

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATERSHED MANAGEMENT

ADOPTED AMENDMENT TO THE ATLANTIC, CAPE MAY, LOWER DELAWARE,
LOWER RARITAN-MIDDLESEX, MERCER, MONMOUTH, NORTHEAST, OCEAN,
SUSSEX, TRI-COUNTY, UPPER DELAWARE AND UPPER RARITAN WATER
QUALITY MANAGEMENT PLANS WATER QUALITY MANAGEMENT PLANS TO
ADOPT 122 TOTAL MAXIMUM DAILY LOADS ADDRESSING MERCURY
IMPAIRMENTS STATEWIDE

Public Notice

Take notice that on ~~JUN 10 2010~~ pursuant to the provisions of the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Statewide Water Quality Management Planning rules (N.J.A.C. 7:15-3.4) amendments to the Atlantic, Cape May, Lower Delaware, Lower Raritan-Middlesex, Mercer, Monmouth, Northeast, Ocean, Sussex, Tri-County, Upper Delaware And Upper Raritan Water Quality Management Plans (WQMP) were adopted by the New Jersey Department of Environmental Protection (Department). These amendments establish 122 total maximum daily loads (TMDLs) to address impairments where levels of mercury in fish tissue warrant fish consumption advisories, but mercury is not present in the water column in excess of the numeric criteria, and there are no known significant sources of mercury other than air deposition. Mercury impairments in tidal waters and in the New York/New Jersey

Harbor and the Delaware River and Estuary are not addressed by these TMDLs. Impairments in these waters will be addressed upon collection of additional data or through on-going or anticipated interstate efforts to address mercury impairments in these areas.

These amendments consist of a detailed report, entitled Total Maximum Daily Load for Mercury Impairments Based on Concentration in Fish Tissue Caused Mainly by Air Deposition to Address 122 HUC 14s Statewide, that provides the technical and regulatory basis for the TMDL. It is available from the Department at <http://www.state.nj.us/dep/watershedmgt/tmdl.htm>

A TMDL represents the assimilative or carrying capacity of a waterbody, taking into consideration point and nonpoint sources of pollutants of concern, natural background and surface water withdrawals. A TMDL quantifies the amount of a pollutant a water body can assimilate without violating applicable water quality standards and allocates that loading capacity to known point sources in the form of wasteload allocations (WLA), nonpoint sources in the form of load allocations (LA), and includes a margin of safety and optional consideration of reserve capacity. A TMDL is developed as a mechanism for identifying all the contributors to surface water quality impacts and setting goals for load reductions for pollutants of concern as necessary to meet surface water quality standards (SWQS).

TMDLs are required, under Section 303(d) of the Federal Clean Water Act, 33 U.S.C. 1313(d), to be developed for waterbodies that cannot meet water quality standards after the implementation of technology-based effluent limitations. TMDLs may also be established to help maintain or improve water quality in waters that are not impaired. Federal regulations concerning TMDLs are contained in United States Environmental Protection Agency's (EPA) Water Quality Planning and Management Regulations (40 CFR 130).

Mercury is a bioaccumulative neurotoxin. When it enters the environment, aquatic organisms take it in and it is magnified through the food chain. At certain levels, fish consumption advisories are triggered. Fish consumption advisories are jointly issued by the New Jersey Department of Environmental Protection and the New Jersey Department of Health & Senior Services. They provide advice to the general population and high-risk individuals (for example, women of childbearing age and children) concerning the number of meals that represent safe levels of consumption of recreational fish from New Jersey waters. Fish consumption advisories for mercury include information on how to limit risk from contaminants by providing guidance on the types and sizes of fish and the number of meals to eat. They are not promulgated standards, but they are one of the bases for determining whether designated uses are met. Where fish tissue levels exceed the advisory thresholds, a waterbody is listed on the 303(d) list triggering the development of a TMDL. Accordingly, the target to be achieved by this TMDL is attainment of fish tissue levels that are generally safe to eat. All TMDLs must be calculated to achieve compliance with the applicable adopted

surface water quality standard for the pollutant of concern. Achieving fish tissue levels that are safe to eat will assure achievement of the most conservative Surface Water Quality Standard numeric criterion summarized in Table 1 below. The fish consumption advisory levels are summarized in Tables 2 and 3 below.

Table 1 Mercury Surface Water Quality Criteria ($\mu\text{g/l}$)

	Fresh Water (FW2) Criteria			Saline Water (SE&SC) Criteria		
	Aquatic		Human Health	Aquatic		Human Health
	Acute	Chronic		Acute	Chronic	
Mercury	1.4 (d)(s)	0.77 (d)(s)	0.050 (h)(T)	1.8 (d)(s)	0.94 (d)(s)	0.051 (h)(T)

(d): criterion expressed as a function of the water effects ratio
(s): dissolved
(h): noncarcinogenic effect-based human health criteria
(T): total

**Table 2 Advisories for high-risk individuals
(women of child bearing age, nursing mothers and children)**

Fish Tissue Mercury Concentration	Advisory
Greater than 0.54 $\mu\text{g/g}$ (ppm)	Do not eat
Between 0.19 and 0.54 $\mu\text{g/g}$ (ppm)	One meal per month
Between 0.08 and 0.18 $\mu\text{g/g}$ (ppm)	One meal per week
0.07 $\mu\text{g/g}$ (ppm)	Unlimited consumption

Table 3 Advisories for the general population

Fish Tissue Mercury Concentration	Advisory
Greater than 2.81 $\mu\text{g/g}$ (ppm)	Do not eat
Between 0.94 and 2.81 $\mu\text{g/g}$ (ppm)	One meal per month
Between 0.35 and 0.93 $\mu\text{g/g}$ (ppm)	One meal per week.
0.34 $\mu\text{g/g}$ (ppm)	Unlimited consumption

The overwhelming source of mercury contamination, both in New Jersey and globally, is air deposition. Waters across the nation, even in otherwise pristine areas, are affected because air is able to transport mercury across the bounds of land and water. This makes mercury contamination from air deposition uniquely suited to a regional or statewide TMDL that models the relative contribution of mercury from various air sources and identifies the levels of reduction needed to make fish safe to eat. Because of the nature of the air source, adequate control of sources of mercury contamination will depend on regional, national and international efforts.

On September 16, 2002, the Department and the EPA Region 2 entered into a Memorandum of Agreement (MOA) to determine a schedule to establish TMDLs for impaired waters as listed on New Jersey's approved 303(d) list. The Department includes the 303(d) list as part of the Integrated List of Waters. These TMDLs were established on September 10, 2009 and submitted to EPA pursuant to N.J.A.C. 7:15-

7.2(k) for review in accordance with 40 CFR 130.7. On September 25, 2009, EPA approved these TMDLs.

The draft *2008 Integrated List of Waters* (40 N.J.R. 4835(c)) identifies 256 Hydrologic Unit Code (HUC) 14 assessment units as impaired due to mercury in surface water and/or fish tissue statewide. 192 listings are impaired with respect to mercury concentration in fish tissue only, 15 listings are impaired due to water column concentrations of mercury in excess of the SWQS and 49 listings are impaired with respect to fish tissue and the water column. Six waterbodies were added in 2008 and the rest were carried over from the EPA approved 2006 *Integrated List of Waters* (40 N.J.R. 1380(b)). An additional 37 waterbodies have been found to be impaired with respect to fish tissue only based on 2007 data not available when the *2008 Integrated List of Waters* was prepared and are addressed in the TMDL report.

The TMDL report will address 122 of the fish tissue-only impairments, including 85 from the draft *2008 Integrated List of Waters* and the 37 additional waterbodies referenced above which are classified as impaired based on data not available for the draft *2008 Integrated List of Waters*. The assessments units addressed are identified in Table 4 below. As indicated above, the remainder of the fish tissue-only impairments will be addressed in future TMDLs either because additional data is required (tidal areas and areas where there are significant sources other than air deposition) or other initiatives involving interstate efforts are underway or anticipated (New York/New Jersey Harbor and Delaware River/Estuary).

Table 4 Assessment Units Covered by this TMDL

Watershed Management Area (WMA)	Assessment Unit ID	Waterbody Name	2006 Integrated list	2008 Integrated list
01	02040104090020	Clove Brook (Delaware R)	Sublist 5	Sublist 5
01	02040104130010	Little Flat Brook (Beerskill and above)	Sublist 5	Sublist 5
01	02040104140010	Big Flat Brook (above Forked Brook)	Sublist 5	Sublist 5
01	02040105030020	Swartswood Lake and tribs	Sublist 5	Sublist 5
01	02040105030030	Trout Brook	Sublist 5	Sublist 5
01	02040105050040	Yards Creek	Sublist 3	Sublist 3*
01	02040105090040	Mountain Lake Brook	Sublist 5	Sublist 5
01	02040105140040	Merrill Creek	Sublist 5	Sublist 5
01	02040105140060	Pohatcong Ck (Springtown to Merrill Ck)	Sublist 3	Sublist 3*
01	02040105150020	Lake Hopatcong	Sublist 5	Sublist 5
01	02040105150060	Cranberry Lake / Jefferson Lake & tribs	Sublist 5	Sublist 5
02	02020007040040	Highland Lake/Wawayanda Lake	Sublist 5	Sublist 5
03	02030103050020	Pacock Brook	Sublist 5	Sublist 5
03	02030103050030	Pequannock R (above OakRidge Res outlet)	Sublist 5	Sublist 5
03	02030103050040	Clinton Reservoir/Mossmans Brook	Sublist 5	Sublist 5
03	02030103050060	Pequannock R(Macopin gage to Charl'brg)	Sublist 5	Sublist 5
03	02030103050080	Pequannock R (below Macopin gage)	Sublist 5	Sublist 5
03	02030103070030	Wanaque R/Greenwood Lk(aboveMonks gage)	Sublist 5	Sublist 5
03	02030103070050	Wanaque Reservoir (below Monks gage)	Sublist 5	Sublist 5
03	02030103110020	Pompton River	Sublist 5	Sublist 5
06	02030103010170	Passaic R Upr (Rockaway to Hanover RR)	Sublist 5	Sublist 5
06	02030103020040	Whippany R(Lk Pocahontas to Wash Val Rd)	Sublist 5	Sublist 5
06	02030103020080	Troy Brook (above Reynolds Ave)	Sublist 5	Sublist 5
06	02030103030030	Rockaway R (above Longwood Lake outlet)	Sublist 5	Sublist 5
06	02030103030040	Rockaway R (Stephens Bk to Longwood Lk)	Sublist 5	Sublist 5
06	02030103030070	Rockaway R (74d 33m 30s to Stephens Bk)	Sublist 5	Sublist 5
06	02030103030090	Rockaway R (BM 534 brdg to 74d 33m 30s)	Sublist 5	Sublist 5
06	02030103030110	Beaver Brook (Morris County)	Sublist 5	Sublist 5
06	02030103030140	Rockaway R (Stony Brook to BM 534 brdg)	Sublist 5	Sublist 5
06	02030103030150	Rockaway R (Boonton dam to Stony Brook)	Sublist 5	Sublist 5
06	02030103030170	Rockaway R (Passaic R to	Sublist 5	Sublist 5

		Boonton dam)		
08	02030105010030	Raritan River SB(above Rt 46)	Sublist 5	Sublist 5
08	02030105010040	Raritan River SB(74d 44m 15s to Rt 46)	Sublist 3	Sublist 3*
08	02030105010050	Raritan R SB(LongValley br to 74d44m15s)	Sublist 3	Sublist 3*
08	02030105010060	Raritan R SB(Califon br to Long Valley)	Sublist 3	Sublist 3*
08	02030105020040	Spruce Run Reservoir / Willoughby Brook	Sublist 5	Sublist 5
08	02030105020090	Prescott Brook / Round Valley Reservoir	Sublist 5	Sublist 5
08	02030105020100	Raritan R SB(Three Bridges-Prescott Bk)	Sublist 3	Sublist 3*
08	02030105040010	Raritan R SB(Pleasant Run-Three Bridges)	Sublist 3	Sublist 3*
08	02030105040040	Raritan R SB(NB to Pleasant Run)	Sublist 3	Sublist 3*
09	02030105080020	Raritan R Lwr (Rt 206 to NB / SB)	Sublist 3	Sublist 3*
09	02030105080030	Raritan R Lwr (Millstone to Rt 206)	Sublist 3	Sublist 3*
09	02030105120080	South Fork of Bound Brook	Sublist 3	Sublist 3*
09	02030105120100	Bound Brook (below fork at 74d 25m 15s)	Sublist 3	Sublist 3*
09	02030105120140	Raritan R Lwr(I-287 Piscatway-Millstone)	Sublist 5	Sublist 5
09	02030105130050	Lawrence Bk (Church Lane to Deans Pond)	Sublist 3	Sublist 3*
09	02030105130060	Lawrence Bk (Milltown to Church Lane)	Sublist 3	Sublist 3*
09	02030105140020	Manalapan Bk(incl LkManlpn to 40d16m15s)	Sublist 3	Sublist 3*
09	02030105140030	Manalapan Brook (below Lake Manalapan)	Sublist 5	Sublist 5
09	02030105160030	Duernal Lake / Iresick Brook	Sublist 3	Sublist 3*
10	02030105090050	Stony Bk(Province Line Rd to 74d46m dam)	Sublist 3	Sublist 3*
10	02030105100130	Bear Brook (below Trenton Road)	Sublist 3	Sublist 5
10	02030105110020	Millstone R (HeathcoteBk to Harrison St)	Sublist 3	Sublist 5
10	02030105110110	Millstone R (BlackwellsMills to BedenBk)	Sublist 3	Sublist 3*
10	02030105110140	Millstone R(AmwellRd to BlackwellsMills)	Sublist 3	Sublist 3*
10	02030105110170	Millstone River (below Amwell Rd)	Sublist 3	Sublist 3*
12	02030104060020	Matawan Creek (above Ravine Drive)	Sublist 3	Sublist 3*
12	02030104060030	Matawan Creek (below Ravine Drive)	Sublist 5	Sublist 5
12	02030104070070	Swimming River Reservoir / Slope Bk	Sublist 3	Sublist 3*
12	02030104070090	Nut Swamp Brook	Sublist 3	Sublist 5
12	02030104090030	Deal Lake	Sublist 3	Sublist 3*
12	02030104090080	Wreck Pond Brook (below Rt 35)	Sublist 3	Sublist 5
12	02030104100050	Manasquan R (gage to West	Sublist 5	Sublist 5

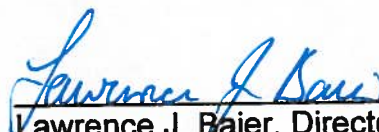
		Farms Rd)		
13	02040301030040	Metedeconk R SB (Rt 9 to Bennetts Pond)	Sublist 5	Sublist 5
13	02040301060050	Dove Mill Branch (Toms River)	Sublist 5	Sublist 5
13	02040301070010	Shannae Brook	Sublist 5	Sublist 5
13	02040301070030	Ridgeway Br (Hope Chapel Rd to HarrisBr)	Sublist 5	Sublist 5
13	02040301070040	Ridgeway Br (below Hope Chapel Rd)	Sublist 5	Sublist 5
13	02040301070080	Manapaqua Brook	Sublist 3	Sublist 5
13	02040301070090	Union Branch (below Blacks Br 74d22m05s)	Sublist 5	Sublist 5
13	02040301080030	Davenport Branch (above Pinewald Road)	Sublist 3	Sublist 5
13	02040301090050	Cedar Creek (GS Parkway to 74d16m38s)	Sublist 5	Sublist 5
13	02040301130030	Mill Ck (below GS Parkway)/Manahawkin Ck	Sublist 3	Sublist 3*
13	02040301130050	Westecunk Creek (above GS Parkway)	Sublist 5	Sublist 5
13	02040301140020	Mill Branch (below GS Parkway)	Sublist 3	Sublist 3*
13	02040301140030	Tuckerton Creek (below Mill Branch)	Sublist 3	Sublist 3*
14	02040301150080	Batsto R (Batsto gage to Quaker Bridge)	Sublist 5	Sublist 5
14	02040301160030	Mullica River (Rt 206 to Jackson Road)	Sublist 5	Sublist 5
14	02040301160140	Mullica River (39d40m30s to Rt 206)	Sublist 5	Sublist 5
14	02040301160150	Mullica R (Pleasant Mills to 39d40m30s)	Sublist 5	Sublist 5
14	02040301180060	Oswego R (Andrews Rd to Sim Place Resv)	Sublist 3	Sublist 3*
14	02040301180070	Oswego River (below Andrews Road)	Sublist 5	Sublist 5
14	02040301190050	Wading River WB (Jenkins Rd to Rt 563)	Sublist 5	Sublist 5
14	02040301200010	Beaver Branch (Wading River)	Sublist 5	Sublist 5
14	02040301200050	Bass River EB	Sublist 3	Sublist 3*
15	02040302030020	GEHR (AC Expressway to New Freedom Rd)	Sublist 5	Sublist 5
15	02040302040050	Collings Lakes trib (Hospitality Branch)	Sublist 5	Sublist 5
15	02040302040130	GEHR (Lake Lenape to Mare Run)	Sublist 5	Sublist 5
15	02040302050120	Middle River / Peters Creek	Sublist 3	Sublist 3*
16	02040206210050	Savages Run (above East Creek Pond)	Sublist 5	Sublist 5
16	02040206210060	East Creek	Sublist 5	Sublist 5
17	02040206030010	Salem River (above Woodstown gage)	Sublist 5	Sublist 5
17	02040206070030	Canton Drain (above Maskell Mill)	Sublist 5	Sublist 5
17	02040206080050	Cohansey R (incl CornwellRun -	Sublist 3	Sublist 5

		BeebeRun)		
17	02040206090030	Cohansey R (Rocaps Run to Cornwell Run)	Sublist 5	Sublist 5
17	02040206100060	Nantuxent Creek (above Newport Landing)	Sublist 3	Sublist 3*
17	02040206130010	Scotland Run (above Fries Mill)	Sublist 5	Sublist 5
17	02040206130040	Scotland Run (below Delsea Drive)	Sublist 5	Sublist 5
17	02040206140010	MauriceR(BlkwtrBr to/incl WillowGroveLk)	Sublist 5	Sublist 5
17	02040206150050	Muddy Run (incl ParvinLk to Palatine Lk)	Sublist 3	Sublist 3*
17	02040206180050	Menantico Creek (below Rt 552)	Sublist 3	Sublist 3*
18	02040202100020	Pennsauken Ck NB (incl StrwbrdgLk-NJTPK)	Sublist 3	Sublist 5
18	02040202110030	Cooper River (above Evesham Road)	Sublist 5	Sublist 5
18	02040202110040	Cooper R (Wallworth gage to Evesham Rd)	Sublist 5	Sublist 5
18	02040202110050	Cooper River (Rt 130 to Wallworth gage)	Sublist 5	Sublist 5
18	02040202120010	Big Timber Creek NB (above Laurel Rd)	Sublist 5	Sublist 5
18	02040202120020	Big Timber Creek NB (below Laurel Rd)	Sublist 5	Sublist 5
18	02040202120030	Big Timber Creek SB (above Lakeland Rd)	Sublist 5	Sublist 5
18	02040202120040	Big T Ck SB(incl Bull Run to LakelandRd)	Sublist 5	Sublist 5
18	02040202120050	Big Timber Creek SB (below Bull Run)	Sublist 5	Sublist 5
18	02040202120060	Almonesson Creek	Sublist 5	Sublist 5
18	02040202120090	Newton Creek (LDRV-Kaighn Ave to LT Ck)	Sublist 5	Sublist 5
18	02040202120100	Woodbury Creek (above Rt 45)	Sublist 5	Sublist 5
18	02040202130030	Chestnut Branch (above Sewell)	Sublist 5	Sublist 5
18	02040202150020	Raccoon Ck (Rt 45 to/incl Clems Run)	Sublist 3	Sublist 3*
18	02040202150040	Raccoon Ck (Russell Mill Rd to Rt 45)	Sublist 5	Sublist 5
19	02040202030050	Bucks Cove Run / Cranberry Branch	Sublist 5	Sublist 5
19	02040202050050	Friendship Ck (below/incl Burrs Mill Bk)	Sublist 3	Sublist 3*
19	02040202050060	Rancocas Creek SB(above Friendship Ck)	Sublist 3	Sublist 3*
19	02040202050080	Rancocas Ck SB (Vincentown-FriendshipCk)	Sublist 3	Sublist 3*
19	02040202050090	Rancocas Ck SB (BobbysRun to Vincentown)	Sublist 3	Sublist 3*
20	02040201090030	LDRV tribs (Assiscunk Ck to Blacks Ck)	Sublist 5	Sublist 5

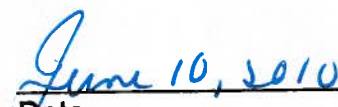
* Data became available in these assessment units after the 2008 list was proposed indicating fish tissue levels that would result in listing of these waters in accordance with the current listing methodology; therefore, these assessment units will also be addressed in this TMDL.

This amendment establishes the total maximum daily load (TMDL) for mercury in the waters identified in Table 4. When a TMDL is approved by EPA, the listings are moved from Sublist 5 (water quality standard is not attained, TMDL required) to Sublist 4A (TMDL has been completed). Therefore, the assessment units in Table 1 above will be listed under Sublist 4A with respect to mercury in the Department's forthcoming *2010 Integrated List of Waters*.

Notice proposing this TMDL was published on June 15, 2009 in the New Jersey Register at 41 N.J.R. 2500(b) and in newspapers of general circulation in the affected area in order to notify the public of the opportunity to review the TMDL and submit comments. In addition, an informational presentation followed by a public hearing on the proposed TMDL was held on July 15, 2009. Notice of the proposal and the hearing was also provided to affected Designated Planning Agencies and dischargers in the affected watersheds. One member of the public attended the hearing and declined to comment. No comments were submitted during the public comment period.



Lawrence J. Baier, Director
Division of Watershed Management
Department of Environmental Protection



Date