# 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

12/11/86
Date