern
EOEA Executive Office of Environmental Affairs
USGS United States Geological Survey

12.05: Nomination for Designation

(1) Areas may be nominated for designation as ACECs by:
(a) any 10 citizens of the Commonwealth;
(b) the Board of Selectmen, City Council, Mayor, Planning Board, or Conservation Commission of any city or town which would be affected by the designation;
(c) any state agency or regional planning agency;
(d) the Governor or any member of the General Court.

(2) Nominations shall be made by letter to the Secretary and must be accompanied by summary information regarding the resources of the proposed area, a suggested boundary for the area, and a general description of the benefits that would be achieved by designation. The nominated areas shall be delineated on the applicable map of the USGS 7 1/2 minute series or equivalent. If the features of the area are not clearly shown on such a map, additional maps, diagrams, or sketches at a larger scale must be included.

12.06: Eligible Areas

To be eligible for nomination, an area shall contain features from four or more of the following groups:

12.06: continued

(1) Fishery Habitat - anadromous/catadromous fish runs, fish spawning areas, fish nursery areas, or shellfish beds.

(2) Coastal Features - barrier beach system, beach, rocky intertidal shore, or dune.

(3) Estuarine Wetlands - embayment, estuary, salt pond, salt marsh, or beach.

(4) Inland Wetlands - freshwater wetlands, marsh, flat, wet meadow, or swamp.

(5) Inland Surface Waters - lake, pond, river, stream, creek, or ox bow.

(6) Water Supply Areas - surface water reservoir, reservoir watershed, groundwater aquifer, or aquifer recharge area.

(7) Natural Hazard Areas - floodplain, erosion area, or unstable geologic area.

(8) Agricultural Area - land of agricultural productivity, forestry land, or aquaculture site.

(9) Historical/Archaeological Resources. - buildings, site, or district of historical, archaeological, or paleontological significance.

(10) Habitat Resources - habitat for threatened or endangered plant or animal species, habitat for species of special concern, or other significant wildlife habitat.

(11) Special Use Areas - undeveloped or natural areas, public recreational areas, or significant scenic site.

12.07: Review of Nominations

Upon receipt of the nomination the Secretary shall make an initial review of the proposed area and the reasons for its nomination. The Secretary may request such additional information from the nominating party as he deems necessary. The Secretary shall, within 45 days of receiving the nomination or such additional information as he may request under this section, whichever is later, inform the nominating party in writing either that he is accepting the nomination for designation and will proceed with a full review, or that he is declining to review the area for designation. If he declines, a summary of reasons shall be given.

12.08: Public Notice and Public Hearing

Before designating an area, the Secretary shall hold a public hearing. The hearing must be held within 25 miles of the area nominated or at the nearest location where a suitable facility exists. Public notice of the hearing shall be published by the Secretary not less than 30 days before such hearing in the Environmental Monitor. Notice shall also be published in a newspaper of general circulation in the vicinity of the nominated area and in appropriate trade, industry, informational, or professional publications. Such notice shall be mailed to the appropriate Boards of Selectmen, Town Managers, City Councils, or Mayors; Planning Boards; Conservation Commission; and at the Secretary's discretion, to interested citizens or organizations. Such notice shall include a citation of the authority under which the designation would occur, a summary of the reasons proposed for such a designation, the time and place of the hearing, and the method by which members of the public may make their views known. A map of the area to be designated may be included.

12.09: Criteria for Designation

The Secretary shall consider the following factors in making the finding required by 301 CMR 12.10. These factors need not be weighed equally, nor

12.09: continued

must all these factors be present for an area to be designated. While the more factors an area contains the more likely its designation, the strong presence of even a single factor may be sufficient for designation:

(1) Threat to the Public Health through Inappropriate Use: Future development of the area may threaten the public health, safety, or welfare because of the potential for pollution of the water supply, pollutants introduced indirectly through the food chain, landform alterations which adversely affect land stability or natural protection, existing natural hazards, or other direct or indirect effects which vary with the potential uses;

(2) Quality of the Natural Characteristics: The area possesses outstanding natural characteristics such as: high or unaltered land and water quality; undeveloped or unaltered land and water; outstanding trees or other vegetation; recreational opportunities;

(3) Productivity: The area is rich in nutrients serving as a food source for or hosting a high diversity of finfish, shellfish, waterfowl, wildlife, or other biota;

(4) Uniqueness of Area: The area is unique or unusual from a regional, state, or national perspective. Uniqueness will apply to endangered plant and animal species; geologic features; archaeological/historic/cultural features; or other resources of educational value;

(5) Irreversibility of Impact: The area has resources or characteristics which are potentially exhaustible or so fragile that alterations may have irreversible consequences. Irreversibility of impact will be assessed based on such factors as: the dependence of natural systems on groundwater; the tolerance of animals and habitats to pollutants; the degree of interdependence of ecosystems; and the sensitivity of species to changes in salinity;

(6) Imminence of Threat to the Resource: The area is subject to imminent threat such as: current proposals for major private development projects; plans for major new public infrastructure developments such as sewers, water systems, roads; or regional growth trends;

(7) Magnitude of Impact: The potential adverse impacts from changes to the area would be highly significant;

(8) Economic Benefits: The area has intrinsic values which are important to a region's economic stability. Such values include: recreation, tourism, fisheries development, and water supply;

(9) Supporting Factors: The area has other factors which favor preservation or restoration. Such factors may include: strong public consensus on the intrinsic value of the area; legislative identification of the value of the resource; public awareness of the importance of the area; the lack of coordinated local control because the area is contained within more than one municipality; ownership of some or all of the resource by the local, state, or federal government; or the existence of supplementing management programs in the area.

12.10: Secretarial Finding

The Secretary shall make a final decision as to whether or not to designate a nominated area within 60 days of the public hearing held pursuant to 301 CMR 12.08. The Secretary shall designate an ACEC only after finding that, on the basis of the information presented by the nominating party and at the public hearing and after a review of the factors listed in 301 CMR 12.09(1)-(9), the area is of critical environmental concern to the Commonwealth.

12.11: Notice and Effective Date of Designation

(1) The Secretary shall publish notice of the decision under 301 CMR 12.10 in the Environmental Monitor. The written findings shall be available for public inspection at the office of the Secretary. The effective date of any designation shall be the date of publication of the notice in the Environmental Monitor unless the Secretary shall otherwise provide.

(2) A designation shall not apply to any project if, at the time the Secretary receives a nomination:

(a) all necessary permits have been applied for; or
(b) an agency has commenced construction of a project.

12.12: Effects of Designation

Designation of an area as an ACEC shall have the following effects:

(1) All EOEA agencies shall take action, administer programs, and revise regulations in order to:

(a) acquire useful scientific data on the ACEC,
(b) preserve, restore, or enhance the resources of the ACEC, and
(c) ensure that activities in or impacting on the area are carried out so as to minimize adverse effects on:
1. marine and aquatic productivity,
2. surface and groundwater quality,
3. habitat values,
4. storm damage prevention or flood control,
5. historic and archeological resources,
6. scenic and recreational resources, and
7. other natural resource values of the area.

(2) All EOEA agencies shall subject the projects of federal, state, and local agencies and private parties to the closest scrutiny to assure that the above standards are met for any action subject to their jurisdiction.

12.13: Review of Designation

(1) The Secretary shall review periodically the designations of ACECs to evaluate the success of agency actions in the designated areas and whether the designation should be amended or repealed.

(2) At any time after an ACEC has been designated for one year, the Secretary or any of the nominating parties listed in 301 CMR 12.05 may seek to amend or repeal the designation. Such a petition shall be treated as a nomination under 301 CMR 12.07 through 12.11.

(3) At any time after one year from the time the Secretary has declined to designate an area, any person eligible under 301 CMR 12.05 may petition the Secretary to reevaluate that decision. Such requests shall be treated as a nomination.

(4) Any designation made under predecessor ACEC regulations shall stand, unless amended or repealed in accordance with 301 CMR 12.13.

12.14: Description and Maps of ACECs

Descriptions and maps of all designated Areas of Critical Environmental Concern shall be available from the office of the Secretary.

12.15: Waiver

The Secretary may waive any provision or requirement in these regulations not specifically required by law when in the Secretary's judgment strict compliance with such provision or requirement would result in an undue hardship and would not serve to further the intent of M.G.L. c. 21A, s. 2(7).

12.16: Severability

If any provision of these regulations (301 CMR 12.00 through 12.16) or the application thereof is held to be invalid by a court of competent jurisdiction, such invalidity shall not affect other provisions or the application of any part of these regulations not specifically held invalid, and to this end the provisions of these regulations thereof are declared to be severable.

REGULATORY AUTHORITY

301 CMR 12.00: M.G.L. c. 21A, s. 2(7); St. 1974, c. 806, s. 40(e)