DESIGNATION
of the

HOCKOMOCK SWAMP AREA OF CRITICAL ENVIRONMENTAL CONCERN

LOCATED IN PORTIONS OF THE
CITY OF TAUNTON AND THE TOWNS OF
BRIDGEWATER, EASTON, NORTON, RAYNHAM AND WEST BRIDGEWATER

WITH SUPPORTING FINDINGS

Following an extensive formal review required by the regulations of the Executive Office of Environmental Affairs (301 CMR 12.00) including nomination review, on-site visits, research, public information meetings, a public hearing and written comment period, and evaluation of all public comments and assembled data, I, the Secretary of Environmental Affairs, hereby designate the Hockomock Swamp area, located in portions of the City of Taunton and the Towns of Bridgewater, Easton, Norton, Raynham and West Bridgewater as an Area of Critical Environmental Concern (ACEC). I take this action pursuant to the authority granted me under Massachusetts General Law Chapter 21A, Section 2(7).

I also hereby find that the wetland resource areas included in the Hockomock Swamp ACEC are significant to the protection of groundwater supply and public or private water supplies, the prevention of pollution, flood control, the prevention of storm damage, the protection of fisheries, and the protection okf wildlife habitat; those public interests defined in the Wetlands Protection Act and regulations promulgated thereunder (MGL c.131, s.40; 310 CMR 10.00).

I. Boundary of the Hockomock Swamp ACEC

Upon review of the boundaries as recommended in the nomination letter, subsequent recommendations made in testimony received and EOEA agency review, the final boundaries generally include the Hockomock Swamp and associated wetlands, water bodies and uplands as shown on the attached United States Geologic Survey (USGS) map. This map is taken from the USGS 1987 Taunton and 1987 Brockton, Massachusetts 1:25,000-scale metric maps. An official map is on file at the Massachusetts Department of Environmental Management, Division of Planning and Development.

The USGS map is supplemented by the attached Town of Raynham map showing the location of streets and roads not shown on the USGS map.

The boundary generally follows readily identifiable streets, roads, highwayos and other rights-of-way. Specifically, the boundary is defined as follows:

Beginning at the intersection of Elm Street and Center Street (Rolute 106) in West Bridgewater, the ACEC boundary proceeds westerly along Center Street to Church Street; north along Beacon Street

to West Stgreet; north ;and west along West Street to Easton and Purchase Street; west and north along Purchase Street to Depot Street; west and southwest along Depot Street to Bay Road; south along Bay Road to Dean Street; east along Dean Street to Bay Road; south along Bay Road to Taunton and Bay Street to Interstate 495 (I-495); east along I-495 to Prospect Hill Street and Raynham; north along Prospect Hill Street to Bridge Street; east along Bridge Street to the MBTA railroad right-of-way; north along the railroad right-of-way to the 21-meter contour line behind the Raynham-Taunton racetrack; north and easterly along the 21-meter contour line to Broadway (Route 138); south along Broadway (Route 138) to Robinson Street; southeast along Robinson to Wilbur Street; east along Wilbur Street to Hall Street; south along Hall Street to Elm Street; west along Elm Street to Broadway; south along Broadway to the southerly esge of the eastbound entry ramp right-of-way of I-495; east along the southerly edge of the eastbound I-495 entry ramp right-of-way to Oak Street; south along Oak Street to Center Street; east along Center Street to Fairbanks Road; northeast along Fairbanks Road to the norteast edge of the cul-de-sac where lots 18E and 18F meet; northeast along the property line of lots 18E to Diniz Drive; northwest along Diniz Drive to Lounsbury Drive; northeast along Lounsbury Drive to Hewitt Drive; southeast along Hewitt Drive to North Main Street; North Main Street to Rogers Street; east and south along Rogers Street to Titicut Road; south along Titicut Road to Darrington Drive; south and east along Darrington Drive to Pleasant Street; northeast along Pleasant Street to Route 24; north along Route 24 to Bridgewater and Pleasant Street (Route 104); east along Pleasant Street to the utility power line right-of-way;l northeast and north along the utility right-of-way, excluding the utility substation north and east of Route 104 and Elm Street as shown on the 1987 USGS maps, to West Bridgewater and South Street; north along South Street to Cross STreet; west alolng Cross Street to Forest Street; north along Forest Street to River Street; west on River Street to Elm Street; north on Elm Street to Center Street (Route 106).

Unless otherwise specified, the boundary described abaove extends to and includes the entire width of the right-of-way of public and private street, roads and highways, and other rights-of-way such as utility rights-of-way and former railroad rights-of-way.

The final boundary described differs from the boundary suggested in the supplemental letter of nomination submitted July 26, 1989 in several ways. The boundary suggested in this letter did not include the entire resource area of the Hockomock Swamp. Consequently, the six communities in which the resource area is located were notified of the ACEC nomination, and comments on the entire resource area and appropriate boundaries were solicited. A map showing (1) a general boundary of the resource area of the Hockomock, Dead and Titicut Swamps and associated wetlands and water bodies, and (2) the boundary suggested in the supplemental letter of nomination was circulated to municipalities, regional planning organizations and state agencies, and to ilnterested individuals and organizations upon request. The map was also shosn at the public information meetings and the public hearing. The determination of the final boundary is based upon the public comments received, the environmental information gathered, and the analysis and recommendation of EOEA agencies.

The boundary includes the resource area shown on the map circulated during the public review process and other areas integral to the ACEC. In Easton, Little Cedar Swamp and the Black Brook

Watershed are included because the surface water bodies and extensive wetlands and floodplains flow directly into and area part of the Hockomock Swamp resource area. In addition, high and medium-yield aquifers north of Route 106 are connected to the groundwater system of the Hockomock Swamp. Further, rare and endangered species identified by the Massachusetts Natural Heritage & Engangered Species Program are located in the Little Cedar Swamp-Black Brook area. For similar reasons, the Coweeset Brook corridor in West Bridgewater is also included within the ACEC.

In Raynham, the upland area between Prospect Hill Street and the former railroad right-of-way, now owned by the Massachusetts Bay Transit Authority (MBTA), is included because it drains directly into the swamp complex west of Prospect Hill Street and archaeologically sensitive areas identified by the Massachusetts Historical Commission are located here. Other final boundary adjustments in Raynham east of Route 138 include uplands draining directly into the Hockomock Swamp resource area, including Lake Nippennicket and the Dead Swamp. These uplands also include archaeologically sensitive areas.

The Department of Environmental Management, in the course of administering the review of the nomination, gathered several categories of environmental data regarding the Hockomock Swamp resource area. This information has been mapped using the Geographic Information System (GIS) of the Executive Office of Environmental Affairs. This mapped information, which was used to assist in the evaluation of the nomination and the determination of final boundaries, is part of the public record of the Hockomock Swamp ACEC designation. Copies of this map will be made available to the six municipalities to assist in the local and regional effort that is needed to protect and preserve the resources of the ACEC.

The area of the Hockomock Swamp ACEC is approximately 16,8000 acres. The approximate area of the ACEC in each municipalities is as follows:

Bridgewater:	2,800 acres	
Easton:	5,300 acres	
Norton:	400 acres	
Raynham:		2,700 acres
Taunton:		2,300 acres
West Bridgewater:		3,300 acres
Total	16,800 acres	

II. Designation of the Resources of the Hockomock Swamp ACEC

In my letter of acceptance of the nomination as an ACEC, I stated that our evaluation indicated that it met the minimum regulatory threshold for consideration. The nomination cited the presence of nine of the resource categories listed in the ACEC regulations at 301 CMR 12.06 - all of the categories potentially applicable to an inland area. These categories include fishery habitat, inland wetlands, inland surface waters, water supply areas, natural hazard areas, agricultural areas, historical/archaeololgical resources, and special use areas. The public review process corroborated

the existence of these resource categories and provided additional information to support the designation of Hockomock Swamp as an Area of Critical Environmental Concern. As mentioned in the section above, the EOEA Geographic Information System was used to map and evaluate the complex of environmental features described in this designation.

Extensive wetlands, floodplains and water bodies are the core of the Hockomock Swamp ACEC. Wetlands and surface water bodies located in the ACEC are as follows: the Hockomock Swamp, in all six municipalities; the Dead Swamp, in Raynham; the Titicut Swamp, in Raynham and Bridgewater; the Little Cedar Swamp, in Easton; Lake Nippennicket, in Bridgewater and Raynham; Gushee and Hewitt Ponds, in Raynham; Nunkets Pond, in Bridgewater and Raynham; the Hockomock and Town River, in West Bridgewater and Bridgewater; the Snake River, in Norton and Taunton; the Black Brook, in Easton; and the Coweeset, Flaggy Meadow, and Onemile Brooks in West Bridgewater.

The Hockomock Swamp is the largest vegetated freshwater wetland area in Massachusetts. The 'Hock' and associated wetlands and waer bodies act as a huge reservoir for both regional flood storage and water supply. The ACEC is part of the Taunton River Basin, and serves as the headwaters for the Town River. The surface waters of the ACEC are connected hydrologically to an extensive underlying system of high and medium yield aquifers. Two public supply wells for the Town of Raynham and one for the Town of West Bridgewater are located within the ACEC. Potential municipal well sites have been identified in the Towns of Bridgewater, Easton and Raynham.

The wetlands and waters of the Hockomock Swamp also provide the core of one of the most extensive inland wildlife habitats in southeastern Massachusetts. Thirteen rare and endangered species have been identified by the Natural Heritage & Endangered Species Program as occurring within the boundaries of the ACEC. These species occur in both wetland and upland areas. According to the Nature Conservancy in a December 14, 1989 letter, "the forested swamp and acid fen wetland communities of Hockomock Swamp and Lake Nippenicket are outstanding examples of these rare wetland types and support viable populations of several globally rare plants and animals." These populations are dependent upon the relationship between the soils surface and subsurface waters and other environmental characteristics of the area of the Hockomock Swamp. According to the Natural Heritage & Endangered Species P[rogram, the identified species include the following: Long's bulrush ringed boghaunter dragonfly , gypsywort, Blanding's turtle, round-fruited false-loosestrife, two-flowered bladderwort, blue spotted salamander, spotted turtle, Mystic Valley amphipod, chain fern borer moth, Plymouth gentian, eastern box turtle and common barn owl.

The archaeological and historic resources located within and adjacent to the boundaries of the Hockomock Swamp ACEC are extensive. In a December 15, 1989 letter, the Massachusetts Historic Commission (MHC) states, "the potential quality and significance of the archaeological resources uin the nominated area is enormous." Further, "the sites in the vicinity of this wetland complex are known to span a period of 9,000 years and represent a highly significant group of sites which could greatly contribute to our understanding of prehistoric settlement and subsistence in

Massachusetts." Numerous historic structures are located within the ACEC. The Old Bay Road Hisltoric District iln Easton, listed on the National register of Historic Places, is located along a boundary of the ACEC. The historic resources include features throughout the Colonial, Federal and Early Industrial Periods.

The special use areas of the ACEC include undeveloped, natural areas, public recreational areas and significant scenic sites. The approximately 5,000 acres of land owned by the Commonwealth's Division of Fisheries and Wildlife (DFW) provide public access for several forms of recreation, incl.uding boating, fishing, hunting, canoeing, picnicking, hiking, birdwatching, swimming and wintertime sports. The DFW property includes recreational areas located off Lincoln Street in Norton and Taunton and off Hall Street in Raynham and Bridgewater, a boat ramp on Lake Nippenicket off Route 104 in Bridgewater, and canoe landings on the Hockomock River off Route 106 in West Bridgewater and on the Snake River off lBay Road in Norton. Vistas of Lake Nppenicket, Gushee and Hewitt Ponds in Raynham, and of the Town River and nearby farmlands in West Bridgewater are only a few of the examples of the scenic values of the area.

The resources of the Hockomock Swamp can only be summarized and highlighted here. Additional descriptions are provided in the letter of nomination and other materials submitted for the review of the nomination, and in the "Discussion of the Criteria for Designation" below.,

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

III. Procedures Leading to ACEC Designation

On June 13, 1989, a letter of nomination signed by ten citizens of the Commonwealth pursuant to 301 CMR 12.05(1)(a), was received by my office. On July 11, a petition with 1,013 signatures showing support for the nomination was received by my office. On July 26 a supplemental letter of nomination, signed by ten citizens of the Commonwealth, was received by my office. The nomination was accepted formally by letter on Sep;tember 20, and the review process began.

Correspondence regarding the nomination and review was sent by the Department of Environmental Management on my behalf to the nominating party, the six municipalities and others on October 3, and October 27, 1989. These letters and memos described the nomination, outlined the public participation process, including the scheduling of public information meetings and the public hearing, and solicited comments and suggesttions regarding the resources of the nomination and appropriate boundaries for the proposed critical area. The nine State legislators representing the area communities were sent copies of all correspondence. Public information meetings were held on October 19 in Bridgewater, October 25 Raynham and December 6 in West Bridgewater. A public hearing was held in Bridgewater on December 13, 1989. At the hearing oral testimony was received from 23 people, organizations, and municipal obards and commissions. A ten-day period for the submission of additional written comment followed the public hearing.

Notice of the acceptance of the nomination, the December 6 public information meeting, the DEcember 13 public hearing and the ten-day written comment period was published in the Taunton Gazette on Novemberf 7, the Brockton Enterprise on November 10. Numerous information articles appeared in the local and regional newspapers.

Written and oral testimony was received from numerous individuals and organizations and is on file at the offices of the Department of Environmental Mangement. Over 70 public comments were received in the course of the public participation and review process.

IV. Discussion of the Criteria for Designation

In the review process leading to the designation of a nomnated area, the Secretary must consider the factors specified in Section 12.09 of the ACEC regulations regardin g the designation of Areas of Critical Environmental Concern. 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. The strong presence of even a single factor may be sufficient for designation.

Based on the information presented in the original and supplemental nomination letters, at the public hearing, in written comment, and in agency research and review, I find the following factors relevant to the designated ACEC.

(1) Threat to the Public Health through Inappropriate Use

The value of the Hockomock Swamp resource area for public water supply is critical. The lnatural geologic, soil and vegetation features of the ACEC receive precipitation, contain it as surface water, and allow it to percolate and recharge the underlying aquifer systems. In a November 14, 1989 letter, the Raynham Center Water District states that hydrogeologic studies performed indicate that the Hockomock and Titicut Swamp areas form a unique system where precipitation easily infiltrates into and recharges the aqifer, and it estimates that the original area nominated for ACEC designation contains over one trillion gallons of water in groundwater storage. The State Department of Environmental Protection's Division of Water Supply, in letters of October 19 and November 8, 1989, state that "the natural resources in these towns are of unquestionable value", that the U.S.G.S. Hydrogeolic Atlas Series notes several areas within the proposed boundary which have the potential to support wells, and that the "evaluation of potential impacts on the entire swamp system is likely to enhance protection of valuable drinking water supplies."

The municipalities and the region have a vital interest in the protection and preservation of these aquifers for existing and future water supply. At present, Raynham has two public water supply wells and West Bridgewater has one located in the ACEC. Other potential well sites have been identified. According to a November 22, 1989 letter from the Easton Water Division, "the (Division) has done a great deal of test well work in the Hockomock Swamp and has located a potential well site." The Town of Bridgewater hasa explored potential well sites near Nunkets Ponds. In its letter of comment, the Raynham Center Watera District also states that it plans to develop one or more well sites in the Gushee/Hewitts Pond area.

The importance of the Hockomock Swamp area for public water supply is empahsized by the fact Bridgewater and Raynham have experienced water shortages in recent years and that a 1983 Massachusetts Water Resources Commission report states that West Bridgewater and Easton might face shortages. Over 90% of Raynham's water supply is provided by the two wells located at Lake Nipenicket. The vulnerability of the system to inappropriate use is demonstrated by the fact that both of these wells were closed in 1983 when unsave levels of chemicals were detected. Continued development in the Taunton River Bain and in these six municipalities points to the need to provide both an abundant supply and high quality of public water.

The same natural features that provide for replenishment of the aquifers in this area also provide for critical flood control by holding stormwater and allowing it to be discharged more slowly into the Town and Snake Rivers. Inappropriate development could threaten this critical p;ubalic health and safety function of the ACEC.

(2) Quality of the Natural Characteristics

The Hockomock Swamp resource area possesses outstanding natural resource qualities, as described above. The abundant wildlife of the Hockomock Swamp ACEC, and the presence of several rare and endangered species, are key indicators of the quality of the resource area. Similarly, the human use of the ACEC for water supply and outdoor recreation testifies to the quality of these values.

The great extent of the Hockomock, Dead,, Titicut and Little Cedar Swamps, and associated wetlands and water bodies has helped to protect its resource quality. It is important for the future quality of these resources to preserve the integrity of the Hockomock Swamp ecosystem, including the adjacent uplands.

(3) Productivity

Another factor supporting designation of the Hockomock resource area is the richness of the area in terms of hostiong a high diversity of animal and plant species. This diversity is described in the sections above. The productivity of the Hockomock Swamp resource area strongly supports ACEC designation, and should be sustained and enhanced through the shared stewardship of the resource by DFW and the six communities

(4) Uniqueness of Area

The Hockomock Swamp clearly is unique in all of Massachusetts. It is the largest vegetated freshwater wetland in Massachusetts. Its significance is enhanced by the fact that so many resource features are present in this area - wetlands, floodplains, rivers and streams, lakes and ponds, extensive wildlife and rare and endangered species and natural areas, regional aquifers, farmlands, historic and archaeological resources, and scenic views and landscapes.

The uniqueness of the habitat of the Hockomock area cannot be overstated. According to the Massachusetts Division of Fisheries and Wildlife, the resource value of this area is immense. Hockomock Swamp is the largest inland swamp in southern New England, thus providing the mass so necessary and essential to the protection and perpetuation of various plant and animal species. Its mere size is an important factor in supporting plant and animal populations. As fragmentation continues elsewhere, the 'Hock' will become one of few places in eastern Massachusetts with relatively large and contiguous habitats. The large populations of breeding animals and plants will increasingly act as a supply center from which other, smaller areas will be colonized.

As a regional open space resource, the area is also unique. No other area in the region can compare to it for the variety of hunting, fishing, boating, canoeing, hiking and nature study activities available. In addition, the Hockomock Swamp area is a part of the Massachusetts Bay Circuit, a network of parks and open spaces located in fifty cities and towns surrounding the Boston metropolitan area. The Town River serves as a potential conservation and recreation corridor heading eastward, and the abandoned railroad bed owned bythe MBTA is a potential recreation link to the north.

(5) Irreversibility of Impact

The Hockomock resource are is highly vulnerable to adverse impacts. Maintaining high water quality is important not only to preserving the surface and groundwater system as a source of public drinking water, but also for sustaining the interdependence of vegetation, wildlife and water resources. According to the Nature Conservancy's written comments regarding the nomination, "Upland groundwater recharge is a key process controlling water table levels and geochemical cycles intrinsically linking the terrestial and aquatic systems." Contaminants discharged directly or indirectly into the resource area could irreversibly damage these systems.

(6) Imminence of Threat to the Resource

The proximity of Routes 24 and 106 and Interstate 495 to the Hockomock, Dead and Titicut Swamps, Lake Nippenicket, and their associated wetlands and water bodies is a direct and imminent threat to these resources and their environmental values. Runoff from these roadways can threaten the quality and overall viability of these water resources. In addition, regional growth trends indicate that residential, commercial and industrial development will continue, and will be located in proximity to major transportation routes..

The major threats are both the potential adverse impact of major development projects and the cumulative adverse impact of all development on the resources of the Hockomock Swamp resource area. All of the resource values are likely to be threatened, from water quality and supply to wildlife habitat to archaeological and historic resources.

(7) Magnitude of Impact

The potential adverse impact from changes to the area would be highly significant. The magnitude

of potential adverse impacts is in direct relationship to the value of the resource area to the residents of the Commonwealth. This enormous value and significance has been documented in the public review of the nomination and is restated in this designation.

(8) Economic Benefits

The value of the Hockomock Swamp to the long-term water supply needs of the region is clearly evident. The protection and preservation of the water resources of the ACEC is essential to the continued health and well-being of the local communities and the economy of the region. Other economic benefits include the recreational activities and the limited farming that the area supports.

(9) Supporting Factors

The nomination has received strong public support from local residents, environmental groups, and municipal boards and commissions regarding the intrinsic value fo the area. Oral and written support of the nomination has been received from the following municipal boards and commissions: the Easton Board of Selectmen, Planning and Zoning Board, Conservation Commission, and Water Division; the Norton Conservation Commission; the Raynham Board of Selectmen and Board of Health, Planning Board, Conservation Commission, Raynham Center Water District, and North Raynham Water District; the Taunton Planning Board and Conservation Commission; and the West Bridgewater Board of Selectmen, Conservation Commission, and Historical Commission.

Many of these boards or commissions suggested additions to the general boundary shown on the map distributed for public comment. Opposing testimony was received from the Bridgewater Board of Selectmen and Industrial Commission regarding the inclusion of certain resource areas within the boundaries of the ACEC; the Bridgewater Conservation Commission wrote in support of the concept of the ACEC.

Oral and written support for the nomination was also received from the following environmental organizations; the Taunton River Watershed Alliance, the Natural Resources Trust of Easton, the Massachusetts Audubon Society, and the Nature Conservancy. Regarding area legislators, Representative William Venon from Easton wrote in support of the nomination. Seventy-three (73) oral and written comments received; sixty-nine (69) were in favor of designation.

Another indication of the value of the Hockomock Swamp is the fact that the Commonwealth's Division of Fisheries and Wildlife (DFW) has acquired approximately 5,200 acres located in all six communities and has established the Hockomock Swamp Wildlife Management Area. The need to protect and preserve this resource was identified by the Commonwealth as long ago as 1929, by the Governor's Committee on the Needs and Uses of Open Space. The land owned by the DFW forms a strong core for the long-term protection of the Hockomock Swamp ACEC.

An additional supporting factor for designation is the location of the approximately 16,800-acre critical resource area in six minicipalities. There is a strong need to develop regional coordination,

reviews and actions to protect and preserve the resources of the ACEC. The Easton Conservation Commission, in its written comments regarding the nomination, suggested that a regional committee be formed for this purpose. I strongly support and recommend that such a group be established, and that the DFW be a participant in this group.

Conclusion

This designation concludes the nomination and review process, and begin a new effort to protect and preserve this critical environmental area. The designation is intended to focus the attention and efforts of citizens, communities, environmental organizations, and state and regional agencies on the critical value of Hockomock Swamp resource area, and to encourage and support the cooperative effort needed to ensure its long-term health and viability. The significance of this ACEC requires that the highest standards of environmental review and protection be applied to actions that may affect its resources.

I am pleased to designate the Hockomock Swamp as an Area of Critical Environmental Concern. I thank the many individuals, municipal boards and commissions, organizations and state and regional agencies who participated in the review of the nomination and who presented their concerns and recommendations, and congratulate the citizens who identified the need and initiated the designation.

(*signed*) John P. DeVillars February 10, 1990
Secretary of Environmental Affairs

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