

**ENVIRONMENTAL APPEALS BOARD  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C.**

_____ )	
In re: )	
UPPER BLACKSTONE WATER )	NPDES Appeal Nos. 08-11, 08-12,
POLLUTION ABATEMENT DISTRICT, )	08-13, 08-14, 08-15, 08-16, 08-17,
MILLBURY, MASSACHUSETTS )	08-18
_____ )	
NPDES Permit No. MA0102369 )	
_____ )	

**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S  
MOTION FOR LEAVE TO SUBMIT A BRIEF AS AMICUS CURIAE**

Now comes the Rhode Island Department of Environmental Management (“RIDEM”), and hereby requests leave to submit a brief as amicus curiae in this matter. As grounds therefore, RIDEM asserts the following:

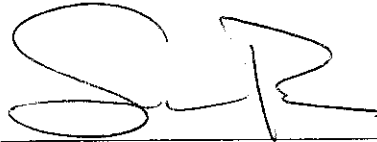
1. (1) RIDEM has standing to file a Petition for Review of the National Pollution Discharge Elimination System (“NPDES”) Permit number MA0102369 (“the Permit”), issued on August 22, 2008 by the United States Environmental Protection Agency, Region 1 (“the Region”) by virtue of its having submitted comments during the public comment period. *See* Written Correspondence of RIDEM Containing Comments on Draft Permit MA0102369, dated May 18, 2007 (“RIDEM Comments”), attached to RIDEM’s brief as Exhibit A.
2. Rhode Island is a downstream affected state whose waters are affected by the discharges made by the Upper Blackstone Water Pollution Abatement District, and

whose water quality standards the Region must guarantee compliance with when issuing the Permit.

3. RIDEM has elected not to file a Petition for Review of this Permit, and instead wishes supply the Environmental Appeals Board ("the Board") with a concise brief as *amicus curiae* in order to further inform the Board regarding certain issues that relate to the State of Rhode Island and the Permit's insurance of compliance with Rhode Island water quality standards.

RIDEM's proposed brief as *amicus curiae* is attached hereto for submission to the Board.

Respectfully submitted,  
RI Department of Environmental Management,  
By its attorney,



Date: 12/17/08

---

Susan B. Forcier, Esq. (RI Bar No. 7278)  
Department of Environmental Management,  
Office of Legal Services  
235 Promenade Street, 4<sup>th</sup> Floor  
Providence, RI 02908-5767  
Telephone: (401) 222-6607  
Facsimile: (401) 222-3378

CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of the above pleading was hand delivered on December 18, 2008 to the U.S. Environmental Protection Agency, Clerk of the Board, Environmental Appeals Board, 1341 G Street, N.W., Suite 600, Washington, D.C. 20005, and was submitted electronically through the CDX system and sent by first class mail, postage pre-paid, on December 17, 2008 to the following individuals:

Karen A. McGuire, Esq.  
U.S. Environmental Protection Agency, Region 1  
One Congress Street, Suite 1100  
Boston, MA 02114-2023

Nathan A. Stokes, Esq.  
Barnes & Thornburg, LLP  
750 17<sup>th</sup> Street, NW  
Suite 900  
Washington, DC 20006

Ned Bartlett, Esq.  
Bowditch & Dewey, LLP  
MetroWest office  
175 Crossing Boulevard  
Framingham, MA 01702

Karen L. Crocker, Counsel  
Massachusetts Department of Environmental Protection  
Office of General Counsel  
One Winter Street  
Boston, MA 02108

Christopher M. Kilian, Esq.  
Conversation Law Foundation  
16 East State Street, Suite 4  
Montpelier, VT 05602

David K. Mears, Esq.  
Environment & Natural Resources Law Clinic  
Vermont Law School  
PO Box 96, Chelsea Street  
South Royalton, VT 05068

Northern RI Chapter 737 Trout Unlimited  
c/o Roland C. Gauvin  
2208 Mendon Road  
Cumberland, RI 02864

James Shuris, P.E., MBA  
Director of Public Works  
Town of Holden, Massachusetts  
1196 Main Street  
Holden, MA 01520

J. Bradford Lange, Vice Chairman  
Sewer Commission  
Town of Millbury, Massachusetts  
Municipal Office Building  
127 Elm Street  
Millbury, MA 01527

Donald G. Manseau, Chairman  
Cherry Valley Sewer District  
PO Box 476  
Leicester, MA 01524

David M. Moore, Esq.  
City Solicitor, City of Worcester  
City Hall  
455 Main Street  
Worcester, MA 01608



---

Susan B. Forcier, Esq. (RI Bar No. 7278)  
Department of Environmental Management,  
Office of Legal Services  
235 Promenade Street, 4<sup>th</sup> Floor  
Providence, RI 02908-5767  
Telephone: (401) 222-6607  
Facsimile: (401) 222-3378

**ENVIRONMENTAL APPEALS BOARD  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C.**

_____ )	
In re: )	
UPPER BLACKSTONE WATER )	
POLLUTION ABATEMENT DISTRICT, )	NPDES Appeal Nos. 08-11, 08-12,
MILLBURY, MASSACHUSETTS )	08-13, 08-14, 08-15, 08-16, 08-17,
_____ )	08-18
NPDES Permit No. MA0102369 )	
_____ )	

**BRIEF OF *AMICUS CURIAE*  
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

**INTRODUCTION AND BACKGROUND**

The Upper Blackstone Water Pollution Abatement District (“UBWPAD”) was issued NPDES Permit MA0102369 (the “Permit”) by the United States Environmental Protection Agency, Region 1 (“Region 1” or “Region”) on August 22, 2008. The Permit allowed UBWPAD to discharge from its facility located in Millbury, Massachusetts to the receiving waters of the Blackstone River. The UBWPAD facility in Millbury is a wastewater treatment facility with a design capacity of fifty-six million gallons per day, engaged in the collection and treatment of domestic, commercial, and industrial wastewater from the city of Worcester, and portions of the cities of Auburn, West Boylston, Holden, Rutland, Oxford and Millbury, Massachusetts. *See* Fact Sheet at 1. The discharge point is near the headwaters of the Blackstone River and during low flow conditions, the discharge from the UBWPAD facility dominates the river flow. *Id.* at 2.

The Blackstone River originates in Worcester, Massachusetts and flows south to the Rhode Island border, where it joins the Seekonk River and eventually the Providence River, which flows into Narragansett Bay. The Blackstone River in Massachusetts is classified as a Class B warm water fishery, designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. *Id.* at 6. The Blackstone River in Rhode Island is designated as a Class B1 waterway to the confluence with the Seekonk River, designated for fish and wildlife habitat, and for primary and secondary contact recreational use, except that primary contact uses may be limited due to pathogens from approved wastewater discharges. *Id.* The Seekonk River and the northern section of the Providence River are designated as Class SB1 {a} marine waters. Class SB1 waters are designated for the same uses as B1 waters, and the {a} designation indicates that the waters are likely to be impacted by combined sewer overflows (CSO) in accordance with an approved CSO facilities plan: *Id.* The southern section of the Providence River is designated as Class SB {a} marine water. *Id.* Class SB waters are designated for the same uses, in addition to shellfish harvesting for controlled relay.

The Blackstone River is listed on both the *Massachusetts Year 2004 Integrated List of Waters* and Rhode Island's *2004 CWA § 303(d) List of Impaired Waters* ("303(d) lists") as impaired for various metals, pathogens, biodiversity impacts, nutrients and low dissolved oxygen, among other reasons. Both the Seekonk River and the Providence River are on Rhode Island's 303(d) list as impaired for at least nutrients, low dissolved oxygen and excess algal growth. *Id.*

Rhode Island is a downstream affected state under the Clean Water Act, and therefore the Region, in crafting and issuing the Permit, was required to condition the permit to ensure compliance with Rhode Island water quality standards, in addition to Massachusetts water

quality standards, and was required to condition the permit to ensure that the discharge will not cause, have reasonable potential to cause, or contribute to violations of either state's water quality standards. *See* 40 CFR §§ 122.4(d), 122.44(d).

The Rhode Island Department of Environmental Management ("RIDEM") submitted comments on the draft permit for the UBWPAD facility by letter dated May 18, 2007, and therefore had standing to file a Petition for Review to the Environmental Appeals Board ("Board") in this matter during the appeal period. *See* Letter of RIDEM, dated May 18, 2007, attached at Exhibit A. Rather than submit a Petition for Review appealing the issuance of the Permit, RIDEM wishes to submit this brief as *amicus curiae* in order to draw the Board's attention to certain issues in this matter which involve the State of Rhode Island, and to provide the State of Rhode Island's position on those issues.

## **NITROGEN**

The total nitrogen limit in the Permit is set in order to meet Rhode Island water quality standards only, because excess nitrogen is the limiting nutrient in marine waters, in this case, Rhode Island's Seekonk River, Providence River and Upper Narragansett Bay. All of the discharge waters are included on Rhode Island's 303(d) list of impaired waters, in part due to excessive nitrogen concentrations. Stricter limitations on total nitrogen are therefore necessary to achieve water quality standards in both the Blackstone River and in the discharge waters further downstream into Narragansett Bay.

In requiring the UBWPAD to comply with the nitrogen limits set out in the Permit, no disproportionate burden is being shifted onto Massachusetts facilities, as suggested by UBWPAD, and RIDEM is not seeking to impose any such burden. RIDEM has been holding in-

state facilities to equivalent standards as it is seeking to have the Region hold the UBWPAD to with regard to total nitrogen. In December 2004, Rhode Island published the report entitled "Evaluation of Nitrogen Targets and WWTF Load Reductions for the Providence and Seekonk Rivers." As noted in this report, the allowable WWTF total nitrogen concentrations vary based on consideration of the environmental impact of each WWTF. In particular, the WWTF load reduction includes consideration of uptake of nitrogen for discharges located on tributary rivers (e.g. UBWPAD which discharges to the Blackstone, a tributary of the Seekonk River) and the proximity to the more severely degraded portions of the receiving waters. RIDEM analyzed this issue further in its response to comments from UBWPAD and MADEP when it issued certain Rhode Island permits, finding that greater reductions of nitrogen effluent were appropriate for facilities located closer to the portion of the receiving waters where the greatest impacts have been observed.

To date, RIDEM has issued RIPDES permits with equivalent nitrogen limits to nine facilities (Narragansett Bay Commission Fields Point, Narragansett Bay Commission Bucklin Point, East Providence, Cranston, West Warwick, Warwick, East Greenwich, Smithfield, Burrillville). Rhode Island facilities that are currently being held to the same Total Nitrogen concentration limits as UBWPAD (5 mg/l) include: Narragansett Bay Commission Fields Point, Narragansett Bay Commission Bucklin Point, East Greenwich and Woonsocket. These facilities discharge relatively greater amounts of nitrogen, and do so in the upstream portions of the system, and have larger design capacities overall. The Woonsocket facility, as discussed below, has recently been issued a new permit which includes a nitrogen limit of 3 mg/l. Those Rhode Island facilities which have a nitrogen limit of 8 mg/l are facilities that discharge into the Providence River or directly into Narragansett Bay, where the flushing rate is higher. Those



facilities also tend to have relatively smaller capacities and discharge lower amounts of nitrogen overall. While some of these limits are set to be achieved through the application of compliance schedules agreed to in Consent Orders, Rhode Island licensed facilities are committing to design for lower and lower standards.

The UBWPAD Petition suggests that while Rhode Island facilities' limits may be comparable to those set in this Permit, the Rhode Island facilities are being allotted substantial time for compliance that UBWPAD argues that it is not being provided here. Rhode Island has negotiated compliance schedules through consent orders with a number of facilities, and RIDEM has no objection to the same taking place here. RIDEM is not attempting to impose any stricter limits on UBWPAD than it has imposed on Rhode Island facilities.

The two main point sources of nitrogen to the Blackstone River are the UBWPAD facility at issue in this appeal, and the Woonsocket, RI Water Pollution Control Facility. *See* Response to Comments, Response F17, p. 45. The Woonsocket facility, as referenced in both the Region's Response to Comments and the Petition filed by Conservation Law Foundation, was issued a total nitrogen effluent limit of 5 mg/L (identical to UBWPAD) but recently committed, through a consent agreement, to design its new facility to achieve a total nitrogen effluent of 3 mg/L. In response to that consent agreement, RIDEM re-issued the permit for the Woonsocket facility in September 2008, with a nitrogen limit of 3 mg/L. Based on the reasoning and justification provided by the Region, RIDEM supports the 5mg/L limit set by the Region for total nitrogen in this Permit, and does not object to that limit being achieved as set out in a reasonable compliance schedule to be negotiated and outlined in a consent order. RIDEM does object to such a compliance schedule being included in the permit itself, and agrees with and

supports the Region's decision not to include a compliance schedule in this permit, as discussed in further detail below.

## **SCHEDULE OF COMPLIANCE**

In its Petition for Review, the UBWPAD states that the Region's refusal to incorporate compliance schedules into the final permit was arbitrary and capricious, and an abuse of discretion and not supported by law. UBWPAD suggests that the Region did not have to follow Rhode Island permitting regulations in issuing this Permit, but such a suggestion is contrary to the requirement of 40 CFR §122.4, CWA Section 401 that the Region impose permit conditions that will ensure that applicable water quality requirements of all affected states will be met.

The Clean Water Act provides that compliance schedules may only be included in permits when state water quality standards clearly authorize such schedules and where such schedules will ensure that state water quality standards will be achieved by July 1, 1977. *See In the Matter of Star-Kist Caribe, Inc.*, NPDES Appeal No. 88-5 (April 16, 1990). That case further held that it is for the states to determine whether compliance schedules may be incorporated into NPDES permits, and the Region owes deference to states' determinations and interpretations on that point. RIDEM has determined that schedules of compliance may not be included in permits if the compliance required by the schedule would be achieved only after the July 1, 1977 deadline. Therefore, compliance schedules are not permissible in permits currently being issued.

The RIDEM Water Quality Regulations do not include any provisions relating to compliance schedules, and further, are meant to be read in conjunction with the Rhode Island Pollution Discharge Elimination System Permitting Regulations ("RIPDES Regulations"), which

do not allow schedules of compliance to be included in permits. The simple fact that the Water Quality Regulations themselves do not provide authorization for compliance schedules is enough to make it clear that Rhode Island has not clearly authorized them, but in reading the Water Quality Regulations together with the RIPDES Regulations, as RIDEM does, it becomes more clear that compliance schedules for water quality based effluent limits are not to be included in permits. RIDEM's practice has always been to negotiate and establish compliance schedules, when necessary, through consent agreements.

The RIPDES Regulations, with regard to schedules of compliance, state in relevant part as follows:

The permit may, when appropriate, specify a schedule of compliance leading to compliance with the State and Federal Acts and all other applicable authority for these regulations.

Any schedules of compliance under this section shall require compliance as soon as possible.

[S]chedules of compliance shall require compliance not later than the applicable statutory deadline under State and Federal law, and shall be subject to State and Federal regulations.

RIPDES Regulations, §20.01 and 20.02. The interpretation of Rhode Island's position on compliance schedules provided by the Region in the Response to Comments is accurate. The "applicable statutory deadline" referred to above is the deadline provided in the Clean Water Act and Section 301(b)(1)(c), July 1, 1977. Because that date has long since past, permits being issued now cannot include compliance schedules because they will not ensure compliance with all state water quality standards by that statutory deadline.

The Region's statements in the Response to Comments relating to Rhode Island's requirement that schedules of compliance are not allowed to be included in permits is correct.

Because the limits in this Permit are required to ensure compliance with the water quality standards of all downstream affected states and all applicable statutes and regulations, it would have been improper for the Region to have included compliance schedules in this Permit, especially in light of the fact that the Nitrogen limits in this Permit have been included in order to ensure compliance with Rhode Island's water quality standards only, and not Massachusetts' standards.

UBWPAD urged the Region to include a compliance schedule for Phosphorous, because it is subject to Massachusetts Regulations as well as Rhode Island's, arguing that Massachusetts regulations allow for the inclusion of compliance schedules in permits. However, the Region wisely declined to include a compliance schedule in the permit for one limit and not for others for which compliance schedules might be necessary down the road. The Phosphorous limits in the Permit are designed to ensure compliance with both the Massachusetts and Rhode Island water quality standards, and because Rhode Island's water quality standards will not allow for the inclusion of a compliance schedule in the permit, the Region elected to wait until more information is known about "such issues as modes of compliance and cost" before a compliance schedule can be formulated to comprehensively handle all compliance issues. *See* RtC, Response E.2, p. 19; RtC, Response F21, p. 58; RtC, Response F46, p. 90.

## **INTERSTATE/TRANSBOUNDARY ISSUES**

In its Petition, the UBWPAD raises certain "interstate/trans-boundary considerations" relating to "policy considerations with regard to interstate water quality management." UBWPAD Petition at 64. First, UBWPAD asserts that the Region has erroneously interpreted its regulations to mean that it must apply "all aspects of a state's permitting and procedural rules,

rather than merely its water quality standards, and has used this as the basis for refusing to include a compliance schedule in the District's permit." UBWPAD Petition at 65. Essentially, UBWPAD argued in its Petition that because RIDEM's regulations relating to compliance schedules appear in its RIPDES Regulations rather than the Water Quality Regulations, no deference to RIDEM's interpretation of those regulations as not allowing compliance schedules to be included in permits was necessary. The requirements of 40 CFR §§ 122.4 and 122.44 are clear; the Region must "ensure compliance with the applicable water quality requirements of all affected states" and set permit limits to "control all pollutants ... which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard ..."

As discussed above, the Rhode Island Water Quality Regulations and the RIPDES Regulations are designed to be read together. The fact that the Water Quality Regulations are silent with regard to the issue of compliance schedules while the RIPDES Regulations set out requirements for compliance schedules is indicative of this fact. RIDEM reads these two sets of regulations in conjunction with one another in issuing permits, and the Region is required by the Clean Water Act to give some deference to states' interpretations of their own regulations. As stated above, under *Star-Kist*, compliance schedules may only be included in permits when they are authorized by state water quality standards, meaning that the Regions, in issuing permits, must look to states' interpretations of their own water quality standards to determine whether compliance schedules are permitted or not. Therefore, Region 1 was required to defer to Rhode Island's and Massachusetts' interpretations of their own Regulations in issuing this Permit, and it is clear that the Region's decision to consider both sets of Rhode Island regulations in issuing

this Permit was appropriate and in accordance with RIDEM's own interpretation of its regulations.


Additionally, UBWPAD asserts that RIDEM has imposed less stringent limitations on dischargers in Rhode Island, placing Massachusetts dischargers at an economic disadvantage, and that the Region is essentially singling out Massachusetts dischargers for more restrictive treatment, despite Rhode Island dischargers being located further downstream and therefore closer to the receiving waters at issue. These statements are inaccurate. Rhode Island has placed nitrogen limits on dischargers that are equivalent and, in some cases (e.g., Woonsocket), even more stringent than the limit proposed in this Permit. While some Rhode Island dischargers have negotiated compliance schedules through consent agreements after the permits were issued, and therefore have additional time to comply with the limits set out in the permits, the ultimate limits are in almost every case equivalent to or more stringent than those proposed in this Permit.

RIDEM does not object to the use of compliance schedules in this instance to help the UBWPAD reach the limits set out in the Permit, and RIDEM stands ready to assist or otherwise participate in the development of said compliance schedules. Rhode Island is not seeking to have the Region impose any stricter standards on this or any other Massachusetts facilities than those imposed on equivalent Rhode Island dischargers, but only to have the same standards imposed in order to ensure the protection of the already-impaired Rhode Island receiving waters.

**CONCLUSION**

For the reasons stated herein, RIDEM believes that the Board should uphold the Permit as issued.

Respectfully submitted,  
RI Department of Environmental Management,  
By its attorney,



Date: \_\_\_\_\_

\_\_\_\_\_  
Susan B. Forcier, Esq. (RI Bar No. 7278)  
Department of Environmental Management,  
Office of Legal Services  
235 Promenade Street, 4<sup>th</sup> Floor  
Providence, RI 02908-5767  
Telephone: (401) 222-6607  
Facsimile: (401) 222-3378

**CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the above pleading was hand delivered on December 18, 2008 to the U.S. Environmental Protection Agency, Clerk of the Board, Environmental Appeals Board, 1341 G Street, N.W., Suite 600, Washington, D.C. 20005, and was submitted electronically through the CDX system and sent by first class mail, postage pre-paid, on December 17, 2008 to the following individuals:

Karen A. McGuire, Esq.  
U.S. Environmental Protection Agency, Region 1  
One Congress Street, Suite 1100  
Boston, MA 02114-2023

Nathan A. Stokes, Esq.  
Barnes & Thornburg, LLP  
750 17<sup>th</sup> Street, NW  
Suite 900  
Washington, DC 20006

Ned Bartlett, Esq.  
Bowditch & Dewey, LLP  
MetroWest office  
175 Crossing Boulevard  
Framingham, MA 01702

Karen L. Crocker, Counsel  
Massachusetts Department of Environmental Protection  
Office of General Counsel  
One Winter Street  
Boston, MA 02108

Christopher M. Kilian, Esq.  
Conversation Law Foundation  
16 East State Street, Suite 4  
Montpelier, VT 05602

David K. Mears, Esq.  
Environment & Natural Resources Law Clinic  
Vermont Law School  
PO Box 96, Chelsea Street  
South Royalton, VT 05068

Northern RI Chapter 737 Trout Unlimited  
c/o Roland C. Gauvin  
2208 Mendon Road  
Cumberland, RI 02864

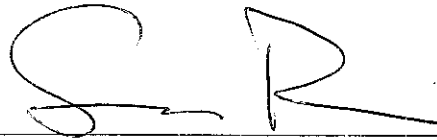


James Shuris, P.E., MBA  
Director of Public Works  
Town of Holden, Massachusetts  
1196 Main Street  
Holden, MA 01520

J. Bradford Lange, Vice Chairman  
Sewer Commission  
Town of Millbury, Massachusetts  
Municipal Office Building  
127 Elm Street  
Millbury, MA 01527

Donald G. Manseau, Chairman  
Cherry Valley Sewer District  
PO Box 476  
Leicester, MA 01524

David M. Moore, Esq.  
City Solicitor, City of Worcester  
City Hall  
455 Main Street  
Worcester, MA 01608



---

Susan B. Forcier, Esq. (RI Bar No. 7278)  
Department of Environmental Management,  
Office of Legal Services  
235 Promenade Street, 4<sup>th</sup> Floor  
Providence, RI 02908-5767  
Telephone: (401) 222-6607  
Facsimile: (401) 222-3378

**EXHIBIT A**



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

May 18, 2007

Mr. David Pincumbe  
U.S. Environmental Protection Agency  
NPDES Permits Unit - CPE  
One Congress Street - Suite 1100  
Boston, MA 02114-2023

**Re: Draft National Pollutant Discharge Elimination System (NPDES) Permit  
MA0102369 for the Upper Blackstone Water Pollution Abatement District  
(UBWPAD) Wastewater Treatment Facility (WWTF)**

Dear Mr. Pincumbe:

The Rhode Island Department of Environmental Management (DEM) has reviewed the permit limits contained in the draft permit referenced above and does not object to the limits on nitrogen and phosphorus. Available information and analyses indicates it is likely that superior performance will be required in the future and EPA should ensure that the technology selected to comply with the permit can be modified to provide further treatment with minimal disruption of the selected treatment process. At this time, however, DEM has also determined that limits for other pollutants will result in violations of Rhode Island Water Quality Standards in RI waters.

The Environmental Protection Agency (EPA) established all water quality-based permit limits using background pollutant concentration of zero. This assumption is not reflective of actual conditions and when coupled with allocation of the entire criteria, results in permit limits that cause violations of the downstream RI Water Quality Standards. In addition, EPA utilized an instream hardness value of 65 mg/l, while DEM has determined that 50 ug/l is appropriate for the RI portion of the Blackstone River. The use of this hardness value further exacerbates the violation of the downstream RI Water Quality Standards. Finally, EPA should use effluent data collected as part of the bioassay testing to determine whether reasonable potential exists for the UBWPAD WWTF to cause or contribute to water quality violations for additional pollutants that are monitored as part of the existing permit's bioassay testing requirements.

Specific comments are noted below:

### Metals Limitations

The table below compares the instream concentrations at the MA/RI state line that result from the draft permit limits, to the RI Water Quality Standards calculated using a hardness of 50 mg/l at the state line. Although EPA has utilized an instream hardness value of 65 mg/l the DEM has determined that 50 ug/l is appropriate for the RI portion of the Blackstone River and has used this hardness to develop permit limits for RI permittees. The concentrations that will result at the state line were computed from a mass balance using a 7Q10 flow at the state line of 102 cubic feet per second and the WWTF flows and pollutant concentration limits contained in the draft permit. It should be noted that the resulting in-stream concentrations are artificially low as the EPA assumption of zero pollutant concentrations upstream of the UBWPAD WWTF and the assumption of no other sources to the River were used. Enclosed is an CD that contains the details of this analysis.

	Blackstone River Concentration at the RI Border <sup>1</sup>	RI Water Quality Standard	% Exceedance of RI Water Quality Standards
Copper	6.1 ug/l	5.2 ug/l	18 %
Zinc	77.5 ug/l	66.6 ug/l	16 %
Cadmium	0.17 ug/l	0.16 ug/l	5 %

<sup>1</sup>As noted above predicted concentrations are artificially low since the EPA assumption of zero pollutant concentrations upstream of the WBWPAD WWTF was utilized.

In addition, the Fact Sheet indicates that MADEP has submitted revised site-specific water quality criteria for dissolved copper of 18.1 ug/l chronic and 25.7 ug/l acute. The fact sheet also stated that, "if EPA approves these criteria, the limits in the final permit will be based on the revised criteria, the available dilution at 7Q10 flow, and the upstream concentration of copper under low flow conditions." It is the DEM's understanding that EPA has recently approved the revised criteria. Using these new criteria and EPA's monthly average permit limit calculation procedures, the copper concentration at the state line will be 17.6 ug/l, or 241% over the RI criteria of 5.2 ug/l. Therefore, DEM strongly objects to establishment of permit limits using the site specific criteria. The metals limits in the draft permit must ensure that RI water quality criteria will be met at the state line.

Finally, EPA should utilize effluent data collected as part of the bioassay testing to determine whether reasonable potential exists for the UBWPAD WWTF to cause or contribute to water quality violations for additional pollutants. It should be noted that the Woonsocket WWTF has a much greater dilution factor than the UBWPAD WWTF and

exhibits reasonable potential to exceed Cadmium, Copper, Cyanide, Lead, Silver and Zinc. Since EPA does not enter pollutant data collected as part of bioassay testing into ICIS, DEM was unable to evaluate reasonable potential for the following pollutants: Chromium, Lead, Nickel and Aluminum. At a minimum, based on typical lead levels seen in effluent at RI WWTFs, it appears that the UBWPAD would have “reasonable potential” for lead and, therefore, would require lead limits. To ensure that bioassay pollutant monitoring data is readily available for review, DEM requests that EPA list the pollutants monitored during the bioassay testing in Part I.A.1 of the permit.

The table below is excerpt from the Final 2006 Rhode Island List of Impaired Waters (“303(d) list”) and lists several waterbody segments that are impaired due to excessive metals and Phosphorus concentrations. As noted above the limits proposed by EPA would result in continued violation of many of these criteria even under the assumption that no other pollutant sources are present.

Waterbody ID	Waterbody Name	Cause	Group
RI0001003L-01	Scott Pond	LOW DO, EXCESS ALGAL GROWTH/CHL-A, Phosphorus	Group 1
RI0001003L-02	Valley Falls Pond	BIODIVERSITY IMPACTS, Lead (Pb), PATHOGENS, EXCESS ALGAL GROWTH/CHL-A, LOW DO, Phosphorus	Group 1
RI0001003R-01A	Blackstone River	Copper (Cu), PATHOGENS, BIODIVERSITY IMPACTS, Lead (Pb)	Group 1
		AMMONIA (UNIONIZED), NUTRIENTS, LOW DO	Group 5
RI0001003R-01B	Blackstone River	Lead (Pb), PATHOGENS, Copper (Cu), BIODIVERSITY IMPACTS	Group 1
		AMMONIA (UNIONIZED), NUTRIENTS, LOW DO	Group 5

As you know, pursuant to the NPDES regulations at 40 CFR 122.44(d) and 33USC Sec.1341(a)(2), NPDES limits must achieve compliance with water quality standards and limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State’s water quality. As noted above the limits contained in the draft permit will result in violations of RI water quality standards and therefore, the limits must be revised using a Waste Load Allocation (WLA) strategy that includes an appropriate margin of safety to account for any lack of knowledge concerning the relationship between effluent limits and water quality, ensures an equitable distribution of pollutant loads and that at a minimum meets all Rhode Island water quality criteria at the state line.

**Nitrogen Limitations**

DEM is pleased that the fact sheet associated with the draft permit acknowledges that a significant portion of the overall nitrogen loading that discharges to Narragansett Bay originates from WWTF effluents in Massachusetts, and that EPA believes that limits on total nitrogen must be considered at the Massachusetts WWTFs to protect the downstream uses in Rhode Island. The nitrogen limit and the requirement to operate the

treatment facility to reduce the discharge of total nitrogen during the months of November - April to the maximum extent possible, using all available treatment equipment in place at the facility contained in the draft permit is comparable to those required of RI WWTFs.

The Seekonk River is the most nutrient impacted area of Narragansett Bay. This segment currently receives nitrogen loads at a rate 24 times higher than the average loading to Narragansett Bay (24X). Application of the Marine Ecosystem Research Laboratory (MERL) nutrient enrichment gradient studies conducted at the University of Rhode Island indicates that reduction to the 2X to 4X level is required to meet water quality standards. The Ten Mile and Blackstone Rivers both receive discharges from WWTFs and flow into the Seekonk River.

DEM has determined that five MA WWTFs contribute 43% of the WWTF nitrogen loading to the Seekonk River. This evaluation considers nitrogen uptake along the Blackstone and Ten Mile Rivers, based on work completed at the University of Rhode Island<sup>i</sup>, that specifically addressed comments that the EPA Science Advisory Board raised in connection with the modeling effort used for the 1997 MA, USEPA and DEM Blackstone River WLA for ammonia and phosphorus<sup>ii</sup>. Another analysis of nitrogen attenuation in the Blackstone River from the MA/RI state line was also recently completed using data collected on 11 occasions between April 7 and August 25 of 2004<sup>iii</sup>. "The simple interpretation of these results is that we see no direct evidence of DIN attenuation or removal in the lower Blackstone."<sup>iv</sup>

RI has developed a phased implementation plan to reduce the discharge of nitrogen from RI and MA WWTFs to the Providence and Seekonk Rivers. The first phase of the nitrogen reduction plan, which includes comparable reductions from Massachusetts WWTFs, will reduce the 95-96 seasonal loading to the Seekonk River by 59%, from the 24X to the 10X level. As a result of this plan, the MA WWTFs contribution would represent 59% of the allowable load to the Seekonk; UBWPAD alone would represent 37%. While it is anticipated that further reductions will be necessary, a substantial reduction will be achieved.

During the public comment period for the RI WWTF Rhode Island Pollutant Discharge Elimination System (RIPDES) permit modifications, MADEP commented that it is opposed to the establishment of permit limits but is willing to work with WWTFs to optimize existing operations to reduce nitrogen in their effluent to the extent practicable and has proposed the collection of additional data to evaluate environmental impacts. The MADEP proposal (assuming total nitrogen of 10 mg/l) would only result in a 31% reduction in WWTF loading (the 17X loading condition). This reduction will not be sufficient since the Fields Point Reach of the Providence River exhibits significant signs of impairment from nutrient over enrichment and is currently at the 18X condition. Furthermore, if the MADEP proposal were adopted, MA WWTFs would contribute 76% of the load to the Seekonk River, the UBWPAD WWTF alone, would represent 59% of the loading to the Seekonk River.

After consideration of this information, it is even more apparent that implementation of the loading reductions proposed by DEM are necessary to ensure substantial progress toward achieving water quality criteria in the Seekonk River and should not be delayed.

The DEM strongly supports the nitrogen limitations that EPA has proposed in the draft NPDES permit for the UBWPAD WWTF which are consistent with Rhode Island's strategy for improving the water quality of the Blackstone, Providence and Seekonk Rivers and protecting Narragansett Bay. The limits are based on sound science and are necessary to compel further reductions in pollutant loadings to move us closer to achieving the goals of the Clean Water Act. Rhode Island has demonstrated its commitment to achieving its targets for reducing nutrient pollutant loadings. It is clearly time for Massachusetts to do the same. As the implementing authority in this matter, the DEM urges EPA to ensure the expeditious implementation of the WWTF modifications necessary to comply with the limitations.

### **Phosphorus Limitations**

DEM supports the limits for Total Phosphorus listed in the draft permit and as noted below, has determined that these limits are necessary to achieve compliance with RI Water Quality Standards. However, pursuant to footnote 10 of the permit, compliance with the phosphorus limitation is evaluated based on a 60-day rolling average. Use of a 60 day average is not consistent with the fact sheet which explains "Accordingly, based on the current record, the Region has determined that a monthly average total phosphorus limit no higher than 0.1 mg/l (100 ug/l) is necessary in order to achieve the applicable water quality standards." The permit does not provide an explanation of how it was determined that the 60-day average will ensure compliance with water quality standards. The fact sheet notes that the national ambient criteria recommendations range from 24 ug/l (based on the Ecoregional Nutrient Criteria) to 100 ug/l (based on the Gold Book Criteria) and the proposed limit will result in River concentrations just below 100 ug/l. Therefore, the permit should evaluate compliance based upon a 30-day average.

Rule 8.D.(2) of the Rhode Island Water Quality Regulations establishes the following criteria for Nutrients:

*"Average Total Phosphorus shall not exceed 0.025 mg/l in any lake, pond, kettlehole or reservoir, and average Total P in tributaries at the point where they enter such bodies of water shall not cause exceedance of this phosphorus criteria, except as naturally occurs, unless the Director determines, on a site-specific basis, that a different value for phosphorus is necessary to prevent cultural eutrophication."*

Scott Pond, in Lincoln, RI, receives the majority of its flow from the Blackstone River and, therefore, the criterion of 25 ug/l must be met in the Blackstone River at the point in which it enters Scott Pond. It should be noted that Scott Pond is listed on the Rhode

Island 2006 303(d) List as being impaired due to excess algal growth, low DO, and excess phosphorus. In addition to the 25-ug/l phosphorus water quality criterion for lakes, ponds, and reservoirs, the Rhode Island Water Quality Regulations contain narrative, but not numeric, nutrient water quality criteria for streams that do not impact a lake, pond, or reservoir. As noted in the fact sheet EPA's national ambient criteria recommendations range from 24 ug/l to 100 ug/l.

The previous permits for municipal WWTFs discharging to the Blackstone River contained Total Phosphorus monthly average limits based on the WLA for the Blackstone River that was completed in November of 1997 (USEPA et. al 1997). Scott Pond was identified as impaired based on data collected prior to all WWTFs achieving compliance with the WLA requirements, therefore, the results of the WLA model were reviewed. The WLA model predicts that the following in-stream conditions will exist after compliance with the WWTF limits established by the WLA:

	Chlorophyll a (ug/l)	Phosphorus (ug/l)
RI portion downstream of Woonsocket WWTF	Range from 15 – 22	Range 120-170
Entrance to Scott Pond	17	120

As can be seen from the above table, the in-stream phosphorus concentrations for both the RI portion of the Blackstone River downstream of the Woonsocket WWTF and at the entrance to Scott Pond will exceed the applicable water quality criteria (100 ug/l for the River and 25 ug/l at the entrance to Scott Pond). Thus, the discharge from the Woonsocket WWTF and the WWTFs located in Massachusetts clearly contribute to the eutrophic conditions and impairment of the Blackstone River and Scott Pond, and effluent limits for total phosphorus below those imposed based on the WLA must be included in the permits to assure compliance with the Rhode Island Water Quality Regulations.

DEM has used the more recent Blackstone River model, which was developed with funding from the Army Corps of Engineers ("BAC") for the MA portion of the River (Michaelis 2005) coupled with the WLA model for the RI portion to predict the impact of various levels of phosphorus reduction from WWTFs on the Blackstone River's phosphorus concentrations. The BAC model was calibrated using the detailed sampling conducted specifically to address concerns the EPA Science Advisory Board raised in connection with the MA portion of the modeling effort used for the 1997 Blackstone River WLA (USEPA et. al 1997). It has been determined that effluent limits of 100 ug/l for the Woonsocket WWTF and the Upper Blackstone Water Pollution Abatement District, Grafton and Uxbridge WWTFs are necessary to achieve compliance with the Gold Book criterion for free flowing streams and to ensure the Blackstone River does not cause a violation of the RI Water Quality criteria in Scott Pond (note: the model predicts 30 ug/l at the entrance to Scott Pond as rounded to precision level of the model-the nearest 10 ug/l). Attached are copies of the model output files for the MA and RI portions of the River. In the future, lower phosphorus limits may be required upon receipt of new



information, including but not limited to the development of a State numeric nutrient criterion or assessment of the response of the Blackstone River and Scott Pond to WWTF phosphorus discharges

**In addition below are a few suggested clarifications to language contained in the permit.**

The language in Footnote 7 is not consistent with other footnotes regarding minimum levels. It should be revised to read that "sample results less than 20 ug/l" rather than "sample results of 20 ug/l or less" shall be reported as zero on the DMR.

Footnote 8 regarding the use and reporting of a total residual chlorine analyzer is somewhat confusing since these analyzers are not approved under 40 CFR Part 136 for reporting on compliance with NPDES permits. EPA should consider using language similar to the following footnote, which EPA included in the 2006 permit modification issued to the Newbury port WWTF:

*"Total Residual Chlorine (TRC) shall be monitored continuously both before and after dechlorination of the effluent, however, the permittee shall continue to report the results of grab samples on its DMRs for compliance determination. The permittee must collect two (2) TRC grab samples daily, one (1) before dechlorination and one (1) after dechlorination before mixing with other waters. The TRC samples must be collected concurrent with the daily Fecal Coliform Bacteria sample. Only the TRC sample taken after dechlorination will be used to determine compliance with the effluent limit. The TRC sample taken before dechlorination is a 'report only' requirement.*

*Results of the grab samples shall be compared with data from the continuous analyzers. The date and time each grab sample is taken shall also be recorded. The permittee shall also submit four (4) continuous recording charts or their equivalent, one chart per week showing weekly data from the post-dechlorination continuous chlorine analyzer. All of this required information shall be attached to the monthly Discharge Monitoring Reports (DMRs).*

*The permittee shall install a low TRC level alarm on the pre-dechlorination TRC analyzer. The alarm shall be set at a level that ensures an adequate kill of fecal coliform bacteria. The alarm will be connected to the Wastewater Treatment Facility (WWTF) alarm pager system. Once notified of low TRC levels, the WWTF staff shall visit the plant to investigate the cause of the alarm. All alarms must be recorded in the operator's log book including the time of alarm, time of system investigation, duration and magnitude of the event, the cause for the alarm and how the event was resolved.*

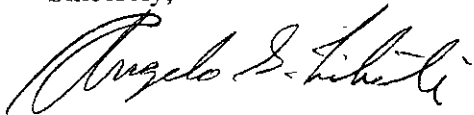
*If the alarm-triggering event resulted in the discharge of un-disinfected effluent, the permittee must immediately sample the effluent for TRC and fecal coliform bacteria.*

*After one year of reporting the results of its continuous chlorine monitoring, the permittee may request reduction or elimination of the continuous chlorine reporting requirements. Any requested reduction must be submitted to EPA and MassDEP in writing and must demonstrate that the previously reported data support such a reduction. Any reduction in reporting frequency must be approved by EPA in a certified letter to the City before the reduction becomes effective. The City may only request a reduction or elimination of the continuous chlorine monitoring reporting frequency; reductions of monitoring frequency*

*will not be allowed . If a reporting frequency reduction is allowed, the permittee must maintain the continuous chlorine monitoring records on site."*

Thank you for the opportunity to comment on the draft permit. If you have any questions please contact me at 401-222-4700 Extension 7225.

Sincerely,



Angelo Liberti  
Chief of Surface Water Protection

enclosures

cc: Paul Hogan, MADEP

---

<sup>i</sup> Michaelis, B. (2005). Dissolved oxygen dynamics in a shallow stream system. Dissertation in Civil and Environmental Engineering at the University of Rhode Island (URI).

<sup>ii</sup> USEPA, MADEP and RIDEM, November 1997, Blackstone River Watershed Dissolved Oxygen Wasteload Allocation for Massachusetts and Rhode Island.

<sup>iii</sup> Nixon, S., B. Buckley, S. Granger, L. Harris, A. Oczkowski, L. Cole and R. Fulweiler, 1995, Draft Report: Anthropogenic Nutrient Inputs to Narragansett Bay: A Twenty-five Year Perspective., A report to the Narragansett Bay Commission and Rhode Island Sea Grant.

<sup>iv</sup> Nixon, S., B. Buckley, S. Granger, L. Harris, A. Oczkowski, L. Cole and R. Fulweiler, 1995, Draft Report: Anthropogenic Nutrient Inputs to Narragansett Bay: A Twenty-five Year Perspective., A report to the Narragansett Bay Commission and Rhode Island Sea Grant.