Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

May 27, 2011

Richard Sullivan, Secretary
Executive Office of Environmental Affairs
Attention: MEPA Office, Aisling O'Shea, EEA No.14346
100 Cambridge St., Suite 900
Boston, Massachusetts 02114

Alan Anacheka-Nasemann
U.S. Army Corps of Engineers, N.E. District, Regulatory
696 Virginia Road
Concord, MA 01742

Project & Document Reviewed:	*South Coast Rail Project DEIS/DEIR*
Proponent:	*Massachusetts Department of Transportation (MDOT)*
NHESP Tracking No.	*98-3735*

Dear Secretary Sullivan and Mr. Anacheka-Nasemann:

The Massachusetts Division of Fisheries & Wildlife (the "Division") has reviewed the South Coast Rail Project Draft Environmental Impact Statement/Draft Environmental Impact Report ("DEIS/DEIR") and would like to offer the following comments.

The DEIS/DEIR presents a description of the purpose and need for the project and considers a range of alternatives which differ in their ability to achieve the stated project goals, cost, and constructability. The project alternatives also vary considerably in extent of impacts to state-listed endangered species, wildlife habitat, wetlands, open space, and other environmental resources.

The Natural Heritage & Endangered Species Program ("NHESP") of the Division is responsible for implementation of the Massachusetts Endangered Species Act, M.G.L. c. 131A ("MESA"), and its implementing regulations at 321 CMR 10.00. As discussed in Section 4.15 of the DEIS/DEIR, all of the project alternatives involve some level of work in Priority Habitat of Rare Species and Estimated Habitat of Rare Wetland Wildlife. Consequently, MDOT will be required to file with the NHESP for review of the work under MESA.

The alternatives assessed in the DEIS/DEIR vary greatly as to the extent of their impact to state-listed species and their habitats, and NHESP's preliminary analysis suggests that it *may* be possible to avoid the need for a MESA Conservation & Management Permit for all but one of the proposed DEIS/DEIR alternatives (Stoughton, "straight" and Whittenton variants). However, even if the need for a MESA Conservation & Management Permit could not be completely avoided for the Attleboro and Rapid Bus alternatives (e.g., due to impacts to priority habitat associated with constructing a second track along portions of the New Bedford Main Line), any required endangered species mitigation would be modest compared to the mitigation that would be required for the Stoughton alternative.

The Stoughton alternative would use an inactive railroad right of way that bisects the Hockomock Swamp Area of Critical Environmental Concern ("ACEC"). At ±16,950 acres, this ACEC encompasses the largest freshwater wetland system in Massachusetts. The Hockomock Swamp provides habitat for numerous state-listed species and a great diversity of native plants and animals. The Stoughton alternative would also bisect the ±5,000 acre Hockomock Swamp Wildlife Management Area ("WMA") managed by the Division for the protection of wildlife and their habitats as well as for public's enjoyment and use.

As outlined in Section 4.15, the Stoughton alternative would result in the loss of state-listed species habitat and would fragment a large habitat, wetland, and open space complex, partially interrupting a migratory corridor used by state-listed species such as the Blanding's Turtle, Eastern Box Turtle, and Blue-spotted Salamander as well as by a variety of other wildlife species. In contrast, the other proposed DEIS/DEIR alternatives would run within or immediately adjacent to existing active rail lines (Attleboro) or existing highways (Rapid Bus). Although these alternatives might impact some Priority Habitat areas, the endangered species impacts and habitat fragmentation effects would be modest, especially in comparison to the Stoughton Alternative.

Endangered Species Impact Analysis

The Executive Summary, Section 4.15, and Section 3.3.3.2 of the DEIS/DEIR contain various qualitative and quantitative measures of the adverse impacts of the various alternatives on state-listed species. This includes a summary of an impact analysis completed by the NHESP, which properly concludes that the Stoughton Alternatives would have far greater impacts to state-listed species and their habitats than the Attleboro or Rapid Bus alternatives (Section 4.15.3.5, see "NHESP Scores" and "Overall Habitat Functions Lost," and "Barrier Effects" in the various tables). This conclusion is similarly reflected in the "Barrier Effect Grade" in Table 3.3-24 which assigns a grade of "F" to the Stoughton and Whittenton alternatives and a grade of "A" to the Rapid Bus and Attleboro alternatives. We note that compared to the Stoughton straight alternative, the Whittenton alternative impacts one additional area of Box Turtle Priority Habitat, but it also avoids the ecologically significant Pine Swamp Atlantic White Cedar wetland that supports a state-listed butterfly. However, because the differences in overall state-listed species impacts between these two Stoughton alternatives are small, it is the Division's opinion that they should not play a determinative role in evaluation of the relative impacts and merits of these two variants of the Stoughton alternative.

The DEIS/DEIR presents other measures for assessing the state-listed species habitat impact of the alternatives: (1) the total acreage of Priority Habitat impacted with or without existing disturbed areas included, and (2) the individual species impact assessments based on vegetation cover types. In the Division's view, these measures may not provide a meaningful basis for comparing state-listed species impacts among the various alternatives, and therefore, should not be used by the Army Corps or MEPA in determining the LEDPA or evaluating which alternatives should be carried forward. The Division believes that the calculations of total acreage of Priority Habitat impacted do not adequately take into account habitat quality or the habitat requirements of the various species, indirect effects, or barrier effects. These broader considerations are necessary to meaningfully assess the effect of a given acreage of impact on a given listed species. In addition, the NHESP disagrees with some of the assumptions of the individual species impact assessments performed by the project proponent based on the vegetation cover type assumptions shown in Table 4.15-9. As examples, (1) Wood Turtles make extensive use of USS, AG, P, and CL cover types; (2) Blue-spotted Salamanders are associated with RM, RM/AWC; (3)Long-leaved Panic Grass can be associated with W (e.g. seasonally drying pondshores), P, and other open canopy settings (e.g. swales, wet meadows, some of which are small and do not classify as wetland based on aerial photo-interpretation; and (3) the host plant for Water Willow Stem Borer is associated with a great diversity of wetland types including W (pond and lake margins), M, SS, vernal pools, and wetter sections of bogs. Finally, the Division notes that the project proponent has recently confirmed an error in the habitat impact acreage calculations related to the Whittenton alternative as presented in several locations in the DEIS/DEIR, including Tables 4.15-22 and 4.15-30. This results in an understatement of the acreage of Priority Habitat impacted by the Whittenton alternative, which actually has impact acreages roughly comparable to the Stoughton "straight" alternative.

Instead, the Division recommends that the Barrier Effect Grade shown in Table 3.3-24, and the NHESP scores and overall assessment of "Habitat Functions Lost" (see tables in Section 4.15.3.5) be used for evaluating the alternatives. Although the Division believes that this subset of the state-listed species information provided in the DEIS/DEIR is adequate for this stage of project evaluation, if the ACOE or MEPA require additional quantitative analysis of the relative state-listed species impacts of the various alternatives, we strongly recommend that the project proponent, the Army Corps and MEPA consult with the NHESP in developing or applying other state-listed species metrics.

Before a project can be eligible for a MESA Conservation & Management Permit, the Director of the Division must first determine that impacts to state-listed species and their habitats have been adequately avoided and minimized, and that the "applicant has adequately assessed alternatives to both temporary and permanent impacts to State-listed Species" (321 CMR 10.23). In addition to the habitat impact assessment discussed above, the DEIR/DEIS contains detailed information about the practicability of the various alternatives and the extent to which the various

alternatives achieve the project purposes. Although the Division will not render a final decision until after receipt of a MESA filing and/or Conservation & Management Permit application, review of public and agency comments, and completion of the MEPA process, it is the Division's opinion that the alternatives analysis presented in the DEIS/DEIR is adequate for this stage in the project review process.

The Division anticipates that one or more alternatives will be retained for further consideration and analysis in the FEIS/FEIR. As acknowledged in the DEIS/DEIR, a more detailed, finer-scale quantification of state-listed species habitat impacts will be conducted during this next phase of review. The NHESP should be consulted about methodology prior to the initiation of further habitat analysis. Similarly, the Division expects that a more detailed quantification of impacts to vernal pool habitat, general wildlife, and state-owned open space will be conducted on the alternative(s) that advance, so that a similarly detailed impact minimization and mitigation plan is included in the FEIS/FEIR.

The Division requests that the FEIR/FEIS contain a comprehensive description of how the project proponent proposes to meet MESA regulatory requirements, including the standards for authorizing a take of a state-listed species through a Conservation & Management Permit, if applicable. This should include detailed information and discussion about rare species and wildlife crossing and barrier design (e.g. culverts and bridges), as well as other impact minimization measures such as construction management to minimize turtle and salamander mortality. Similarly, the FEIR/FEIS should also thoroughly address how the alternative(s) would meet the long term "net-benefit" standard in 321 CMR 10.23 if applicable, including presenting, after consultation with the NHESP, mitigation proposals that are significantly more specific than those described in the DEIS/DEIR. Finally, we request that the EIR/EIS include detailed information about how the project proponent will mitigate impacts to vernal pools, general wildlife, and as discussed below, state-owned open space affected by the project.

Fisheries Concerns

24 named rivers and streams are potentially crossed or adjacent to the alternatives. For a list of species and fisheries survey results for each river or stream, please see Attachment 1.

Stocked trout waters are highly susceptible to changes in water quality and/or quantity such as siltation, water level fluctuations, loss of riparian habitat and alterations of the temperature regime. Therefore, the project must not in any way diminish the ability of Beaver Brook, Rattlesnake Brook or the Wading River to support stocked trout.

Best management practices for erosion and sedimentation control must be adhered to for all phases of construction to minimize potential impacts to the fisheries resources. To the greatest extent practicable, all in stream work should be conducted during low flow periods throughout the year. Times of year when stream flow is high due to extended rain and/or snow melt events should be avoided. If the projects results in the replacement of existing culverts, the culvert replacement should meet the replacement recommendations found in the "Massachusetts River and Stream Crossing Standards: Technical Guidelines, August 6, 2004" (the Standards) including, a minimum height of 6 feet, openness ratio of 0.5–0.75, natural bottom substrates through the crossing structure, and spanning 1.2 times the bank-full width to the greatest extent practical. If the project results in the placement of new culverts, the new crossing structure should, at minimum, meet the general standards for new crossing and strive for the optimum standards whenever possible including, a minimum height of 6 feet, openness ratio of 0.5–0.75, natural bottom substrates through the crossing structure, and spanning 1.2 times the bank-full width to the greatest extent practical. The Standards can be found at http://www.umass.edu/nrec/pdf_files/guidelines_river_stream_crossings.pdf. Also, if the project will alter the streambed, we request that the existing grade be maintained.

Impacts to Hockomock Wildlife Management Area & Other Open Space

In addition to the NHESP's regulatory role, the Division manages Wildlife Management Areas ("WMAs") for the benefit of the citizens of the Commonwealth. As discussed above, the Stoughton alternative would use an inactive railroad right of way that bisects the Hockomock Swamp WMA. As a result, the Stoughton alternative has the potential to adversely affect the quality of habitat within the WMA, and to impact public access and use.

More specifically, the Division notes that the alternatives analysis provided in Section 3 of the DEIS/DEIR may understate the relative adverse impact to open space for the Stoughton Alternative by focusing exclusively on acreage of protected open space impacted. Given the ecological significance of the Hockomock, and the fact that

the Stoughton Alternative will bisect the WMA resulting in significant wetland, habitat, and open space fragmentation, it is the Division's opinion that the Stoughton Alternative is likely to have a greater adverse impact to protected open space than the other alternatives, despite a potentially lower acreage impacted.

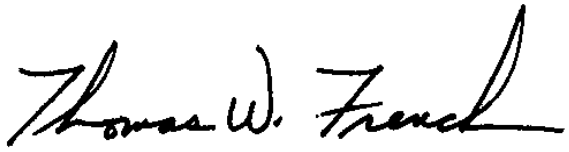
For these reasons, the Division requests that the FEIR/FEIS contain a significantly more detailed and refined analysis of the scope of open space impacts associated with the Stoughton alternative's route through the Hockomock Swamp, including any impacts or infrastructure (e.g., access roads) related to the construction or ongoing maintenance of the trestle and railbed and right-of-way, as well as set forth a detailed plan to minimize and mitigate unavoidable open space impacts.. This more detailed impact analysis and mitigation plan should be completed for any other alternative(s) carried forward in the FEIR/FEIS.

Greenhouse Gas Emissions

Given the Commonwealth's increased concern about the extent to which greenhouse gas (GHG) emissions may impact the environment and our native flora and fauna, we request that the DEIS/DEIR provide a more comprehensive analysis of the extent to which the project will impact overall GHG emissions. This should include an analysis of GHG emissions associated with construction implementation as well as production of materials and supplies (e.g. trains, rails, ties, other building supplies). Finally, the Division recommends a coarse analysis of the GHG emissions associated with increases in secondary development attributed to the rail project. Although the current analysis shows a net decrease in GHG emissions associated with the project, to the extent that a more comprehensive analysis shows that the project alternatives result in a net increase in GHG emissions over the no-build alternative, the Division recommends that any increase be offset through mitigation.

In closing, the Division commends MDOT for taking a proactive approach to addressing endangered species permitting issues and other environmental impacts to-date. This includes, but is not limited to, a continuing commitment to constructing a trestle through a portion of the Hockomock Swamp, should the Stoughton Alternative be constructed. The Division looks forward to continued consultation with the project proponent and inter-agency working group, should this project move forward, as we continue to fulfill our MESA regulatory function. If you have any questions about the MESA portion of this letter, please contact Jon Regosin, Ph.D. at (508) 389-6376. If you have any questions about the portion of this letter dealing with the Hockomock Wildlife Management Area, please contact Jason Zimmer, Southeast District Manager at (508) 759-3406. We appreciate the opportunity to comment on this project.

Sincerely,



Thomas W. French, Ph.D.
Assistant Director

Attachment (1)

cc: Kristina Egan, EOT
Lisa Standley, VHB
Richard Lehan, General Counsel, DFG
Chris Boelke, NOAA
Tim Timmerman, EPA
Ed Reiner, EPA
Maria Tur, USFWS
Nat Tipton, DCR
Liz Sorenson, ACEC, DCR
MEPA Coordinator, DEP SERO
Philip Weinberg, Lealdon Langley, & Mike Stroman, DEP

Jason Zimmer, DFW
Rich Hartley, DFW
Jack Buckley, DFW
Town of Acushnet
Town of Attleboro
Town of Berkley
Town of Boston
Town of Braintree
Town of Canton
Town of Dartmouth
Town of Dedham
Town of Dighton
Town of Easton
Town of Fairhaven
Town of Fall River
Town of Foxborough
Town of Freetown
Town of Lakeville
Town of Mansfield
Town of Mattapoisett
Town of Middleborough
Town of New Bedford
Town of Norton
Town of Norwood
Town of Quincy
Town of Raynham
Town of Rehobeth
Town of Rochester
Town of Sharon
Town of Somerset
Town of Stoughton
Town of Swansea
Town of Taunton
Town of Westport

Attachment 1. Fisheries survey results for each river or stream potentially crossed or adjacent to the alternatives.

Fisheries surveys of the Assonet River have yielded 7 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and redfin pickerel (*Esox americanus*).

Fisheries surveys of Beaver Brook have yielded 8 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus*) and yellow perch (*Perca flavescens*). Additionally, the brook is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta x Salvelinus fontinalis*).

Fisheries surveys of Cedar Swamp River have yielded 6 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), creek chubsucker (*Erimyzon oblongus*), brook trout (*Salvelinus fontinalis*), redfin pickerel (*Esox americanus americanus*) and swamp darter (*Etheostoma fusiforme*).

Fisheries surveys of the Cotley River have yielded 5 species: American eel (*Anguilla rostrata*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and swamp darter (*Etheostoma fusiforme*).

Fisheries surveys of Dam Lot Brook have yielded 4 species: American eel (*Anguilla rostrata*), chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*) and tessellated darter (*Etheostoma olmstedi*).

Fisheries surveys of Fall Brook have yielded 7 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), creek chubsucker (*Erimyzon oblongus*), golden shiner (*Notemigonus crysoleucas*) and redfin pickerel (*Esox americanus americanus*).

Fisheries surveys of Furnace Brook have yielded 3 species: American eel (*Anguilla rostrata*), largemouth bass (*Micropterus salmoides*) and tessellated darter (*Etheostoma olmstedi*).

Fisheries surveys of Hodges Brook have yielded 4 species: creek chubsucker (*Erimyzon oblongus*), fallfish (*Semotilus corporalis*), redfin pickerel (*Esox americanus americanus*) and tessellated darter (*Etheostoma olmstedi*).

Fisheries surveys of the Mill River have yielded 10 species: American eel (*Anguilla rostrata*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus americanus*) and tessellated darter (*Etheostoma olmstedi*).

Fisheries surveys of the Neponset River have yielded 14 species: American eel (*Anguilla rostrata*), black crappie (*Pomoxis nigromaculatus*), bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), common carp (*Cyprinus carpio*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus americanus*), swamp darter (*Etheostoma fusiforme*), white perch (*Morone americana*), white sucker (*Catastomus commersoni*) and yellow perch (*Perca flavescens*).

Fisheries surveys of the Pine Swamp Brook have yielded 4 species: brown bullhead (*Ameiurus nebulosus*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and redfin pickerel (*Esox americanus americanus*).

Fisheries surveys of the Queset Brook have yielded 3 species: American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*) and tessellated darter (*Etheostoma olmstedi*).

Fisheries surveys of the Rattlesnake Brook have yielded 4 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*), brown bullhead (*Ameiurus nebulosus*) and redfin pickerel (*Esox americanus americanus*). Additionally, the brook is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta x Salvelinus fontinalis*).

The Taunton River supports a wide variety of warm and estuarine fish species. Fisheries surveys have yielded 28 species: alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*), Atlantic menhaden (*Brevortia tyrannus*), banded killifish (*Fundulus diaphanous*), black crappie (*Pomoxis nigromaculatus*), blacknose dace (*Rhinichthys atratulus*), blueback herring (*Alosa aestivalis*), bluegill (*Lepomis macrochirus*), bluefish (*Pomatomus saltatrix*), brown bullhead (*Ameiurus nebulosus*), carp (*Cyprinus carpio*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), creek chubsucker (*Erimyzon oblongus*), crevalle jack (*Caranx hippos*), fallfish (*Semotilus corporalis*), gizzard shad (*Dorosoma cepedianum*), golden shiner (*Notemigonus crysoleucas*), inland silverside (*Menidia beryllina*), largemouth bass (*Micropterus salmoides*), mummichog (*Fundulus heteroclitus*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus*), striped bass (*Morone saxatilis*), tessellated darter (*Etheostoma olmstedi*), white perch (*Morone americana*), white sucker (*Catastomus commersoni*) and yellow perch (*Perca flavescens*).

Fisheries surveys of the Three Mile River have yielded 8 species: bluegill (*Lepomis macrochirus*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus americanus*), tessellated darter (*Etheostoma olmstedi*) and
yellow perch (*Perca flavescens*).

Fisheries surveys of the Town River have yielded 7 species: bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), chain pickerel (*Esox niger*), golden shiner (*Notemigonus crysoleucas*), pumpkinseed (*Lepomis gibbosus*), white sucker (*Catastomus commersoni*) and yellow perch (*Perca flavescens*).

The Wading River supports a wide variety of fish species. Fisheries surveys have yielded 14 species: American eel (*Anguilla rostrata*), banded sunfish (*Enneacanthus obesus*),
bluegill (*Lepomis macrochirus*), brown bullhead (*Ameiurus nebulosus*), brown trout (*Salmo trutta*), chain pickerel (*Esox niger*), common shiner (*Notropis cornutus*), creek chubsucker (*Erimyzon oblongus*), fallfish (*Semotilus corporalis*), golden shiner (*Notemigonus crysoleucas*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), redfin pickerel (*Esox americanus*) and white sucker (*Catastomus commersoni*). Additionally, the river is annually stocked in the spring with brook trout (*Salvelinus fontinalis*), brown trout, rainbow trout (*Oncorhynchus mykiss*) and/or tiger trout (*Salmo trutta x Salvelinus fontinalis*).

Fisheries surveys of Whitman Brook have yielded 4 species: chain pickerel (*Esox niger*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*) and tessellated darter (*Etheostoma olmstedi*).

We currently have no fisheries survey information for Black Brook, the Blue Hill River, Lovett Brook, Steep Brook or Terry Brook.