DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATERSHED MANAGEMENT

ADOPTION OF AMENDMENTS TO THE ATLANTIC COUNTY, CAPE MAY COUNTY, LOWER DELAWARE, LOWER RARITAN/MIDDLESEX COUNTY, MONMOUTH COUNTY, NORTHEAST, OCEAN COUNTY, SUSSEX COUNTY, TRI-COUNTY, UPPER DELAWARE AND UPPER RARITAN WATER QUALITY MANAGEMENT PLANS TO ESTABLISH TOTAL MAXIMUM DAILY LOADS FOR PATHOGENS FOR 75 LAKES

Public Notice

Take notice that on October 19, 2009, 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), the New Jersey Department of Environmental Protection (Department) adopted amendments to the Atlantic County Water Quality Management Plan (WQMP), Cape May County WQMP, Ocean County WQMP, Lower Delaware WQMP, Monmouth County WQMP, Middlesex County WQMP, Lower Raritan/Middlesex WQMP, Tri-County WQMP, Upper Raritan WQMP, Upper Delaware WQMP, Northeast WQMP and Sussex County WQMP. The amendments establish 75 Total Maximum Daily Loads (TMDLs) for pathogen impairment in lakes identified in Table 1. The amendments consist of the following reports: "Total Maximum Daily Loads for Pathogens to Address 18 Lakes in the Atlantic

Coastal Water Region", "Total Maximum Daily Loads for Pathogens to Address 17 Lakes in the Lower Delaware Water Region", "Total Maximum Daily Loads for Pathogens to Address 25 Lakes in the Northeast Water Region", "Total Maximum Daily Loads for Pathogens to Address 11 Lakes in the Northwest Water Region", and "Total Maximum Daily Loads for Pathogens to Address 4 Lakes in the Raritan Water Region".

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 load capacity to known point sources in the form of wasteload allocations (WLAs), nonpoint sources in the form of load allocations (LAs), and includes a margin of safety. 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.

The New Jersey Surface Water Quality Standards (SWQS) include pathogen indicator criteria for the assessment of the recreational use (primary and secondary contact recreation) for all waterbodies. However, for lakes, the New Jersey Department of Health and Senior Services standards, at N.J.A.C. 8:26-7.18, establish the basis for beach closings. These standards are more stringent than the Surface Water Quality Standards. As a result, the Department of Health and Senior Services standards will

serve as the water quality target for these TMDLs. The Department of Health and Senior Services standards and SWQS are summarized as follows:

As stated in N.J.A.C. 8:26-7.18, Microbiological water quality standards for bathing beaches:

> The multiple-tube fermentation technique for fecal coliform shall be conducted in accordance with the procedures set for in Method 9222D Fecal Coliform Membrane Filter Procedure or Method 9221E.2. Fecal Coliform MPN Procedure (A-1 medium) found in the 19th edition of "Standard Methods for the Examination of Water and Wastewater." American Public Health Association, incorporated herein by reference, as amended and supplemented. The estimated fecal coliform concentrations shall not exceed 200 fecal coliform per 100 milliliters.

As stated in N.J.A.C. 7:9B-1.14(d) of the New Jersey Surface Water Quality Standards Fresh Water 2 (FW2) waters:

1. Bacterial quality (Counts/100 ml)

. . .

....ii. Primary Contact Recreation:

. . .

(2) E. Coli levels shall not exceed a geometric mean of 126/100 ml or a single sample maximum of 235/100 ml.

As stated in N.J.A.C. 7:9B-1.14(b)1 of the New Jersey Surface Water Quality Standards for Pinelands (PL) waters:

1. These waters shall be maintained as to quality in their existing state or that quality necessary to attain or protect the designated uses, whichever is more stringent.

The State of New Jersey's 2006 *Integrated List of Waterbodies* (38 N.J.R 1878 (a), May 1, 2006) assigned waterbodies to one of five categories. Sublists 1 and 2 include waterbodies that are generally unimpaired, Sublist 3 waterbodies have limited assessment or data availability and Sublist 4 waterbodies are impaired due to pollution rather than pollutants or have a TMDL or other such enforceable management measures in place. Sublist 5 constitutes the traditional 303 (d) list for water impaired or threatened by one or more pollutants. The 2006 Integrated List of Waterbodies identified the lakes in Table 1 below within the Atlantic Coastal, Lower Delaware, Northeast, Northwest and Raritan Water Regions as being impaired by pathogens. This determination was based on beach closings resulting from observed levels of the indicator organism fecal coliform in excess of the Health Department standards. Assessment of the lakes is based on fecal coliform data collected by County and Municipal Health Departments. The impaired lakes, lake area and percent reduction in fecal coliform load needed to attain standards are included in Table 1 below.

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. These TMDLs were established on September 7, 2006 and submitted to EPA pursuant to N.J.A.C. 7:15-7.2(k) for review in accordance with 40 CFR 130.7. These TMDLs were approved by EPA on September 28, 2007. As a result of this approval, the lakes covered by these

TMDLs were assigned to Sublist 4a of the 2008 Integrated List (http://www.state.nj.us/dep/wms/bwqsa/draft_AppendixA_2008_Integrated_List.pdf), which includes those waterbodies whose designated use(s) is non-attaining and for which a TMDL has been developed for a particular pollutant.

Table 1 Pathogen impaired lakes in the Atlantic Coastal, Lower Delaware, Northeast, Northwest and Raritan Water Regions, identified in Sublist 5 of the 2006 Integrated List of Waterbodies for which TMDLs are being adopted

TMDL Number	WMA	Lake Assessment Unit Name	2006 Status	County(s)[1]	Lake area (km^2)	Percent reduction
1	12	Hooks Creek Lake	Sublist 5	Middlesex	0.21	95%
2	12	Deal Lake	Sublist 5	Monmouth	17.23	89%
3	12	Lake Takanassee	Sublist 5	Monmouth	17.64	88%
4	13	Carasaljo Lake	Sublist 5	Monmouth/Ocean	61.61	99%
5	13	Bamber Lake	Sublist 5	Ocean	50.97	93%
6	13	Deer Head Lake	Sublist 5	Ocean	36.24	92%
7	13	Holiday Lake	Sublist 5	Ocean	13.46	97%
8	13	Lake Barnegat	Sublist 5	Ocean	38.15	92%
9	13	Manahawkin Lake	Sublist 5	Ocean	52.52	95%
10	13	Ocean County Park Lake	Sublist 5	Ocean	0.52	96%
11	13	Ocean Twp Bathing Beach[1]	Sublist 5	Ocean	6.54	95%
12	13	Pine Lake	Sublist 5	Ocean	159.6	99%
13	14	Hammonton Lake	Sublist 5	Atlantic	6.24	96%
14	15	Braddock Lake	Sublist 5	Atlantic	68.92	81%
15	15	Buena Vista CG	Sublist 5	Atlantic	0.5	79%
16	15	Cushman Lake	Sublist 5	Atlantic	70.34	81%
17	16	Lake Laurie	Sublist 5	Cape May	0.17	71%
18	16	Ludlams Pond	Sublist 5	Cape May	6.57	90%
19	17	Cedar Lake	Sublist 5	Cumberland	15.73	91%
20	17	Sunset Lake	Sublist 5	Cumberland	118.26	98%
21	17	Eastern Gate Lake	Sublist 5	Gloucester	42.28	95%
22	17	Franklinville Lake	Sublist 5	Gloucester	34.8	90%
23	17	Holly Green CG	Sublist 5	Gloucester	0.37	89%
24	17	Iona Lake	Sublist 5	Gloucester	68.46	68%
25	17	Malaga Lake	Sublist 5	Gloucester	72.49	0%
26	17	Wilson Lake	Sublist 5	Gloucester	24.01	95%
27	17	4 Seasons CG	Sublist 5	Salem	0.1	94%
28	17	Parvin Lake	Sublist 5	Salem	123.59	91%
29	18	Lake Silvestro	Sublist 5	Gloucester	9.29	87%
30	19	Lake Coxtoxen	Sublist 5	Burlington	138.46	70%
31	19	Lake James	Sublist 5	Burlington	1.9	99%
32	19	Mirror Lake	Sublist 5	Burlington	71.38	99%
33	19	Timber Lake	Sublist 5	Burlington	21.17	85%

TMDL Number	WMA	Lake Assessment Unit Name	2006 Status	County(s)[1]	Lake area (km^2)	Percent reduction
34	19	Sturbridge Lake	Sublist 5	Camden	2.8	97%
35	20	Upper Sylvan Lake	Sublist 5	Burlington	0.3	95%
36	3	Crystal Lake	Sublist 5	Bergen	19.79	95%
37	3	Lake Edenwold	Sublist 5	Morris	14.54	84%
38	3	Bubbling Springs	Sublist 5	Passaic	0.25	91%
39	3	Erksine Lake	Sublist 5	Passaic	1.99	96%
40	3	Forest Hill	Sublist 5	Passaic	0.72	95%
41	3	Kitchell Lake	Sublist 5	Passaic	2.19	95%
42	3	Lake Ioscoe	Sublist 5	Passaic	4.59	75%
43	3	Lionhead Lake	Sublist 5	Passaic	5.36	95%
44	3	Skyline Lakes	Sublist 5	Passaic	7.67	96%
45	4	Toms Lake	Sublist 5	Passaic	0.40	93%
46	6	Camp Lewis Lake	Sublist 5	Morris	0.48	89%
47	6	Cozy Lake	Sublist 5	Morris	4.71	97%
48	6	Foxs Pond	Sublist 5	Morris	3.10	98%
49	6	Indian Lake	Sublist 5	Morris	18.63	95%
50	6	Intervale Lake	Sublist 5	Morris	1.56	96%
51	6	Lake Swannanoa	Sublist 5	Morris	34.58	92%
52	6	Mountain Lake	Sublist 5	Morris	3.28	96%
53	6	Parsippany Lake	Sublist 5	Morris	2.97	97%
54	6	Powder Mill Pond	Sublist 5	Morris	3.99	96%
55	6	Rainbow Lakes	Sublist 5	Morris	0.65	77%
56	6	Sunrise Lake	Sublist 5	Morris	1.95	95%
57	6	Telemark Lake	Sublist 5	Morris	6.97	94%
58	6	West Lake	Sublist 5	Morris	1.39	83%
59	6	White Meadow Lake	Sublist 5	Morris	7.21	96%
60	6	Cold Spring Lake[2]	Sublist 5	Passaic	3.74	80%
61	1	Lake Winona	Sublist 5	Morris	3.44	98%
62	1	Lake Hopatcong	Sublist 5	Morris/ Sussex	65.73	97%
63	1	Green Valley Beach Campground[4]	Sublist 5	Sussex	0.12	91%
64	1	Forest Lake	Sublist 5	Sussex	1.05	98%
65	1	Fox Hollow Lake	Sublist 5	Sussex	3.64	98%
66	1	Lackawanna Lake	Sublist 5	Sussex	34.31	93%
67	1	Furnace Lake	Sublist 5	Warren	7.04	93%
68	2	Crystal Springs Pond	Sublist 5	Sussex	0.28	75%
69	2	Deer Trail Lake	Sublist 5	Sussex	0.83	74%
70	2	Lake Mohawk	Sublist 5	Sussex	11.06	98%
71	2	Sleepy Valley Lake	Sublist 5	Sussex	3.34	95%
72	8	Budd Lake	Sublist 5	Morris	12.42	99%
73	8	Randolph Park Lake	Sublist 5	Morris	0.57	98%
74	8	Ravine Lake	Sublist 5	Somerset	68.61	95%
75	8	Sunset Lake	Sublist 5	Somerset	5.38	97%

[1] The drainage area/lakeshed for each lake may encompass municipalities beyond the identified County in which the lake is located.

[2] Known as Waretown Creek/Barnegat Bay South on the 2004 Sublist 5

[3] Known as Pond at Conference Center Left and Right on the 2004 Sublist 5

[4] Known as Pequest River at Green Valley Beach Campground on the 2004 Sublist 5

The percent reduction in fecal coliform load required for the lake and contributing drainage area was calculated by comparing the maximum fecal coliform concentration recorded for each lake to the TMDL target concentration (200 cfu/100 ml). The Watershed Treatment Model (WTM), a steady-state spreadsheet model, was used to simulate the existing nonpoint source and stormwater point sources bacteria loads generated by watershed runoff processes. Applying the percent reduction to the existing load, the remaining load was taken as the TMDL for each lake.

These 75 TMDLs also identify measures that will reduce sources of fecal coliform. Nonpoint and stormwater sources are the primary contributor to fecal coliform loads in these lakes and can include storm-driven loads transporting fecal coliform from sources such as geese, agricultural practices, and domestic pets to the receiving water. Nonpoint sources also include steady-inputs from sources such as failing sewage conveyance systems and failing or inappropriately located septic systems. Management measures for such sources include the measures already required as part of municipal stormwater permits, as well as more targeted measures that are source appropriate, such as goose management plans, restoration of riparian buffers and other best management practices. Because the total source contribution from wastewater treatment plants is an insignificant fraction of the total load, these pathogen TMDLs will not impose any change in current effluent limits at wastewater treatment facilities.

The TMDL reports, which provide the technical and regulatory basis for these TMDLs, are available from the Department at http://www.state.nj.us/dep/watershedmgt/tmdl.htm.

These amendments were noticed in the New Jersey Register on July 16, 2007 (39 N.J.R. 2657 (a)). A public hearing was held on August 17, 2007 with an informal presentation from 1:00 to 2:00 p.m., and the public hearing from 2:00 to 4:00 p.m. at the New Jersey Department of Environmental Protection Public Hearing Room, 401 East State St., Trenton, NJ 08625. There were no comments received during the public notice period or at the public hearing.

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

September 21, 2009
Date