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Science Derailed

The Hockomock Swamp Heads
for Ecological Trainwreck

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About PEER

Public Employees for Environmental Responsibility (PEER) is an association of resource managers, scientists and biologists, law enforcement officials and other government professionals committed to upholding the public trust through responsible management of the nation's environment and natural resources.

PEER advocates sustainable management of public resources, promotes enforcement of environmental protection laws, and seeks to be a catalyst for supporting professional integrity and promoting environmental ethics in government agencies.

PEER provides public employees committed to ecologically responsible management with a credible voice for expressing their concerns.

PEER's objectives are to:

1. **Organize** a strong base of support among employees with local, state and federal resource management agencies;
2. **Monitor** land management and environmental protection agencies;
3. **Inform** policymakers and the public about substantive issues of concern to PEER members; and;
4. **Defend** and strengthen the legal rights of public employees who speak out about issues of environmental management.

PEER recognizes the invaluable role that government employees play as defenders of the environment and stewards of our national resources. PEER supports resource professionals who advocate environmental protection in a responsible professional manner.

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About This Report

This PEER white paper is a case study in how politics derailed science in the routing of a rail line through one of the most environmentally sensitive areas in the Commonwealth of Massachusetts.

PEER became involved with this issue at the request of public agency scientists and reviewers who were concerned about the extent of political interference and unsure of their own ability to stop this scientifically and fiscally unsound project. These agency specialists come from the array of federal, state and local agencies charged with permit approval or other environmental reviews of this project.

While mass transit is generally considered an environmentally benign means of transportation, this particular transit project produces none of the expected air quality benefits while creating widespread ecological havoc in the largest remaining freshwater wetland in Massachusetts, the Hockomock Swamp.

This white paper is an attempt to ventilate the critical issues that have been excised from or distorted in official Massachusetts Bay Transportation Author-

ity decision documents. The paper also traces the murky origins of the routing decision that selected the most environmentally damaging alternative and rejected other, less damaging routes with high projected train ridership.

The white paper also recommends next steps not only for the future of this project but also for the overall review process so that future environmental derailments are less likely to occur.

In order to avoid distracting from the message, the public employee messengers behind this report have chosen to remain anonymous. As all the material cited within is on the public record, they believe that the facts presented speak for themselves.

PEER is proud to assist conscientious public servants who have dedicated their careers to the protection of our natural resources and the faithful execution of our environmental laws.

Jeff Ruch
PEER Executive Director

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Executive Summary

The Massachusetts Bay Transportation Authority (MBTA) is proposing to extend the existing Boston-to-Stoughton, Massachusetts rail line south to New Bedford and Fall River. While the goal of connecting New Bedford and Fall River to Boston is commendable, the MBTA is proposing to construct the rail line through the largest freshwater wetland in Massachusetts, the Hockomock Swamp.

The Hockomock Swamp, affectionately referred to by many as the “Hock,” is a stunning and irreplaceable habitat that is protected by both state and federal law. If the MBTA bisects the Hock with its proposed rail line, the value of the Hock will be permanently damaged.

Apart from its effect on the Hockomock Swamp, the project would not deliver the one environmental benefit expected of mass transit—improved air quality from removing polluting cars off the road. The diesel trains slated by MBTA to ply the route are not the most air-friendly way to move commuters. In fact, an independent review indicates that the proposed New Bedford/Fall River trains **will pollute the air more than the combined pollution from all the cars they take off the roads.**

Then there is the issue of ridership. Routing a train through a swamp is not designed to maximize passenger pick-up along the way. In fact, according to MBTA estimates, maximum ridership from the New Bedford/Fall River area to Boston via the “Stoughton Alternative” (through the Hock) is projected at just 2953 people.

At an estimated cost of \$669 million to build, and \$17 million annually to operate, MBTA will be spending over \$226,000 *per person* to construct this rail line, and an additional \$5700 per person annually to maintain the line. At that rate, **it would be cheaper to limousine all the New Bedford/Fall River**

commuters to Boston than to build the rail. Not surprisingly, MBTA is expected to lose money as well, with an estimated annual operating deficit of nearly \$10 million per year.

MBTA also **did not consider the possibility of an accident or spill** in the Hockomock. In order to minimize the already enormous environmental impacts, MBTA is proposing a single track through the wetland. With no roads going into the area, and no places for a helicopter to land, a derailment, medical emergency, or other mishap could prove disastrous not only for the commuters aboard the trains but also for the ecology of the Hock.

And there is no doubt that environmental harm just from normal operation to the Hock will be enormous:

- ▶ The proposed right-of-way is home to an astonishing diversity of rare species: spotted turtles lay their eggs in the dirt path, and blue-spotted salamanders and four-toed salamanders migrate across the rail route;
- ▶ No less than thirty vernal, or seasonal, pools about the right-of-way, many of them within feet of where the proposed tracks would be laid; and
- ▶ MBTA also neglected to assess the impacts on drinking water. The Town of Easton is currently served by six active wells, with one additional well as emergency reserve. Three of the active wells and the untapped reserve are extremely close to the MBTA’s right of way. Each of Easton’s wells are gravel-packed, and highly susceptible to contamination.

For more than two years many of these same issues have been repeatedly raised to MBTA by federal and state review agencies but MBTA chose to ignore their warnings. When MBTA released the required supplemental Draft Environmental Impact Report in July of

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2000, the report was not only still fraught with errors but now MBTA actually claimed that the Stoughton Alternative was the only alternative available, as the previously preferred Attleboro Alternative had suddenly become impracticable.

From that point to the present MBTA and its consultants have engaged in their own form of cognitive dissonance, trying to disprove known facts, distorting previously published figures and, in one bizarre incident, killing 48 rare blue spotted salamanders captured in the Hock and then misplacing the bodies. This white paper details how MBTA has fabricated “scientific” studies to reach pre-determined outcomes, has failed to conduct the endangered species and water quality studies necessary to support its favored alternatives, and more disturbing, has fudged its own ridership studies, economic analyses, and wetlands reports to justify favoring the Stoughton Alternative straight through the middle of the Hockomock Swamp.

As an agency of the Commonwealth, MBTA is employing the political clout of Bob Durand, the Environmental Affairs Secretary, to help railroad this project through the state permitting process. Federal and local permits will also be required and, unfortunately, employee reports of state pressure are surfacing.

Even at this date, alternate routes remain available but MBTA steadfastly refuses to consider them. Like an onion being peeled layer by layer, it is becoming clearer and clearer with each new obfuscation and distortion that MBTA’s decision to construct the rail line through the Hockomock is based purely on politics and not on the facts or the law.

Finally, this white paper recommends next steps in untangling this mess and preventing future boondoggles financed out of the pocketbooks of the taxpayers of the Commonwealth from threatening the few pristine pockets remaining in Massachusetts.

I. A Unique and Irreplaceable Ecosystem

At nearly 17,000 pristine acres, the Hockomock Swamp is the largest freshwater wetland in Massachusetts. Achingly beautiful and wildly mysterious, the Hockomock is the legendary home to significant characters in Native American folklore, including giant prehistoric thunderbirds and upright, Bigfoot-like primates.

Less magical, but equally rare, a diverse array of 17 state-listed species continue to depend on the swamp's vast network of slow moving rivers, clear ponds and grassy wetlands for food and shelter. The ecological significance of the Hockomock is recognized by a variety of state and federal bodies. It is designated as an Area of Critical Environmental Concern (ACEC) by the Commonwealth of Massachusetts, a priority wetland by the U.S. Environmental Protection Agency (EPA), and "a resource of national importance" by The Nature Conservancy.

Today, this rare wetland is in danger: the Massachusetts Bay Transportation Authority (MBTA), a quasi-governmental body administered by the state, proposes to run a commuter rail line straight through the middle of the swamp in order to connect Boston with the suburbs of New Bedford and Fall River. The MBTA proposes to construct this rail line on an aban-

doned right-of-way that has not been used by trains since 1960. All that is left of this right-of-way is a flooded dirt path through the vast forest.

MBTA's proposed alternative would run a new line through 3.2 miles of the Hockomock, effectively bisecting it and fragmenting the surrounding forest. The



TRAILS TO RAILS: MBTA's right of way through the pristine swamp.

proposed train would also cross 24 surface waters, and pass by three of the town of Easton's highest quality drinking water wells.

The Hockomock, named by the Wampanoag tribe, has been extolled by many scientists, naturalists, and government agencies. See Side Box.

Apparently this ecological jewel means little to the MBTA and several members of the Massachusetts legislature, which has discarded alternate routes in order to drive the rail line through the wetland.

A Place Like No Other:

What the experts say about the Hockomock

- ▶ The current Secretary of the Commonwealth's Executive Office of Environmental Affairs (EOEA), Bob Durand, stated, "The Hockomock Swamp is a little known wilderness in the heart of southeastern Massachusetts, and one of the largest and most significant freshwater wetlands in the state, which has remained largely untouched since colonial days."
- ▶ In his designation of the Hockomock as an ACEC, former Secretary John DeVillars wrote, "Hockomock Swamp clearly is unique in all of Massachusetts...[its] uniqueness cannot be overstated...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....as fragmentation occurs elsewhere, the 'Hock' will become one of the few places in eastern Massachusetts with relatively large and contiguous habitat."
- ▶ The Nature Conservancy has identified Hockomock Swamp as "a resource of national importance based on its relatively undisturbed natural conditions. This area has been designated a regional priority ... the Swamp is among the most important wetland complexes remaining in the North Atlantic Coast Eco-region stretching from Delaware to Maine."
- ▶ The Massachusetts Department of Environmental Management states, "The Hockomock Swamp was designated as ACEC ... because ... there is no other ecological area like it in southeastern Massachusetts, or in the rest of the Commonwealth. It is impossible to overemphasize the uniqueness or ecological value of the area....the Hockomock Swamp is one of the premiere ACECs designated over the past 25 years."

II. An Ecological Trainwreck: *Assessing the Impacts*

MBTAs preferred train route, known as the Stoughton alternative, would run a rail line straight through the middle of the Hockomock, forever altering this pristine ecosystem. Under state and federal guidelines, such a major project requires significant studies of potential adverse impacts, but as we shall explore in chapter 4, the impact studies were themselves impacted by political interference, incompetent contractors, and a rush to reach a pre-determined decision. It has been left up to the public to document the present quality of the region, and to estimate the impacts of the Stoughton Alternative.

Threatened Species

The right-of-way under consideration is home to an astonishing diversity of rare species: spotted turtles lay their eggs in the dirt path, and blue-spotted salamanders and four-toed salamanders migrate across the right-of-way to use the many vernal pools adjacent to the abandoned rail bed.



Vernal Pool Association, Reading, MA

DON'T TREAD ON ME: *Rare Blue spotted salamanders are threatened by the rail proposal.*

No less than thirty vernal, or seasonal, pools about the abandoned right-of-way, many of them within feet of where

the proposed tracks would be laid. If built, the 36 trains that will run through the swamp each day will crush these rare animals, block pathways for migrating creatures, and severely degrade the vernal pool habitat with noise, lights, vibrations, and water pollution.

In its reports, MBTA alleges that "commuter rail service will not adversely affect surface or groundwater

water quality" in the Hockomock, yet the agency presents no data to substantiate this broad claim. In April, 2002, PEER conducted an analysis that shows that vernal pools adjacent to active rail lines have significantly lower levels of dissolved oxygen than do pools in the currently-pristine Hockomock. Dissolved oxygen is necessary to sustain aquatic life, and even small changes in oxygen composition can be detrimental to a population. [See side bar]

Poisoned Wells

MBTA also neglected to assess the impacts of rail alternatives on drinking water. The Town of Easton is currently served by six active wells, and one additional well sits as an emergency reserve. Three of the active wells are extremely close to the MBTA's abandoned right of way, as is the untapped reserve, which an engineering firm determined in June of 2002 to be crucial to "Easton's ability to meet future water demands," adding that "It could be a serious loss if MBTA rail service preempted its use." Each of Easton's wells are gravel-packed, and have the potential to quickly transmit contamination from surrounding areas into the well water.

Vital to the town's current water supply, Well Number 1 lies roughly 125 meters from the proposed rail line. Wetlands and surface waters adjacent to the right of way are also connected to the well. Over the past two years, citizens in Easton have documented how Well Number 1 has drawn in enough water during dry summer months to actually reverse the flow of Quenset Brook-more than 625 meters away.

If Well Number 1 is able to reverse the flow of a stream from such a distance, there is no doubt that contaminated water immediately adjacent to the rail line will also find its way into the well. Studies indicate that it only takes one quart of oil to contaminate 2 million gallons of drinking water. It is inevitable that contami-

nants from construction and operation of the proposed New Bedford/Fall River rail line will contaminate



DIRTY WATER: Wells in Easton are threatened by the Stoughton Alternative

Easton's drinking water supply. However, this impact was simply not addressed by MBTA in its analysis of the Stoughton alternative.

Poisoned Air

Shoddy science from MBTA is not limited to endangered species and water quality studies. Contrary to popular belief, diesel trains are not necessarily the most air-friendly way to move commuters. Kevin O'Keefe of the consulting firm Technical Resources for Environmental Quality, Inc. (TREQ) states that:¹

- ▶ The proposed New Bedford/Fall River trains will pollute the air *more than the combined pollution from all the cars they take off the roads*. O'Keefe believes this will occur for several reasons: car emissions are more tightly regulated than locomotive emissions, and the proposed New Bedford/Fall River line will travel too far to service too few commuters (this is evidenced by the astronomically high per-passenger subsidies that would be required for the New Bedford/Fall River passengers outlined in Chapter 3).
- ▶ Diesel locomotives result in far more nitrogen oxides (NO_x) being emitted (in gaseous form and as particulate matter) than other forms of transportation. Moreover, the sulfur present in diesel fuel will produce sulfur oxide gases (SO_x). These emissions have serious public health repercussions (i.e., increased levels of respiratory illness and death).
- ▶ For identical numbers of commuters moved, MBTA diesel trains *emit two to five times* the amount of NO_x, SO_x, and particulate matter as diesel buses, and or five to ten times as much as

1.2 passenger automobiles. Moreover, any reduction in highway congestion will quickly be replaced by other drivers, induced by the temporary relatively lighter traffic. Specifically, TREQ estimates that previous levels of highway congestion will be restored within one year of completion of the rail project.

- ▶ Despite the fact that the MBTA claims that construction of the rail line will result in air quality benefits, TREQ's analysis showed that "the combined VOC and NO_x (ozone precursor) emissions of the MBTA commuter rail expansion proposals are more than five times greater than the total VOC and NO_x emissions of all automobiles (even temporarily) diverted from use." In fact, MBTA represented that there will be a permanent reduction of approximately six million pounds of air pollutants annually. TREQ found precisely the opposite: there will be an annual *increase* of six million pounds of emissions.

TREQ concludes that the MBTA's air quality studies grossly misstated the impacts of the Stoughton alternative across the board:

The environmental impact reports or statements for MBTA diesel project proposals have employed multiple invalid methods, in various combinations, all of which have resulted in false representations of air-quality benefits or misrepresentations of actual locomotive emissions.... air quality analyses presented in the [New Bedford/Fall River] Draft Environmental Impact Report (1999), and Supplemental Draft EIR (2000) ignore regional, local and cumulative diesel emissions of most serious public health concern - sulfur oxides and sulfur and carbon-based respirable particulates. These reports fail to present or evaluate any local or cumulative emissions of diesel locomotives. MBTA locomotive fuel consumption has been misrepresented at 2 gallons per mile (DEIR), and at 3 gallons per mile (SDEIR), thus understating actual regional emissions of the diesel locomotives proposed. Emissions of automobiles initially diverted are overstated by about 50% through the invalid method of apply-



Doing it Ourselves: *PEER's Water Quality Report*

In April 2002, PEER conducted the water quality analysis that MBTA neglected in its hasty ecological studies, comparing vernal pools in the Hockomock to similar pools near existing rail lines. Vernal pools are temporary pools of fresh water that provide critical habitat to certain amphibians, reptiles, and invertebrates. Vernal pools typically fill with rain water and snow melt in the spring, and dry up during the late summer.

The volunteers examined water quality in six vernal pools: three adjacent to the active MBTA Attleboro rail line in Sharon, Massachusetts, and three adjacent to the abandoned MBTA right-of-way in the Hockomock Swamp in Easton, Massachusetts. The analysis tested the MBTA's hypotheses that there are no adverse impacts associated with an active rail line.

The results show that the dissolved oxygen in the vernal pools adjacent to the active rail line was

significantly lower than similar pools in the Hockomock. Dissolved oxygen is necessary to support aquatic life; therefore, low dissolved oxygen is extremely detrimental to animals found in vernal pools.



GOING INTO HOCK: *Dr. Donald Bennett leads a team of citizen scientists to test water quality in the swamp's vernal pools.*

The statistical analysis also showed that the difference in dissolved oxygen between the two sites is not due to any other factors examined (i.e., water temperature, distance to rail bed, depth of the vernal pool, or pH). The presence of the rail line itself is the most likely culprit.

This study indicates that an active train line can adversely impact water quality in vernal pools. Given this, it is critical that the MBTA prove that its proposed rail line will not adversely impact the vernal pools and other waters and wetlands of the Hockomock before the environmental review process goes any further.

ing uncorrected Mobile5 emissions modeling to an average 43 mile commuter trip. The effect is to assume 4 cold catalytic converter starts for each one-way commuter automobile trip, while at the same time assuming only one such cold start for three commuter rail station trips. Induced highway use is ignored, and all automobile diversion is invalidly assumed to be permanent.

TREQ suggests that "allowing longer distances for automobile or bus access to fewer suburban commuter-rail stations could dramatically reduce air pollution levels, transit costs, and the environmental intrusion

upon local communities." Of course, the ultimate solution to the problem is to encourage local economic development and reduced commuting. Imagine how much local economic development even half of the \$669 million price tag for the rail would buy us.

Emergency Management

If the proposed rail line is built through the Hockomock, the potential impacts from derailments, train wrecks, or fire and rescue operations could be drastic. Comment letters sent to the MBTA after release of the SDEIR questioned how MBTA would handle hazardous material spills and emergency response situations. MBTA

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blithely responded, “The MBTA believes that it is unlikely that there would be a spill of hazardous materials. The MBTA trains are well-maintained and monitored for leaks....[t]he MBTA will coordinate with local police, fire and public works departments to ... develop an emergency response program ... In addition, the MBTA has developed a training program and material used to train fire and police departments throughout the MBTA area annually. Mock disaster drills are staged by the MBTA at least once per year for training purposes.”

But MBTA did not consider the possibility of an accident or spill in the Hockomock. In order to minimize the already enormous environmental impacts associated with a railroad through the Hockomock, the MBTA is proposing a single track through the wetland. With no roads going into the area, and no places for a helicopter to land, a derailment, medical emergency, or other disaster could be extremely detrimental not only to the environment, but also to the commuters aboard the trains.



III. How Do You Spell Boondoggle?

A cursory analysis of the most obvious environmental and health impacts of a rail line through the Hockomock brought up troubling conclusions. The fact that MBTA may have employed deceptive tactics to promote its preferred alternative is particularly disturbing. Sadly, similar problems plague the project’s economic studies as well.

Limousine Economics

The Massachusetts transit system is the fourth largest in the country. However, as a May 2, 2002 memo from the MBTA Executive Director Paul Regan spells out, the agency is dealing with an “enormous debt ... that currently consumes 31% of all available revenues.” This estimate does not include the additional debt that will be incurred by the proposed New Bedford/Fall River rail line.

In April of 2002, the Pioneer Institute for Public Policy Research partnered with the Massachusetts Taxpayers Foundation to conduct a study on MBTA’s capital spending. The Pioneer Institute concluded that “the MBTA cannot afford any of its planned expansion projects without additional state funding,” or “without sacrificing critical maintenance and modernization of the existing system or incurring an even higher mountain of debt and undermining its long-term finances.”

On August 10, 2002, Governor Swift approved a modification in a transportation bond bill that allows the Commonwealth of Massachusetts to pay for MBTA’s debt service on bonding for the rail project. The MBTA finally admitted that it could not afford the Stoughton alternative now or in the future, and the Commonwealth stepped in to pay the tab.

If we accept MBTA’s cost estimates, MBTA’s preferred route will cost \$669 million to build, and \$17 million annually to operate. The Commonwealth is willing

to spend this vast amount of money to move, at most, 2953 people from the New Bedford/Fall River area to Boston.² In other words, MBTA will be spending over \$226,000 *per person* to construct this rail line, and an additional \$5700 *per person* annually to maintain the line.

Using these figures, it would be cheaper to limousine the New Bedford/Fall River commuters to Boston instead of building the rail.

If the round-trip rail tickets cost \$10/day, and commuters use the rail line 240 days out of the year (an estimate of working days in a calendar year), the MBTA will collect \$7,087,200 per year. This leaves an annual deficit of \$9,912,800 per year. This project is a losing proposition. Not only will the Stoughton alternative destroy irreplaceable natural resources, it will also drain the coffers of the Commonwealth.

TABLE A: The skyrocketing costs of the Stoughton Alternative
(MBTA estimates)

YEAR	COST
1995	\$196,000,000
1996	\$220,000,000
1997	\$440,000,000
2001	\$610,000,000
2002	\$669,000,000

Table A details the ever-increasing cost estimates to construct the Stoughton alternative. Given past trends, it is unlikely that the costs will be capped at \$669 million. Like the Big Dig, this project appears poised for never-ending cost overruns.

IV. How We Got Here: *A Murky Beginning*

The idea of a rail line through the Hockomock Swamp met early and vociferous condemnation. When MBTA proposed the Stoughton alternative in a 1990 feasibility study, the concept was quickly swatted down by a state planning body. The Joint Transportation Planning Group of the Southeastern Municipal Planning Organization (JTPG) bluntly criticized MBTA for not exploring options outside the Hockomock. JTPG commented that the project seemed to be driven by representatives from Fall River hoping to attract tourists from Boston, and noted that MBTA officials could find “no reliable evidence for economic effects other than the effects on the housing market.” The planning body concluded that the benefits of such a commuter rail were “insignificant.” MBTA was sent back to the drawing board to create a more thorough analysis.

Five years later, the MBTA submitted an Environmental Notification Form (ENF) on the project to the Executive Office of Environmental Affairs (EOEA), the agency that oversees large state projects impacting the environment. The ENF identified four possible alignments for the new rail (three of which were named after the towns from which the rail would begin): the Attleboro Alternative, the Stoughton Alternative, the Middleboro Alternative, and enhanced bus.

In this document, the preferred route for the commuter line was known as the Attleboro Alternative. The Attleboro Alternative avoided the Hockomock, and MBTA sang the praises of its high ridership, reasonable costs, competitive travel times, and, significantly, *lower environmental impacts* than the Stoughton Alternative.

Not only did the MBTA’s ENF recommend pursuing the Attleboro Alternative, but it repeatedly pointed out the difficulties and severe environmental impacts associated with the Stoughton Alternative. The MBTA stated:

The Stoughton Alternative would have substantial environmental impacts....the abandoned right of way passes through an extensive area of the Hockomock Swamp Area of Critical Environmental Concern (ACEC), where portions of the former right of way have subsided, become flooded, and now support wetland vegetation. Alteration of wetlands in the ACEC would be required for reconstruction of the railbed. This reconstruction would also affect wildlife in the ACEC...The abandoned right of way has become vegetated with three to four inch diameter trees, which provide continuous vegetative cover within the forested area. Removal of these trees will create a linear gap in the forest cover, which would result in forest fragmentation and reduce the available habitat area for many sensitive wildlife species....

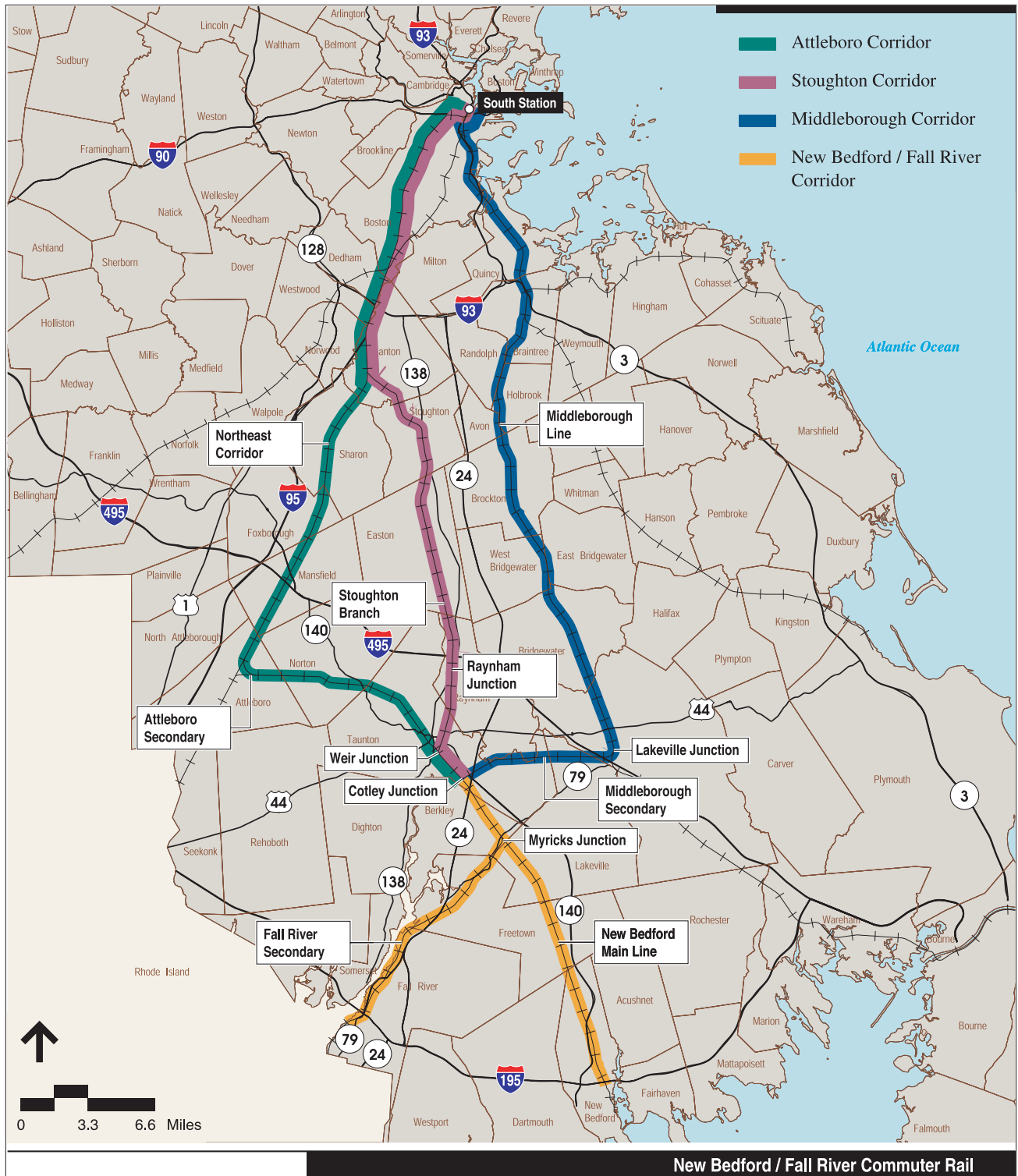
Due in large part to these overwhelming environmental concerns, the MBTA settled on the Attleboro Alternative as its first choice.

Railroading the process: *Legislators step in*

The Attleboro choice raised the ire of citizens in the affected communities of Attleboro, Norton, and Taunton, who feared that a train line would interfere with local traffic and decrease property values of houses along the line. Soon the region’s influential congressmen were weighing in on the issue. In August of 1996, the Legislature essentially overruled MBTA’s ENF by ordering the MBTA to “rethink” their study and review other alternatives for rail construction.

Later, in a discussion of the history of the proposed New Bedford/Fall River rail line, MBTA admitted that these communities raised “a number of local concerns” and that “these concerns were also expressed by state legislators ... *in response, the MBTA stopped work on the project in January of 1996*” (emphasis added). The legislature had spoken, and MBTA re-





3 ALTERNATIVES: Only the Stoughton route goes through the middle of the Hockomock.

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ceived the message loud and clear: the Attleboro Alternative, while less environmentally damaging, would be less of a political headache.

Responding to the legislative orders, the MBTA and its new consultant, Vanasse Hangen Brustlin, Inc. (VHB), revised its assessment in a report entitled “New Bedford/Fall River Commuter Rail Project—Environmental Assessment of the Attleboro, Stoughton and Middleborough Lines: Expanded Alternatives Analysis Report for the Massachusetts State Legislature.” For the first time, MBTA claimed that the Attleboro alternative would be very environmentally damaging. The report stated that the Attleboro route would require the filling of 5.36 acres of wetland, and require a variance from the Massachusetts Wetlands Protection Act.

The revised report goes on to claim that the Stoughton alternative would require only 2 acres of wetland loss. Admittedly, this loss would also require a wetlands variance, but the report quickly minimized the significance, stating that the “limited functions and values [of the wetlands to be filled] would argue in favor of a variance.”

The report continues to downplay MBTA’s original findings of environmental harm from the Stoughton alternative. “Construction of the commuter rail through [the Hockomock Swamp] would result in the direct loss of wildlife habitat and travel corridors provided by the abandoned elevated railbed which has become partially *vegetated with upland ... species*. The loss of *this upland wildlife* habitat within the wetland system could have a minor effect on those wetland species which require dry upland soils for breeding ...nesting, feeding, or shelter” (emphasis added).

“Upland” habitat refers to plants that occur in dry areas. In other words, MBTA had now determined that key parts of the Hockomock were not wetlands at all. This turnaround was slipped into the revised report without discussion, and dramatically lowered

the wetlands impacts associated with the Stoughton Alternative. Moreover, what MBTA once considered “substantial environmental impacts” suddenly morphed into what VHB termed “minor effect[s].”

VHB also dismissed harm to the 13 rare and endangered species then known to exist in the Hockomock at the time (there are now 17 state-listed species documented), stating that, “Although their identities are not known, it is likely that most or all of these species are wetland-dependent and do not occur on the elevated railbed.” VHB made this broad statement without any scientific corroboration. In fact, work done by citizens later revealed that several of the rare species would indeed migrate across the right of way. The state-listed spotted turtle was even found to lay its eggs in the abandoned railbed.

After deliberately altering scientific conclusions and consciously avoiding the facts, MBTA and VHB stated in the 1997 report that the Attleboro alternative would “result in the highest impacts to environmental resources,” thus giving them an excuse to eliminate the Attleboro alternative from consideration.

But apparently some state representatives were not going to take any chances. In October of 1997, 16 legislators wrote to then-Governor Paul Cellucci, expressing their interest in the project. Their letter went on to say:

...we are happy to inform you of an agreement reached by the undersigned legislators on a choice for the rail route to Taunton, Fall River and New Bedford. As you can see from the enclosed legislative language, for which we shall seek enactment, the so-called “Attleboro Route” is specifically excluded once and for all. The final path which we are supporting is the so-called ‘Stoughton Route.’

Not surprisingly, *none* of the 16 legislators represented any of the towns affected by the Stoughton Alternative. The language of the bill read:

...the MBTA is directed to cease all attempts to provide this service by way of the "Attleboro Route, so called." Section 2J: 6005-1962 is hereby amended as follows: For the extension of the commuter rail service to New Bedford and Fall River....the funds provided by this section shall be used for engineering and environmental studies and for permitting and constructing the Stoughton Extension through the municipalities of Stoughton, Easton, Raynham, and Taunton.

By attempting to pass this bill, the Massachusetts legislators were effectively circumventing state environmental laws. The Massachusetts Environmental Protection Act (MEPA) requires that state agencies study the environmental consequences of their proposed actions. MEPA also mandates that state agencies take all possible measures to avoid, minimize, and mitigate damage to the environment. Because the MEPA process is public and encourages comments from the regulatory agencies and citizens affected by a proposed action, MEPA review is required to occur *before* permitting agencies make any decisions. This process ensures that permitting agencies will fully understand the consequences of their actions. By mandating that the MBTA construct one specific alternative, the Massachusetts legislature precluded any possibility of an unbiased alternatives analysis.

This attempt to sidestep a democratic process was not lost on the Environmental Protection Agency. In an October 24, 1997 letter from EPA to Senator William Keating, the federal agency stated that they were "extremely alarmed at the surreptitious nature in which this proposed language emerged from the Transportation Committee...." The outcry helped galvanize other members of the legislature, several of whom attempted to remove the offensive language from the bill. By 1998, a compromise still had not been reached. In June of that year, the Town of Easton suggested that, at a minimum, amendments be inserted which required that no more than 20% of the money be expended until a favorable EIR had been issued. Presumably, this would ensure that money

would not be spent on an alternative that was more environmentally damaging, a test which the Stoughton Alternative clearly did not meet. Some of Easton's suggested language made it into the bill, but on August 14, 1998, the bill failed to pass and was sent to conference committee.

In July of 1999, the MBTA released its Draft Environmental Impact Report (DEIR). The DEIR vastly underestimated the wetland impacts associated with the Stoughton Alternative; in fact, MBTA claimed that there would be *no* wetland impacts in the Hockomock itself, despite earlier reports which stated that portions of the right of way upon which the rail line would be built was itself a wetlands. In the conclusion of the DEIR, MBTA reiterated that the Stoughton Alternative was now its preferred alternative.

Once again, environmental regulators took MBTA to task for their questionable science. Environmental Affairs Secretary Robert Durand was bombarded by comments from state and federal agencies. The U.S. EPA stated, "The seriousness of the impacts and the apparent availability of less environmentally damaging alternatives that meet the project purpose are likely to make permitting the Stoughton alternative under Section 404 of the Clean Water Act difficult." EPA went on to say that the MBTA also faced the prospect of getting a permit denied because the impacts to the Hockomock would "cause or contribute to significant degradation of waters of the U.S." The Massachusetts Division of Fisheries and Wildlife (DFW) stated "the project has adverse impacts to both upland and wetland habitats of state-listed rare species ... the project, as described in the DEIR, does not appear to meet" the requirements of either the Wetlands Protection Act or the Massachusetts Endangered Species Act. In fact, DFW stated that it was "unlikely" the MBTA would be able to obtain the necessary permits for the Stoughton alternative.

Secretary Durand could hardly ignore the blatant errors in the DEIR and the comments from his own agencies. On November 15, 1999, the Secretary, determined that the DEIR was inadequate, and ordered the MBTA

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to submit a Supplemental DEIR. In his strongly worded missive, Durand stated that the Hockomock Swamp was “one of the largest and most ecologically significant freshwater wetlands in the Commonwealth.” Durand said, “There is serious concern....that the DEIR may have significantly underestimated the extent of wetland alteration caused by the Stoughton Alternative....” He also stated that, “I must conclude that both alternatives [Attleboro and Stoughton] are feasible” and that the “environmental impacts of the Stoughton Alternative are, on balance, greater than those of the other alternatives, including Attleboro.”

But the political gears were already turning. Unconcerned with the science behind the proposal, the Massachusetts Legislature approved the transportation bond on June 30th, 2000. The bond contained the following language:

The Massachusetts Bay Transportation Authority shall use an extension of the Stoughton commuter rail route through the municipalities of Stoughton, Easton, Raynham and Taunton in order to provide commuter rail service to New Bedford and Fall River.

In an apparent attempt to placate the citizens in the affected communities, the legislature included the following language:

The Massachusetts Bay Transportation Authority shall develop a proposed mitigation plan to maintain the same per cent valuation of the average property value of like properties in the municipalities of Easton, Taunton and Raynham for property owners in said municipalities whose property abuts the commuter rail line extension to New Bedford and Fall River and is taken for such purpose or is not taken but is adversely affected by the commuter rail line extension...

However, this promise of mitigation for decreased property values did nothing to alleviate the threats of irreversible harm to the Hockomock Swamp and Easton’s drinking water.

Fictitious Trains and Dead Salamanders

MBTA chose to ignore the dire warnings from state and federal experts. When it released the required supplemental DEIR in July of 2000, it was still fraught with errors, and now MBTA actually claimed that the Stoughton alternative was the *only* alternative available, as the previously preferred Attleboro Alternative had suddenly become impracticable. The wetland impacts associated with the Stoughton Alternative had now increased slightly to 2.9 acres, presumably due to comments from federal regulators, but the figure was still a gross underestimate.

TABLE B: What a difference two years makes.
A Side By Side Comparison of Contrary Statements from MBTA

1995 statements by MBTA	1997 statements by MBTA and its consultant, VHB
<p>“The Stoughton Alternative would have substantial environmental impacts...[the] right of way now...support[s] wetland vegetation” (emphasis added).</p> <p>MBTA stated that the Attleboro Alternative was its preferred alternative due to high ridership, reasonable costs, competitive travel times, and lower environmental impacts that the Stoughton Alternative.</p>	<p>The wetlands associated with the Stoughton Alternative have “limited functions and values...[and] the abandoned railbed is partially vegetated with upland species” (emphasis added).</p> <p>MBTA and VHB stated that the Attleboro alternative would “result in the highest impacts to environmental resources,” and claimed Stoughton was its preferred alternative.</p>



Caving to enormous political pressure, on November 16, 2000, Secretary Durand determined that the Supplemental DEIR complied with the Massachusetts Environmental Policy Act and its regulations. In his certificate, Secretary Durand admitted that the “Stoughton Alternative would alter habitat for at least six endangered animal species, constituting a taking under the Massachusetts Endangered Species Act...” Secretary Durand further conceded that the “project would alter significant areas of wetland...” Despite this, Durand gave MBTA permission to complete the Final EIR, and told them that they only need explore one alternative: the Stoughton Alternative.

A flurry of now-familiar comments from regulatory agencies and concerned citizens were again sent to Secretary Durand. The towns of Easton, Stoughton, and Raynham, concerned about the fate of the Hockomock, hired a consultant to estimate the real wetland impacts associated with the Stoughton Alternative. The towns had no choice but to spend their own money on air quality, transportation, and ecological consultants to do the job that MBTA refused to do: a fair and impartial assessment of alternatives and environmental impacts.

When the towns’ reports were released, MBTA was caught; the DEIR’s assumption of no harm was strongly contradicted by the new evidence. Citizens in the three towns had done their own rare species surveys, and forced the MBTA to admit that state-listed blue-spotted salamanders were migrating across the right-of-way to reach vernal pools - habitats that the MBTA and its consultants had initially failed to find. The state-listed spotted turtle was documented laying eggs in the abandoned right-of-way, and MBTA was provided proof of this as well.

MBTA had no choice but to respond. In the spring of 2001, MBTA’s consultant, VHB, conducted a new round of rare species research, and released a study that August that admitted to finding approximately 600 blue-spotted salamanders in the Hockomock, the largest known population in the state. Unfortunately,

VHB killed 48 of these rare animals during its study, and apparently misplaced the bodies (VHB claims to have sent the specimens to Harvard’s Museum of Comparative Zoology, but the Museum has no record of ever receiving them). Had VHB competently handled the salamanders, genetic testing could have been done to determine whether the state-listed blue spotted salamander was actually a pure, diploid population, with only five known populations remaining.³

The towns’ transportation consultant reviewed the MBTA’s analysis used to reject the once-favored Attleboro Alternative, and found that the MBTA made “significant errors” and even distorted data in order to justify its preferred “Stoughton Alternative” through the ecologically sensitive Hockomock swamp. The report concluded that MBTA unfairly discarded the less environmentally damaging Attleboro alternative by relying on erroneous assumptions that undercut the viability of the Attleboro route, including:

- ▶ greatly exaggerating the capacity problems that would be faced by the Attleboro alternative;
- ▶ inventing “fictitious trains” to cause delays; and
- ▶ artificially increasing travel time estimates for the Attleboro route. The report also concluded that there are several other apparently viable alternatives that the MBTA has not even examined.

In its attempts to disqualify other alternatives from consideration, MBTA also inexplicably changed the estimates of how many riders would utilize each alternative, reflected in Table C.

While MBTA drastically decreased its ridership estimates in its 2002 study, the Stoughton estimate remained virtually unchanged. Again, the MBTA was exaggerating the benefits and downplaying the costs of the politically easier alternative.

As a new report by Michael Nelson, a transportation consultant with the Towns of Easton, Stoughton and Raynham, makes clear, MBTA has seriously overesti-

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mated ridership for the Stoughton Alternative⁶. The report corrects significant data and methodological errors in the MBTA's projections. Using Journey to Work and Census data to project overall commuting volumes, the report shows that the total number of daily riders on the new line will be under 2,300, not the 4,200+ that MBTA projected. Incredibly, much of the overstatement of volume made by the MBTA appears to result from an error in their handling of Journey to Work data for a single town. By correcting these and other problems, Nelson's report suggests that even during peak commuting periods, the trains will be largely empty during a substantial portion of the ride.

The new report also points out that the Stoughton Alternative violates several aspects of the MBTA's own Service Delivery Policy, even though similar violations formed the basis for MBTA's rejection of other alternatives, including the Attleboro Alternative. The Stoughton Alternative would violate the Policy in numerous ways, including: providing too few trains

during off-peak hours; allowing the first morning train to arrive in Boston too late; providing service in areas that have a much lighter population density than the Policy was designed to serve.

Full Steam Ahead

Despite all the evidence piling up against MBTA and its preferred alternative, the Final EIR was released in May of 2002, once again touting the Stoughton Alternative as the only option. In this report, The MBTA finally admitted that the Stoughton alternative would damage more than 14 acres of wetlands, and that the proposed route would harm the state-listed species "discovered" by citizen-volunteers. But these revelations had no affect on MBTA's conclusions, as all other route alternatives have now been taken completely off the table.

MBTA, with its powerful legislators and the Governor behind them, continues to push full steam ahead, science be damned.

**TABLE C: MBTA'S
Changing Ridership Estimates⁴**

ALTERNATIVE	MBTA RIDERSHIP ESTIMATES AS OF 1997	MBTA RIDERSHIP ESTIMATES AS OF 2002	PERCENT CHANGE
Middleboro	2030	1330	-34%
Attleboro ⁵	3230	2470	-24%
Bus	3890	3280	-16%
Stoughton	4325	4280	-1%

V. A Legal Quagmire

Even if Secretary Durand approves the FEIR, the MBTA still faces a number of hurdles at both the state and the federal level. MBTA must acquire a variety of permits before beginning construction of the proposed rail line. The environmental impacts of the project make it impossible for MBTA to legally obtain the requisite permits. MBTA would need to obtain the following permits:

- ▶ **Section 401 Water Quality Certification.** The certified vernal pools abutting the abandoned rail bed are designated by the Commonwealth as “Outstanding Resource Waters,” or ORWs. A new or increased discharge into an ORW is prohibited unless: the discharge is for the express purpose of maintaining or enhancing the resource; *and* the applicant receives a variance.⁷ 314 CMR 4.04(3)(b). A discharge is defined as “any addition of any pollutant or combination of pollutants to the waters of the Commonwealth from any source” (emphasis added). 314 CMR 4.02.
- ▶ **Section 404 federal Clean Water Act permit.** The U.S. Army Corps of Engineers is responsible for issuing or denying Section 404 permits to fill federally jurisdictional wetlands. A Section 404 permit can only be issued if the proposed alternative is the “least environmentally damaging practicable alternative,” or LEDPA. Moreover, even if a proposed alternative is the LEDPA, the Corps cannot issue a 404 permit if the proposed discharge would “cause or contribute to significant degradation of waters of the U.S.” The U.S. Environmental Protection Agency has veto power over the Corps if EPA believes that the Corps issued a 404 permit that violates these (and other) standards. 40 CFR 230.10(a) and (c).
- ▶ **Massachusetts DEP Wetlands Protection Act Variance.** MBTA will need to obtain a variance from the Massachusetts Department of Environmental Protection to fill so many wetlands, particularly those in the ACEC. In order to obtain this variance, the

Commissioner of the DEP must find that there are “no reasonable conditions or alternatives that would allow the project to proceed in compliance” with the Wetlands Protection Act, that mitigating measures will offset the impacts, and that the variance “is necessary to accommodate an overriding community, regional, state, or national public interest.” 310 CMR 10.58. Moreover, 310 CMR 10.60 states that notwithstanding 10.53 through 10.58 (thereby including the variance section), you cannot cause an alteration that will have any short or long term adverse effects on the habitat of a local population of rare species. The project will have an adverse impact on at least three state-listed species (spotted turtle, Mystic Valley Amphipod, and blue-spotted salamander), and possibly more.

- ▶ **Natural Heritage and Endangered Species Program permit under the Massachusetts Endangered Species Act.** Under the Massachusetts Endangered Species Act, no person may take a state-listed species (“take” is defined as “harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity...”). However, a variance can be issued “if the applicant for a permit has avoided, minimized and mitigated impacts to state listed species to the greatest extent practicable,” and if the Director determines that: “1. an insignificant portion of the local population will be impacted or no viable alternative for the proposed project or activity exists; *and* 2. a conservation plan, submitted to and approved by the Director, will be carried out that provides a long-term net benefit to the conservation of the local population of the impacted species” (emphasis added). 310 CMR 10 et seq.

After twelve years and millions of dollars, pursuing the Stoughton alternative will fail in court, and the residents of New Bedford and Fall River will be no closer to gaining a rail link to Boston.

TABLE D: Legal Obstacles to the Stoughton Alternative

Permit Required	Issuing Agency	Reason for Permit Noncompliance
Section 401 Water Quality Certification	MADEP Commissioner	The project would result in discharges to Outstanding Resource Waters, which is prohibited
Section 404 Clean Water Act permit	U.S. Army Corps of Engineers	The proposed alternative is not the least environmentally damaging practicable alternative, and the impacts would cause or contribute to significant degradation of waters of the U.S.
MADEP Wetlands Protection Act Variance	MADEP Commissioner	The proposed alternative is not the least environmentally damaging alternative, and the project would result in adverse impacts to wetland habitat of state-listed species
NHESP Endangered Species Act permit	MA Natural Heritage and Endangered Species Program	The proposed alternative is not the least environmentally damaging alternative, and a significant portion of the local population of rare species would be impacted; no conservation plan possible.

VI. Recommendations

Whatever the need for commuter service between New Bedford/Fall River and Boston, fabricating “scientific” studies to reach a pre-determined outcome is not the answer. In hopes that no information means no problem, MBTA has failed to conduct the endangered species and water quality studies necessary to support its favored alternatives. More disturbing, the agency fudged its own ridership studies, alternative analyses, and wetlands reports to justify favoring the Stoughton Alternative straight through the middle of the Hockomock Swamp.

A fair and impartial examination of the data likely will show that the Attleboro alternative is not only viable, but is also less environmentally damaging than the Stoughton line. Moreover, there may be other alternatives that will achieve the goal of safely and efficiently transporting people from New Bedford/Fall River to Boston without destroying one of Massachusetts’ critical natural resources.

MBTA will not be able to make a sound decision until it has addressed past transgressions and begun a fair analysis of the best available data. The contributors to this white paper have a few suggestions on steps that must be taken:

- ▶ **Eliminate Reliance on Shoddy Science:**
 - a. MBTA must conduct a thorough water quality analysis by an independently selected expert of the affect of trains on surface waters and wetlands, including threats to the drinking water of the adjacent towns; and
 - b. Discard all studies from MBTA’s present consultant.
- ▶ **Apply Some Common Sense (and Cents):** MBTA should conduct a thorough transportation report examining the economic viability and capital requirements of the Stoughton line before taking another step forward.
- ▶ **Obey the Law:**
 - a. An unbiased federal review of the project must be undertaken immediately pursuant to the National Environmental Policy Act.
 - b) MBTA must explain, in writing, how it will pass the gauntlet of permitting hurdles facing the Stoughton line before any money is spent on line construction.
- ▶ **Face the Facts:** The Governor should name a blue ribbon citizens panel to review the extent of misrepresentations within MBTA reports and studies and to identify responsible individuals.

As events unfold, PEER will continue its work with public employees to shed light on MBTA’s behind-the-scenes machinations. PEER will be closely monitoring each step MBTA must take in its chosen but misguided path.

Endnotes

¹ “*Questions and Answers: Diesel Commuter Rail Air Quality Impact*,” TREQ Report, revised 3/98.

² This ridership estimate is from MBTA’s FEIR.

³ Preliminary evidence indicates that the Hockomock population of blue-spotted salamanders is indeed the pure, diploid population. If this is true, there is the potential that the population could be uplisted to a more protected status, which would make it even harder for MBTA to get its permits.

⁴ Note that these numbers include riders who already ride the commuter rail, but embark at other stations. In other words, these numbers include many more people than those riders who will embark at Fall River or New Bedford.

⁵ In the 1995 ENF, MBTA estimated that the Attleboro Alternative would attract 3,940 riders.

⁶ “*Errors and Inconsistencies in the Final Environmental Impact Report for the New Bedford/Fall River Commuter Rail Extension*,” August 2002.

⁷ Note that in the FEIR, MBTA cites this regulation incorrectly, by replacing the “and” with an “or.” Both of these tests must be met before a 401 water quality certificate can be issued.

