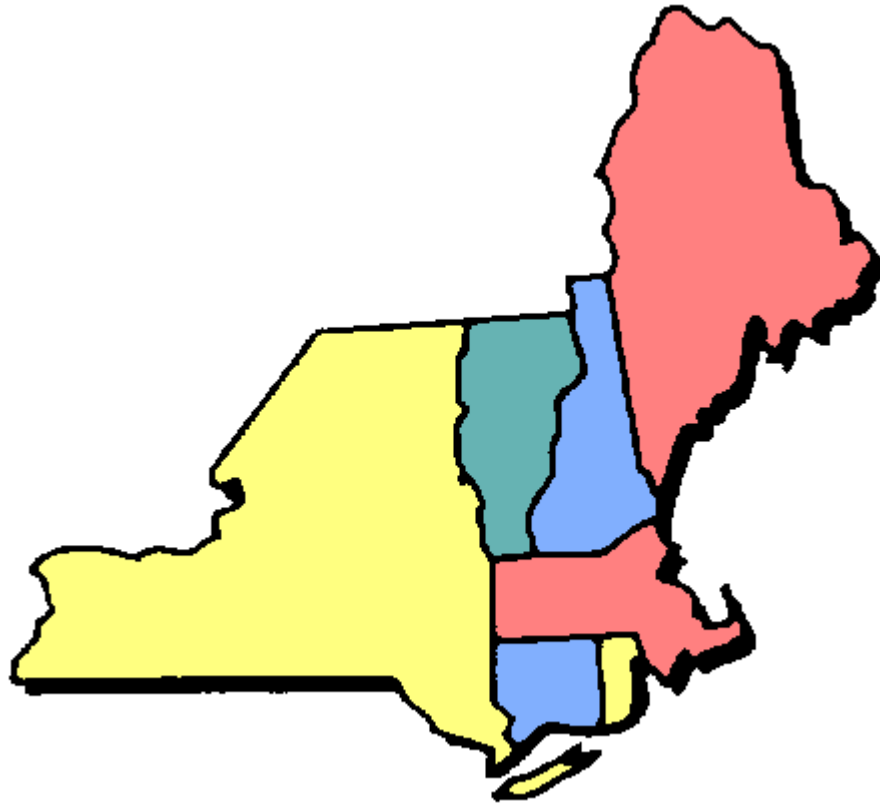


## **Northeast Regional Mercury Total Maximum Daily Load**

### **Final Addendum for Massachusetts (CN 377.0)**



**September 2012**

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
627 Main Street  
Worcester, MA 01608

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## 1.0 Introduction

Section 303(d) of the Federal Clean Water Act (CWA) and Environmental Protection Agency (EPA) Water Quality Planning and Management Regulations (40 CFR Part 130) require states to place waterbodies that do not meet established water quality standards on a list of impaired waterbodies (commonly referred to as the “303d Integrated List”) and to develop Total Maximum Daily Loads (TMDLs) for listed waters and the pollutant(s) contributing to the impairment. As a result of monitoring and assessment activities, 20 new mercury impaired segments have been identified in the Draft Massachusetts Year 2012 Integrated List of Waters pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act (MassDEP 2000, 2001, 2008, 2011, MADPH 2007, 2009 a, b, Maietta et al 1990, 1995, 2008). These waters are impacted for fish consumption primarily due to atmospheric deposition of mercury (MassDEP2012) and require a Total Maximum Daily Load (TMDL) to be derived. The Northeast Regional Mercury Total Maximum Daily Load (NEIWPCC 2007) was approved by EPA in 2007 and the 20 newly identified mercury impaired segments were listed in the 2012<sup>1</sup> Draft Integrated List since the Northeast Regional Mercury TMDL was finalized (NEIWPCC 2007). This addendum was developed by MassDEP with the intention of adding these 20 newly identified impaired segments to the “Final Northeast Regional Mercury Total Maximum Daily Load”.

Section 5 of the Final Northeast Regional Mercury TMDL stated “In addition to the impaired waters listed in Appendix A, the TMDL may, in appropriate circumstances, also apply to waterbodies that are listed for mercury impairment in subsequent Clean Water Act Section 303(d) Lists of Impaired Waters. For such waterbodies, this TMDL may apply if, after listing the waters for mercury impairment and taking into account all relevant comments submitted on the Impaired Waters List, a state determines with EPA approval of the list that this TMDL should apply to future mercury impaired waterbodies.” MassDEP formally requests that the 20 segments within this Addendum be added to the Final Northeast Regional Mercury TMDL:

Waterbody	Segment	2012 List Category	Proposed for TMDL Coverage
			New Impairment Cause(s)
Blackstone			
Manchaug Pond	MA51091	5	“Mercury in Fish Tissue”
Cape Cod			
Bearse Pond	MA96012	5	“Mercury in Fish Tissue”
Horseleach Pond	MA96144	5	“Mercury in Fish Tissue”
Lawrence Pond	MA96165	5	“Mercury in Fish Tissue”
Round Pond (East)	MA96260	5	“Mercury in Fish Tissue”
Round Pond (West)	MA96261	5	“Mercury in Fish Tissue”
Spectacle Pond	MA96306	5	“Mercury in Fish Tissue”
Spectacle Pond	MA96307	5	“Mercury in Fish Tissue”
Charles			
Beaver Pond <sup>1</sup>	MA72004	5	“Mercury in Fish Tissue”
Cedar Swamp Pond <sup>1</sup>	MA72016	5	“Mercury in Fish Tissue”

<sup>1</sup> 3 segments were listed in the 2010 Integrated List (Bearse Pond, Cedar Swamp Pond and Ashland Reservoir).

Waterbody	Segment	2012 List Category	Proposed for TMDL Coverage
			New Impairment Cause(s)
<b>Concord</b>			
Ashland Reservoir <sup>1</sup>	MA82003	5	"Mercury in Fish Tissue"
<b>Deerfield</b>			
Ashfield Pond	MA33001	5	"Mercury in Fish Tissue"
<b>Millers</b>			
Moore's Pond	MA35048	5	"Mercury in Fish Tissue"
<b>Mount Hope Bay</b>			
Sawdy Pond	MA61005	5	"Mercury in Fish Tissue"
<b>Nashua</b>			
Lake Shirley	MA81122	5	"Mercury in Fish Tissue"
<b>Neponset</b>			
Pettee Pond	MA73036	5	"Mercury in Fish Tissue"
Ponkapoag Pond	MA73043	5	"Mercury in Fish Tissue"
Reservoir Pond	MA73048	5	"Mercury in Fish Tissue"
<b>Westfield</b>			
Buckley Dunton Lake	MA32013	5	"Mercury in Fish Tissue"
Windsor Lake	MA32076	5	"Mercury in Fish Tissue"
<sup>1</sup> Originally impaired on 2010 Integrated List			

Within that Final 2007 Northeast Regional Mercury TMDL submission, Massachusetts included impaired waterbodies from the "Massachusetts Year 2006 Integrated List of Waters". The 2002-2008 Surface Water Quality Assessment Report identified an additional 20 mercury impaired segments that have been included in Category 5 of the Draft 2012 Integrated report (MassDEP 2012).

Sections 1, and 8 of this addendum provide information that is relevant to the newly listed segments. All other Sections of the Northeast Regional Mercury TMDL that was approved in 2007 remain relevant. This addendum summarizes the information for these segments including TMDL Calculations, and Appendix A-1 (Massachusetts Freshwaters Impaired Solely by Atmospheric Mercury). Note that there have been no revisions to the water quality standards that apply to these impairments since the Northeast Regional Mercury TMDL was finalized in 2007.

Mercury is a potent neurotoxin that poses risks to human health. Exposure to this toxic metal occurs when humans consume fish that contain mercury's most toxic form, methylmercury. The majority of mercury in the environment is released into the air, but it reaches waterbodies through atmospheric deposition. In order to protect their populations from the harmful effects of mercury, states issue fish consumption advisories that provide information on the types and quantities of fish that can be safely consumed. Six of the seven Northeast states have statewide fish consumption advisories for mercury for all freshwaters. However, fish consumption advisories are intended to be temporary until pollution can be reduced to levels that allow for safe fish consumption.

This Northeast Regional Mercury Total Maximum Daily Load (TMDL) document outlined a strategy for reducing mercury concentrations in fish in Northeast fresh waterbodies so that water quality standards can be met. This TMDL report anticipated that reductions from mercury sources would be needed within the Northeast region, U.S. states outside of the region, and global sources. In the Northeast, the

majority of mercury pollution is a result of atmospheric deposition. Thus, the Northeast regional Mercury TMDL focused on reduction of anthropogenic sources that contribute to atmospheric deposition (NEIWPCC, 2007).

## 2.0 Background Information (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 3.0 Applicable water Quality Standards and Fish Tissue Criteria (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 4.0 Fish Tissue Mercury Concentrations (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 5.0 Northeast Regional Approach (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 6.0 Source Assessment (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 7.0 Development of a Regional Total Maximum Daily Load (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)

## 8.0 Final TMDL

The final Northeast Mercury TMDL applies to the 20 newly listed Massachusetts segments for fish consumption impairments due to mercury in fish tissue. The conventional equation for a TMDL is as follows:  $TMDL = WLA + LA + MOS$ . As described in Section 7.7 from the original 2007 “Northeast Regional Mercury Total Maximum Daily Load” Report, the MOS is implicit for this TMDL, and therefore, it is not necessary to include an explicit MOS in the calculations. Calculation of the WLA and LA are described in the 2007 report Sections 7.5 and 7.6 respectively. The final TMDLs for the Northeast region are shown below for both annual and daily loads for the Massachusetts target fish Mercury concentration (TFMC). The values shown correspond to use of the 80th to 90th percentile existing mercury concentrations in smallmouth bass to calculate the TMDL as discussed in the 2007 report Section 5.2. The target of the TMDL is 90th percentile.

**Table 8 - Addendum. Massachusetts Annual and Daily Load.**

TFMC	TMDL Annual Load 80th Percentile	TMDL Annual Load 90th Percentile
0.3	TMDL (2,319 kg/yr) = WLA (49 kg/yr) + LA (2,269 kg/yr)	TMDL (1,749 kg/yr) = WLA (37 kg/yr) + LA (1,712 kg/yr)
TFMC=Target Fish Mercury Concentration		

TFMC	TMDL Daily Load 80th Percentile	TMDL Daily Load 90th Percentile
0.3	TMDL (6.4 kg/d) = [WLA (51 kg/yr) + LA (2,269 kg/yr)]/365	TMDL (4.8 kg/d) = [WLA (38 kg/yr) + LA (1,712 kg/yr)]/365
TFMC=Target Fish Mercury Concentration		

The WLA is defined for this mercury TMDL as 2.1 percent of the TMDL to ensure that water point source mercury loads remain small and continue to decrease.

#### **9.0 Implementation (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)**

#### **10.0 Reasonable Assurances (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)**

#### **11. Public Participation (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)**

The Northeast regional Mercury TMDL covered seven states and the public participation process was dictated by each state's procedure for public notice of a TMDL. The TMDL was posted on NEIWPCC's website, as well as the websites of each of the participating state agencies. Many states posted notices of the TMDL in local newspapers. Section 11 in the 2007 Report provided a summary of the public participation actions undertaken by each of the states (NEIWPCC 2007) as part of the initial TMDL approval.

The public process for approval of the newly listed segments is as follows:

1. A **Notice of Availability for public review** of the Northeast Regional Mercury TMDL – Massachusetts Addendum was published in the the Environmental Monitor on June 20, 2012 which was during the timeframe for comment/review of the 2012 integrated list.
2. The public notice included a web link to the Final Northeast Regional Mercury TMDL, the 2012 Integrated List and Massachusetts Addendum – Northeast Regional Mercury TMDL. All the documents are posted on MassDEPs web site.
3. The public comment period ended on July 30, 2012.
4. A separate e-mail announcing the public comment period for the TMDL addendum was made to a target list of organizations and "stakeholder" groups, as well as to key contacts at other government agencies, as is typically done for DRAFT TMDL announcements.
5. The comments received on the TMDL Addendum as well as the MassDEP response are attached ot the Addendum.

#### **12. References**

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Maietta et al. 1990. Fish Toxics Monitoring Report, 1983- 2010. Technical Fish Toxics Data Reports, 1990. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Division of Watershed Management, Worcester, MA.

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MassDEP, 2011. Cape Cod Coastal Drainage Areas 2004- 2008 Surface Water Quality Assessment Report, Appendix B. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Division of Watershed Management, Worcester, MA.

MassDEP 2008. Charles River Watershed 2002-2006 Water Quality Assessment Report, Appendix B. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Division of Watershed Management, Worcester, MA.

MassDEP, 2012. Proposed Massachusetts Year 2012 Integrated List of Waters, Final Listing of the Condition of Massachusetts' Waters Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Division of Watershed Management, Worcester, MA.

NEIWPPC, 2007. Northeast Regional Mercury Total Maximum Daily Load Report. New England Interstate Water Pollution Control Commission and the Environmental Protection Agencies from Seven New England States: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont. Lowell MA.

## Addendum to Appendix A: Northeast Waters Impaired Primarily by Atmospheric Deposition of Mercury

### Massachusetts

Based on Massachusetts Year 2006 Integrated List of Waters: Final Listing of Condition of Massachusetts's Waters pursuant to Sections 303(d) and 305(b) of the Clean Water Act, freshwaters listed were found to be impaired solely as a result of atmospheric deposition. Waters where other potential sources could exist were excluded. The proposed 2012 Integrated List of Waters adds twenty (20) additional pond segments to this list (Appendix 4 Draft Massachusetts 2012 Integrated List of Waters). Table A-1 from the original 2007 "Northeast Regional Mercury Total Maximum Daily Load" Report" is thereby revised to include these 20 additional segments .

**Table A-1: Massachusetts Freshwaters Impaired Solely by Atmospheric Mercury**

Waterbody	Town	Segment ID	TMDL Approval
Aaron River Reservoir	Cohasset/Hingham	MA94178	12/20/2007
Ames Pond*	Tewksbury	MA83001	12/20/2007
Ashfield Pond	Ashfield	MA33001	Draft 2012 Listing Cycle
Ashland Reservoir	Ashland	MA82003	2010 Listing Cycle
Ashumet Pond	Mashpee	MA96004	12/20/2007
Assabet River Reservoir	Westborough	MA82004	12/20/2007
Lake Attitash*	Amesbury	MA84002	12/20/2007
Baldpate Pond*	Boxford	MA91001	12/20/2007
Bare Hill Pond	Harvard	MA81007	12/20/2007
Big Pond	Otis	MA31004	12/20/2007
Bearse Pond	Barnstable	MA96012	2010 Listing Cycle
Beaver Pond	Bellingham/Milford	MA72004	Draft 2012 Listing Cycle
Boons Pond	Stow	MA82011	12/20/2007
Buckley Dunton Lake	Becket	MA32013	Draft 2012 Listing Cycle
Buffumville Lake	Charlton	MA42005	12/20/2007
Burr's Pond	Seekonk	MA53001	12/20/2007
Cedar Swamp Pond	Milford	MA72016	2010 Listing Cycle
Chadwicks Pond*	Haverhill	MA84006	12/20/2007
Chebacco Lake	Hamilton	MA93014	12/20/2007
Lake Cochichewick	N. Andover	MA84008	12/20/2007
Cornell Pond	Dartmouth	MA95031	12/20/2007
Crystal Lake*	Haverhill	MA84010	12/20/2007
Lake Dennison	Winchendon	MA35017	12/20/2007
Duck Pond	Wellfleet	MA96068	12/20/2007
East Brimfield Reservoir	Brimfield	MA41014	12/20/2007
Echo Lake	Milford/Hopkinton	MA72035	12/20/2007
Flint Pond	Tyngsborough	MA84012	12/20/2007
Forest Lake*	Methuen	MA84014	12/20/2007
Forge Pond	Westford/Littleton	MA84015	12/20/2007
Fosters Pond*	Andover	MA83005	12/20/2007



<b>Waterbody</b>	<b>Town</b>	<b>Segment ID</b>	<b>TMDL Approval</b>
Gales Pond	Warwick	MA35024	12/20/2007
Gibbs Pond	Nantucket	MA97028	12/20/2007
Great Pond	Wellfleet	MA96117	12/20/2007
Great Herring Pond	Bourne/Plymouth	MA94050	12/20/2007
Great South Pond	Plymouth	MA94054	12/20/2007
Haggetts Pond*	Andover	MA84022	12/20/2007
Hamblin Pond	Barnstable	MA96126	12/20/2007
Hickory Hills Lake	Lunenburg	MA81031	12/20/2007
Holland Pond	Holland	MA41022	12/20/2007
Hood Pond	Ipswich	MA92025	12/20/2007
Horseleach Pond	Truro	MA96144	Draft 2012 Listing Cycle
Hoveys Pond*	Boxford	MA84025	12/20/2007
Johns Pond	Mashpee	MA96157	12/20/2007
Johnsons Pond*	Groveland/Boxford	MA84027	12/20/2007
Kenoza Lake*	Haverhill	MA84028	12/20/2007
Knops Pond/Lost Lake	Groton	MA84084	12/20/2007
Lake Lashaway	N. Brookfield/E. Brookfield	MA36079	12/20/2007
Lawrence Pond	Sandwich	MA96165	Draft 2012 Listing Cycle
Lewin Brook Pond	Swansea	MA61011	12/20/2007
Locust Pond	Tyngsborough	MA84031	12/20/2007
Long Pond	Dracut/Tyngsborough	MA84032	12/20/2007
Long Pond	Rochester	MA95097	12/20/2007
Lowe Pond*	Boxford	MA92034	12/20/2007
Manchaug Pond	Douglas/Sutton	MA51091	Draft 2012 Listing Cycle
Martins Pond	N. Reading	MA92038	12/20/2007
Mashpee Pond	Mashpee/Sandwich	MA96194	12/20/2007
Massapoag Lake	Sharon	MA73030	12/20/2007
Massapoag Pond	Dunstable/Groton/Tyngsborough	MA84087	12/20/2007
Miacomet Pond	Nantucket	MA97055	12/20/2007
Mill Pond	Burlington	MA92041	12/20/2007
Millvale Reservoir*	Haverhill	MA84041	12/20/2007
Monponsett Pond	Halifax	MA62119	12/20/2007
Moores Pond	Warwick	MA35048	Draft 2012 Listing Cycle
Nabnasset Pond	Westford	MA84044	12/20/2007
Newfield Pond	Chelmsford	MA84046	12/20/2007
Lake Nippenicket	Bridgewater	MA62131	12/20/2007
Noquochoke Lake	Dartmouth	MA95113 MA95170 MA95171	12/20/2007
North Watuppa Lake	Fall River	MA61004	12/20/2007
Nutting Lake	Billerica -2 segments	MA82088 MA82124	12/20/2007
Otis Reservoir	Otis/Tolland/ Blandford	MA31027	12/20/2007
Pentucket Pond*	Georgetown	MA91010	12/20/2007

Waterbody	Town	Segment ID	TMDL Approval
Lake Pentucket*	Haverhill	MA84051	12/20/2007
Peters Pond	Sandwich	MA96244	12/20/2007
Pettee Pond	Walpole/Westwood	MA73036	Draft 2012 Listing Cycle
Plainfield Pond	Plainfield	MA33017	12/20/2007
Pomps Pond*	Andover	MA83014	12/20/2007
Ponkapoag Pond	Canton/Randolph	MA73043	Draft 2012 Listing Cycle
Pontoosuc Lake	Lanesborough/Pittsfield	MA21083	12/20/2007
Populatic Pond	Norfolk	MA72096	12/20/2007
Pottapaug Pond Basin	Petersham	MA36125	12/20/2007
Quabbin Reservoir	Petersham/Pelham/Ware Hardwick/Shutesbury/Belchertown/New Salem	MA36129	12/20/2007
Quacumquasit Pond	Brookfield/E. Brookfield/Sturbridge	MA36131	12/20/2007
Reservoir Pond	Canton	MA73048	Draft 2012 Listing Cycle
Rock Pond*	Georgetown	MA91012	12/20/2007
Lake Rohunta	Athol/Orange/New Salem	MA35070 MA35106 MA35107	12/20/2007
Round Pond (East)	Truro	MA96260	Draft 2012 Listing Cycle
Round Pond (West)	Truro	MA96261	Draft 2012 Listing Cycle
Lake Saltonstall*	Haverhill	MA84059	12/20/2007
Sawdy Pond		MA61005	Draft 2012 Listing Cycle
Sheep Pond	Brewster	MA96289	12/20/2007
Lake Shirley		MA81122	Draft 2012 Listing Cycle
Silver Lake	Wilmington	MA92059	12/20/2007
Snake Pond	Sandwich	MA96302	12/20/2007
Snipatuit Pond	Rochester	MA95137	12/20/2007
Somerset Reservoir	Somerset	MA62174	12/20/2007
Spectacle Pond	Wellfleet	MA96306	Draft 2012 Listing Cycle
Spectacle Pond	Sandwich	MA96307	Draft 2012 Listing Cycle
Stevens Pond*	N. Andover	MA84064	12/20/2007
Tom Nevers Pond	Nantucket	MA97097	12/20/2007
Turner Pond	New Bedford/Dartmouth	MA95151	12/20/2007
Upper Naukeag Lake	Ashburnham	MA35090	12/20/2007
Upper Reservoir	Westminster	MA35091	12/20/2007
Wachusett Reservoir	Boylston/W.Boylston/Clinton/Sterling	MA81146	12/20/2007
Waite Pond	Leicester	MA51170	12/20/2007
Wakeby Pond	Mashpee/Sandwich	MA96346	12/20/2007
Walden Pond	Concord	MA82109	12/20/2007
Lake Wampanoag	Ashburnham/Gardner	M181151	12/20/2007
Warners Pond	Concord	MA82110	12/20/2007
Wenham Lake	Beverly	MA92073	12/20/2007

<b>Waterbody</b>	<b>Town</b>	<b>Segment ID</b>	<b>TMDL Approval</b>
Wequaquet Lake	Barnstable	MA96333	12/20/2007
Whitehall Reservoir	Hopkington	MA82120	12/20/2007
Whiting Pond	N. Attleborough/Plainville	MA52042	12/20/2007
Wickaboag Pond	W. Brookfield	MA36166	12/20/2007
Willet Pond	Walpole/Westwood/Norwood	MA73062	12/20/2007
Windsor Lake	Windsor	MA32076	Draft 2012 Listing Cycle

\* Those identified by an asterisk are located in a mercury hot spot area and are not covered by this TMDL. Implementation of this TMDL may result in significant reductions in fish mercury concentrations or possibly achieve standards in this area at a future date.

**Appendices B through E (see Final Northeast Regional Mercury Total Maximum Daily Load, December 20, 2007)**

## Attachment 1 – Public Notice of Addendum



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

### Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

RICHARD K. SULLIVAN JR.  
Secretary

KENNETH L. KIMMELL  
Commissioner

#### **Notice of Availability: Northeast Regional Mercury Total Maximum Daily Load: Draft Addendum for Massachusetts (CN 334.0)**

The Massachusetts Department of Environmental Protection (MassDEP) announces the availability for public comment the Northeast Regional Mercury Total Maximum Daily Load Draft Addendum for Massachusetts (CN 334.0). Section 303(d) of the Federal Clean Water Act (CWA) and Environmental Protection Agency (EPA) Water Quality Planning and Management Regulations (40 CFR Part 130) require states to place waterbodies that do not meet established water quality standards on a list of impaired waterbodies (commonly referred to as the "303d Integrated List") and to develop Total Maximum Daily Loads (TMDLs) for listed waters and the pollutant(s) contributing to the impairment. As a result of monitoring and assessment activities, 20 new mercury impaired segments have been identified in the Draft Massachusetts Year 2012 Integrated List of Waters pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act. These waters are impacted for fish consumption primarily due to atmospheric deposition of mercury (MassDEP, 2010, 2012) and require a Total Maximum Daily Load (TMDL) to be derived. The Northeast Regional Mercury Total Maximum Daily Load (NEIWPCC 2007) was approved by EPA in 2007 and the 20 newly identified mercury impaired segments were listed in the 2012 Draft Integrated List since the Northeast Regional Mercury TMDL was finalized (NEIWPCC 2007).

Section 5 of the Final Northeast Regional Mercury TMDL stated "In addition to the impaired waters listed in Appendix A, the TMDL may, in appropriate circumstances, also apply to waterbodies that are listed for mercury impairment in subsequent Clean Water Act Section 303(d) Lists of Impaired Waters. For such waterbodies, this TMDL may apply if, after listing the waters for mercury impairment and taking into account all relevant comments submitted on the Impaired Waters List, a state determines with EPA approval of the list that this TMDL should apply to future mercury impaired waterbodies." This addendum was developed by MassDEP with the intention of adding these 20 newly identified impaired segments to the "Final Northeast Regional Mercury Total Maximum Daily Load".

Electronic copies of the following documents are available on MassDEP's website at:  
<http://www.mass.gov/dep/water/resources/tmdls.htm#multis>

- Northeast Regional Mercury Total Maximum Daily Load: Draft Addendum for Massachusetts (CN 334.0)
- Final Northeast Regional Mercury Total Maximum Daily Load
- Proposed Massachusetts Year 2012 Integrated List of Waters

MassDEP will consider all comments and the Draft Addendum TMDL Report will be revised as appropriate prior to submittal to EPA Region 1 for final approval. All public comments, which should refer to report number CN 334, must be received in writing, preferably in electronic format, by July 30, 2012 and be addressed to:

**Massachusetts Department of Environmental Protection, Division of Watershed Management**  
627 Main St., 2nd Floor, Worcester, MA, 01608  
Attn: Dr. Kimberly Groff, Phone: (508) 767-2876, Email: [kimberly.groff@state.ma.us](mailto:kimberly.groff@state.ma.us)

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-292-5751. TDD# 1-866-539-7622 or 1-617-574-6868  
MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

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## Attachment 2 – Response to Comments

### Northeast Regional Mercury TMDL – Draft Addendum FOR Massachusetts –

#### Comment Letter from Julie Wood, CRWA, VIA: E-mail July 30, 2012

**CRWA comment:** CRWA submits the following comments regarding the above referenced Draft Addendum. It is CRWA's understanding that this Addendum seeks to officially incorporate 20 additional Massachusetts water body segments into the Final Northeast Regional Mercury TMDL, two of which are within the Charles River watershed: Beaver Pond and Cedar Swamp Pond. While this addendum does not provide specific data results for each water body segment MassDEP proposes to incorporate under this TMDL, it is our understanding that fish tissue analysis conducted in advance of the 2012 303(d) listing process confirmed that these water bodies are impacted for fish consumption due solely to atmospheric deposition of mercury.

CRWA supports the continued, thorough and timely monitoring of water bodies for all possible impairments -- physical, chemical, and biological. It is critical that the state's monitoring program include analysis of water bodies that are previously un-assessed, water bodies that are known to be impaired, and water bodies that already have a TMDL completed to determine if the TMDL is achieving the desired outcome. CRWA requests that all water body segments in the Charles be regularly assessed for mercury concentrations in fish tissue. CRWA believes that it is essential to the effective management of water resource in the state that the 303d Integrated List of Waters is accurate, up to date, and comprehensive based on sound data,. Furthermore, if these water body segments have been shown to be impaired for Mercury in Fish Tissue, and it can be documented that atmospheric inputs are the primary pollution source, we support their incorporation into the Final Northeast Regional Mercury Total Maximum Daily Load.

CRWA understands there are unique challenges specific to the Final Regional Mercury TMDL, namely that following the first two phases of implementation, the largest loading source is atmospheric deposition from out of region sources. While this challenge appears to have caused some delays in the original implementation timeline, it is clear from this Addendum that additional efforts are needed to protect our waterways from dangerous mercury pollution. The TMDL Implementation plan calls for a reassessment of mercury levels in fish tissue in 2010. This Addendum indicates that that mercury levels in fish tissue in numerous Massachusetts waterways are currently not meeting water quality standards.

**MassDEP Response:** MassDEP and the Department of Public Health have a program in place to select waterbodies to assess fish tissue contaminants. Currently monitoring locations for assessment of fish tissue contaminants are selected based upon public requests. Each year an interagency workgroup comprising of representatives from MassDEP (Division of Watershed Management, Office of Research and Standards, and Wall Experiment Station(WES)) discusses public requests received and determines based on available resources how many and which sites should be sampled that year. Requests should be made to the Interagency Toxics in Fish Committee. Requests for monitoring should be submitted to Robert Maietta, via mail, Division of Watershed Management, 627 Main St, Worcester, MA or e-mail [Robert.Maietta@state.ma.us](mailto:Robert.Maietta@state.ma.us).

DWM collects the samples and prepares them for analysis. The Wall Experiment Station conducts the analysis and the data are provided to the Mass Department of Public Health who then determines, based on the results, if a health advisory should be issued. If a health advisory is issued the waterbody is then listed on the state 303d list during the next listing cycle. It should be noted that the number of sites sampled are contingent on the staff resources available to collect the data (1 person plus 2 to 3 seasonal employees) and by available staff at the WES to conduct the analysis.

Although MassDEP agrees it would be beneficial to collect data at all locations within the Charles River Watershed (as well as others around the state) it is simply not possible to do so given the number of staff available. As such prioritizing sites in consultation with other agencies is considered a logical solution at this time.

**CRWA comment:** Further reductions from atmospheric deposition are clearly necessary and CRWA urges state governments and the EPA to work swiftly to accomplish this given the significant health threat posed by mercury.

**MassDEP Response:** We completely agree with your comment and that is the reason MassDEP partnered with the other Northeast States (including New York) and the New England Interstate Water Pollution Control Commission (NEIWPCC) to develop a regional TMDL. We believe we are doing everything in our control to address the issue including but not limited to those activities identified in the TMDL such as requiring additional regulatory controls on instate sources, requiring source reduction such as has been instituted at dental facilities and school laboratories, more controls on hospital incinerators, etc. The TMDL provides a detailed discussion of other activities that are already underway in each state.

MassDEP is also an active participant of the New England Governors and Eastern Canadian Premiers (NEG-ECP) committee. The governors and premiers collaborate on regional issues and take action on policy areas including the environment, energy, economic development, trade, security, and ocean issues. As stated in the TMDL in June 1997, the NEG-ECP charged its Committee on the Environment to develop a regional Mercury Action Plan (MAP). Subsequently, a draft framework for the MAP was developed by representatives of the states and provinces, and then finalized and agreed upon by the NEG-ECP in June 1998. The MAP identifies steps to address those aspects of the mercury problem in the region that are within the region's control or influence and sets an overall regional goal to virtually eliminate the discharge of anthropogenic mercury into the environment to ensure that serious or irreversible damage attributable to these sources is not inflicted upon human health and the environment (Committee on the Environment of the Conference of the New England Governors and Eastern Canadian Premiers 1998).

The six action items set forth in the MAP include: 1) established a regional task force to implement the plan; 2) specified emissions limits for major mercury sources that are considerably more stringent than federal requirements; 3) supported pollution prevention efforts to reduce mercury use in products and increase collection and recycling of mercury-added products where environmentally preferable alternatives do not exist; 4) directed state and provincial agencies to implement outreach and education programs about mercury; 5) supported coordination of mercury research and environmental monitoring efforts to track results; and 6) called for retirement of the U.S. federal mercury stockpile.

Implementation of the MAP has been very successful and will continue under the auspices of the Conference of Northeast Governors going forward. All of the New England states have developed and implemented numerous legislative and regulatory actions to address mercury sources. In Massachusetts

we have achieved a 91% reduction in in-state emissions since the early 1990's and overall regional emissions in the New England states and Eastern Canadian Provinces have been reduced by about 75%.

With this said air modeling conducted by NESCAUM has documented that the largest portion of mercury deposition in Massachusetts and regionally is now coming from other states outside our regulatory boundary where we have no authority. To address this issue, in late 2009, all the New England states signed a joint letter request to EPA requesting they hold a 319g conference with those states which contribute to the problem in the northeast. That conference was held in Philadelphia in June 2010. The meeting was held to inform other states as to the extent of the problem in the northeast, identify what each state is doing to address the issue, and identify actions necessary. The northeast states also followed-up after the meeting with a letter to Lisa Jackson (the EPA Administrator) outlining recommended actions to be taken at the federal level including but not limited to the phasing of regulations requiring maximum available control technology (MACT) for many air sources, in particular coal-fired electricity generating power plants. Massachusetts and regional environmental staff have also been leaders in national and international efforts to reduce mercury sources through the Environmental Council of States and the Quicksilver Caucus.

In summary, there are many actions that have been taken and continue to be taken in not only Massachusetts but in other states both from the northeast and across the country targeted at addressing this problem.

**CRWA Comment:** Additionally, EPA and the states should revisit the wasteload allocation (WLA) to determine if existing regulations are in fact adequate to protect our waterways from mercury contamination through stormwater runoff and wastewater discharges.

**MassDEP Response:** As described in the TMDL a detailed evaluation of point source data was provided during TMDL development and the load was found to be insignificant as compared to the atmospheric load. Although strategies are in place to ensure the point source load continues to be monitored and addressed (pretreatment programs, local limits, source reduction strategies, etc.) the emphasis has been to reduce the major contributor (air deposition).

The TMDL also called for a reevaluation of the TMDL in 2010 which has not yet occurred. The reason for this is that all states are still in the process of collecting new fish data and efforts are underway to update the previous emission source database. It is envisioned that once these elements are completed the TMDL allocations and our progress to reduce emissions will be recalculated.

**CRWA comment:** Finally, CRWA requests a clarification on two issues. First it is not entirely clear how MassDEP is distinguishing water bodies impaired for "Mercury in Fish Tissue" solely as a result of atmospheric deposition. What criteria does MassDEP use to determine whether or not there are potential contamination sources other than atmospheric deposition? Second, what is the management strategy for water body segments that are impaired for "Mercury in Fish Tissue" where potential contamination sources other than atmospheric deposition are suspected or possible? In our opinion, MassDEP should develop site specific mercury TMDLs for these segments.

**MassDEP Response:** The lakes that were selected were generally isolated lakes where our permit records indicated that there were no likely other feasible sources of mercury. Where there was a likelihood of another source, the waterbody was not listed in the TMDL. Such was the case for all river segments. Also, there were a number of lakes not listed that had elevated levels not typical of fish tissue

background concentrations found in across the state. This was the case in for a number of lakes and ponds close to municipal incinerators particularly in the northern 495 corridor in Lawrence and Andover. As to the management strategy for other impaired waterbodies they remain in category 5 of our integrated list of waters until such time that site-specific TMDLs can be developed.