

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

CONSERVATION LAW FOUNDATION, INC., and

THE COALITION FOR BUZZARDS BAY, INC.,

Plaintiffs

v.

UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY, Lisa P. Jackson, Administrator

and

UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY, REGION 1, Curt Spalding,
Regional Administrator

Defendants

Case No.:

COMPLAINT
FOR
DECLARATORY
AND
INJUNCTIVE
RELIEF

Plaintiffs, for their Complaint against Defendants, state as follows:

NATURE AND PURPOSE OF ACTION

1. Plaintiffs, Conservation Law Foundation (“CLF”) and The Coalition for Buzzards Bay (“CBB”), bring this action pursuant to the Administrative Procedure Act (“APA”), seeking relief from Defendant United States Environmental Protection Agency’s (“EPA”) approval of inadequate Total Maximum Daily Loads (“TMDLs”) addressing nitrogen pollution in specific embayments located on Cape Cod and Nantucket (“the embayments”). The TMDLs (“Cape Cod TMDLs”)¹ do not conform to the requirements of the Clean Water Act (“CWA”) and its

¹ Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek (Chatham) TMDLs for Total Nitrogen, approved by EPA Region 1 on June 21, 2006; Quashnet River, Hamblin Pond, Little River, Jehu Pond,

implementing regulations. Therefore, Defendants' approval of the TMDLs was arbitrary and capricious, an abuse of discretion, and in violation of the APA, 5 U.S.C. § 706.

2. As a result of Defendants' unlawful approvals of the Cape Cod TMDLs, nitrogen pollution has degraded, and will continue to degrade, the fragile ecosystems of the embayments, causing water quality impacts such as harmful algae blooms and excessive nuisance plant growth, low dissolved oxygen levels, and loss of eelgrass, a cornerstone species.

PARTIES

3. Plaintiffs CLF and CBB are not-for-profit public interest environmental organizations incorporated under the laws of the Commonwealth of Massachusetts with several thousand members throughout New England. CLF and CBB are "persons" as defined by the APA, 5 U.S.C. § 551(2).

4. Defendant EPA is the agency of the United States Government responsible for administering and implementing the sections of the CWA relevant to this case.

5. Defendant Lisa P. Jackson, Administrator of EPA ("the Administrator"), is charged under 33 U.S.C. § 1313(d)(2) with oversight of EPA decisions regarding Massachusetts' TMDL submissions and is sued in her official capacity only. If so ordered by the Court, the Administrator has the authority and ability to remedy the harm inflicted by Defendants' actions.

and Great River (Waquoit Bay System) TMDLs for Total Nitrogen, approved by EPA Region 1 on Nov. 7, 2007; Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007; Popponesset Bay TMDLs for Total Nitrogen, approved by EPA Region 1 on Jan. 22, 2008; Pleasant Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Oct. 24, 2007; Three Bays System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 13, 2008; Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007; West Falmouth Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008; Phinney's Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 5, 2008; Little Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Mar. 3, 2008; Oyster Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008; Nantucket Harbor Bay System TMDL for Total Nitrogen, approved by EPA Region 1 on May 12, 2009, and Stage Harbor/Oyster Pond, Sulphur Springs/Bucks Creek, Taylors Pond/Mill Creek (Chatham Southern Embayments) TMDL Re-Evaluations for Total Nitrogen, approved by EPA Region 1 on June 22, 2009.

6. Defendant EPA Region 1 is responsible for administering and implementing EPA's responsibilities under the CWA in Massachusetts.

7. Defendant Curt Spalding, Regional Administrator of EPA Region 1 ("the Regional Administrator"), is charged under 40 C.F.R. § 130.7(d) with oversight of EPA decisions regarding Massachusetts' TMDL submissions and is sued in his official capacity only. If so ordered by the Court, the Regional Administrator has the authority and ability to remedy the harm inflicted by Defendants' actions.

STANDING

8. CLF works to combat threats to natural resources in Massachusetts and throughout New England. CLF is a member-supported organization that advocates for the prevention of water pollution and the protection of coastal waters and ecosystems and, by extension, public health and the vitality of local communities. CLF has been involved extensively in local, state, and federal efforts to restore water quality in Massachusetts, including the Cape Cod and Buzzards Bay region.

9. CBB is an organization that is dedicated to the restoration, protection and sustainable use and enjoyment of Buzzards Bay and its watershed. CBB is a member-based not-for-profit organization that advocates for the preservation of the Cape Cod watershed, with an emphasis on Buzzards Bay. CBB is an advocate for, *inter alia*, reducing nitrogen pollution because it is the greatest threat to water quality in the Cape Cod-Buzzards Bay region.

10. CLF and CBB members live near embayments on Cape Cod that are degraded by nitrogen pollution and use these waters for recreational and aesthetic enjoyment. CLF and CBB members conduct activities in and near the Cape Cod waters, including the embayments that are the subject of this action, which activities include swimming, commercial and recreational

fishing, boating, and enjoying the views. Water quality is critical to CLF and CBB members' use and enjoyment of the waters. Nitrogen pollution has caused and is causing harm to commercial, active and passive recreational, and other important uses of these waters by such members and if the pollution continues unabated, these uses will be further harmed and could cease altogether.

11. Cape Cod's economic stability hinges on the ecological health of the embayment systems that surround its shores. CLF and CBB members own homes and businesses in close proximity to the waters subject to the Cape Cod TMDLs at issue in this matter. The value of those homes and businesses is dependent on the cleanliness of these waters. Indeed, the Executive Summaries of each of the Cape Cod TMDLs recognize that Cape Cod communities "rely on clean, productive, and aesthetically pleasing marine and estuarine waters for tourism, recreational swimming, fishing, and boating, as well as commercial fin fishing and shellfishing."²

12. Cape Cod's large tourist industry, which comprises approximately forty percent of the Cape Cod economy, depends on clean waters for the recreational enjoyment of residents and visitors. Continued degradation of the waters of Cape Cod will significantly reduce the commercial and recreational value of these waters.

² Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek (Chatham) TMDLs for Total Nitrogen, approved by EPA Region 1 on June 21, 2006; Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River (Waquoit Bay System) TMDLs for Total Nitrogen, approved by EPA Region 1 on Nov. 7, 2007; Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007; Popponesset Bay TMDLs for Total Nitrogen, approved by EPA Region 1 on Jan. 22, 2008; Pleasant Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Oct. 24, 2007; Three Bays System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 13, 2008; Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007; West Falmouth Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008; Phinney's Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 5, 2008; Little Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Mar. 3, 2008; Oyster Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008; Nantucket Harbor Bay System TMDL for Total Nitrogen, approved by EPA Region 1 on May 12, 2009, and Stage Harbor/Oyster Pond, Sulphur Springs/Bucks Creek, Taylors Pond/Mill Creek (Chatham Southern Embayments) TMDL Re-Evaluations for Total Nitrogen, approved by EPA Region 1 on June 22, 2009.

13. CLF, CBB, and their members have been and will continue to be adversely affected by nitrogen pollution on Cape Cod.

14. CLF's, CBB's, and their members' interests have been and continue to be injured by Defendants' approval of the Cape Cod TMDLs because the approval violates the TMDL provisions of the CWA and further endangers these already degraded waters. As a result of Defendants' acts and omissions, CLF and CBB members have suffered and will continue to suffer injuries to their aesthetic, environmental, recreational, and economic interests in enjoying and utilizing the affected Cape Cod waters.

JURISDICTION AND VENUE

15. The subject matter jurisdiction of this Court is invoked under 28 U.S.C. § 1331 (federal question), 28 U.S.C. § 2201 (declaratory judgment), and 5 U.S.C. §§ 701-706 (APA).

16. The relief requested is authorized by 28 U.S.C. §§ 2201-02 and 5 U.S.C. § 706.

17. Venue is appropriate in the District of Massachusetts pursuant to 28 U.S.C. § 1391(e) because the waters that are the subject of this action are located in Massachusetts, Plaintiff organizations are located, in part, in this judicial district, and Defendants have an official place of business in this District.

STATUTORY AND REGULATORY BACKGROUND

18. The CWA was established with the goal of restoring and protecting water quality. CWA § 101(a), 33 U.S.C. § 1251(a). It aims to eliminate "the discharge of pollutants into the navigable waters" and to attain "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." *Id.*

19. The CWA defines "navigable waters" as "waters of the United States." CWA § 502(7), 33 U.S.C. § 1362(7). The coastal embayments of Cape Cod are waters of the United States as that term is defined in EPA's implementing regulations. 40 C.F.R. § 122.2.

20. To achieve its end of restoring and protecting water quality, the CWA requires states to establish water quality standards (“WQS”) and periodically identify waters that do not meet those standards even after nationwide, technology-based pollution controls standards have been imposed by EPA pursuant to the CWA. CWA § 303(a)-(d), 33 U.S.C. § 1313(a)-(d), 40 C.F.R. § 131.2.

21. States must develop TMDLs for the waters they identify as failing to meet WQS in spite of the baseline implemented controls. TMDLs set the maximum pollutant load that a body of water can receive while maintaining the WQS and must account for all contributing sources of pollution. CWA § 303(d)(1)(C), 33 U.S.C. § 1313(d)(1)(C).

22. EPA regulations require that TMDLs include: (1) the “wasteload allocation” (“WLA”), or the portion of the pollutant load allocated to existing or future point sources; (2) the “load allocation” (“LA”), or the portion of pollutant load allocated to nonpoint sources; and (3) a margin of safety which takes into account any lack of knowledge concerning the relationship between pollution controls and water quality. CWA § 303(d)(4)(A), 33 U.S.C. § 1313(d)(4)(A), 40 C.F.R. §§ 130.7(c)(1), 130.2(i), (g), (h).

23. In other words, the TMDL equals the WLA, *plus* the LA, *plus* a margin of safety.

24. A “point source” is defined under the CWA as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” CWA § 502(14), 33 U.S.C. § 1362(14). EPA’s implementing regulations follow this definition. *See* 40 C.F.R. § 122.2. Point sources are subject to permits whose conditions meet the reductions called for in

the TMDLs, as well as all applicable state WQS. CWA § 402, 33 U.S.C. §§ 1342, CWA § 301(b)(1)(C), 1311(b)(1)(C); 40 C.F.R. §§ 122.4, 122.44(d).

25. On the other hand, a “nonpoint source” is any source of pollutants that is not a point source. EPA, Basic Information, http://www.epa.gov/owowwtr1_keep/NPS/whatis.html (“The term ‘nonpoint source’ is defined to mean any source of water pollution that does not meet the legal definition of ‘point source’ in section 502(14) of the Clean Water Act.”). Nonpoint sources therefore fall outside of the definition of point source and are not subject to the permitting program of the CWA.

26. TMDLs are implemented, *inter alia*, through incorporation into water quality management plans under Section 303(e) of the CWA, and through point source discharge permits issued under CWA § 402. Such permits must include not only technology-based effluent limitations, but also “any more stringent limitation . . . required to implement any applicable water quality standard established pursuant to this chapter.” CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C).

27. Water quality-based effluent limitations are more stringent than technology-based effluent limitations. Because technology-based effluent limitations alone are sometimes not enough to clean up a particular water body, more exacting water quality-based effluent limitations may be employed in those cases. WLAs – i.e., the portion of the pollutant load allocated to existing or future point sources – are a “type of water quality-based effluent limitation.” 40 C.F.R. § 130.2(h).

28. States must submit their TMDLs to the EPA Regional Administrator for approval. CWA § 303(d)(2), 33 U.S.C. § 1313(d)(2), 40 C.F.R. § 130.7. The Commonwealth of Massachusetts submitted each of the Cape Cod TMDLs to EPA for approval.

29. The EPA Regional Administrator must, within 30 days of State submittal, either approve or disapprove the TMDL. *Id.* As detailed in paragraphs 57-58 below, EPA approved each of the Cape Cod TMDLs.

30. EPA approval of a state-submitted TMDL is final agency action reviewable under the APA.

FACTUAL BACKGROUND

Factors Contributing to Nitrogen Pollution on Cape Cod

Cape Cod's Geology Makes it Highly Vulnerable to Nitrogen Pollution

31. Cape Cod has unique soils and geology, and a highly productive groundwater aquifer that directly flows into the embayments.³

32. Cape Cod soils are sandy and very permeable, and therefore the aquifer flows through the soils of the Cape and into the affected embayments and other connected surface waters.

33. Nitrogen is added to waters discharged from septic systems, stormwater systems, and wastewater treatment facilities ("WWTFs"). Nitrogen is a "pollutant" under the CWA. CWA § 33 U.S.C. § 1362(6).

34. Nitrogen-laden water from these sources moves directly through the aquifer and into connected surface waters, and ultimately into the embayments subject to the TMDLs at issue in this matter.

35. Nitrogen added into Cape Cod aquifers travels directly from its source, through the aquifer and into surface waters connected to the embayments. Travel time is further

³ Cape Cod Commission, *Cape Cod Comprehensive Regional Wastewater Management Strategy Development Project Final Report* (2003), at 1.

shortened by the presence of numerous sub-embayments within the embayment systems, allowing nitrogen to quickly reach directly connected surface waters.⁴

The Ecological Threat of Nitrogen Pollution on Cape Cod

36. The danger posed by nitrogen pollution on Cape Cod is dire.

37. Nitrogen pollution is a devastating problem for coastal ecosystems and is the nutrient of primary concern in the waters subject to the Cape Cod TMDLs.

38. These Cape Cod coastal embayment systems are already severely degraded by nitrogen pollution, and without major corrective action the problem will only get worse.

39. The Cape Cod embayments are partially enclosed waterbodies that cannot easily “flush out” nitrogen that enters them.⁵

40. Increasing levels of nitrogen concentrations result in the unwanted proliferation of algae, epiphyton, nuisance plant species, and invasive species. This proliferation decreases water clarity, produces unpleasant odors and scums, and reduces dissolved oxygen levels. This process has led to decreased biodiversity, dramatic changes in the composition and dominance of species, and increased levels of toxicity. Severe cases of nitrogen pollution have led to major fish kills, increases in undesirable invasive species, reduced biodiversity, and loss of essential plant and animal species necessary for healthy ecosystems.

41. If left unabated, nitrogen will essentially suffocate the embayments of Cape Cod.

42. Excessive nitrogen inputs – and the resulting imbalances in other water quality parameters – kill eelgrass beds, a cornerstone species of the ecosystem in Cape Cod’s

⁴ See, e.g., Massachusetts Estuaries Project, *Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for Centerville River, Town of Barnstable, Massachusetts* (Nov. 2006), at 1.

⁵ See, e.g., Pleasant Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Oct. 24, 2007, at 2; Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007, at 2.

embayments and an important indicator of water quality.⁶ According to the Massachusetts Department of Environmental Protection (“MassDEP”), “[b]efore an ecosystem becomes totally degraded, much of its ecological and economic value has been lost. In many coastal systems, the beginning of this change is the loss of eelgrass.” MassDEP, *Embayment Restoration and Guidance for Implementation Strategies* (2003), at 9. Because eelgrass health is such a useful proxy for and important factor in water quality, eelgrass restoration is a primary nitrogen management goal.⁷

43. Excessive nitrogen has already had dramatic impacts on eelgrass in Cape Cod’s bays. Eelgrass beds across the region have significantly declined, and three of the TMDLs report a complete disappearance of eelgrass altogether in their targeted embayments.⁸ The formerly healthy plant and animal communities supported by the eelgrass beds in many Cape Cod embayments are severely degraded, and the Cape Cod TMDLs acknowledge that, without proper nitrogen management, nitrogen loading is certain to increase further, accelerating this degradation.

Septic Systems

44. The vast majority of the controllable nitrogen threatening the Cape Cod embayments comes from subsurface wastewater disposal systems (i.e., septic systems).⁹

⁶ See, e.g., Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007, at 8; Jennifer L. Bowen & Ivan Valiela, *The Ecological Effects of Urbanization of Coastal Watersheds: Historical Increases in Nitrogen Loads and Eutrophication of Waquoit Bay Estuaries* (2001), at 1497.

⁷ See, e.g., Pleasant Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Oct. 24, 2007, at 16; Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007, at 15.

⁸ Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007, at 5; Popponesset Bay TMDLs for Total Nitrogen, approved by EPA Region 1 on Jan. 22, 2008, at 4-5; Three Bays System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 13, 2008, at 7.

⁹ See, e.g., Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007, at 14 (“In the Centerville River - East Bay embayment system overall, the highest N loading from controllable sources is from septic systems.”).

45. In a septic system, a pipe deposits nitrogen-laden sewage and wastewater into an underground septic tank. The nitrogen-laden wastewater is then discharged from the septic tank into a leaching field that is intended to provide further pollutant removal in the soil. However, on Cape Cod, septic systems add nitrogen into aquifers that flow through the highly permeable soils and then discharge directly into the embayments and connected surface waters.

46. Septic systems produce up to eighty-one percent of the nitrogen load that can be locally controlled (as opposed to, for example, atmospheric deposition, which cannot be locally controlled) in some areas of Cape Cod.¹⁰ Septic systems are the largest controllable source of nitrogen identified in the Cape Cod TMDLs.¹¹

47. Nitrogen discharged from septic systems through the Cape Cod aquifer undergoes very little attenuation – i.e., reduction in concentration – before it discharges to embayment systems. Septic systems on Cape Cod are generally not designed to remove nitrogen, and even fully functioning systems remove only one to three percent of nitrogen before the wastewater leaves the tank.¹² Only twenty to twenty-two percent is attenuated in the nearby soil.¹³ Virtually no attenuation occurs after the nitrogen is added into the aquifer and travels to the embayments.¹⁴

48. Septic systems are composed of pipes and other conveyances that add nitrogen as a pollutant to water that flows directly through well-documented aquifer systems carrying nitrogen-contaminated water into the embayments subject to the Cape Cod TMDLs.

¹⁰ Centerville River - East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007, at 19.

¹¹ *See, e.g.*, Little Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Mar. 3, 2008, at 4, 5, 19; Oyster Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008, at 4, 6, 11.

¹² *See, e.g.*, Mass. Estuaries Project, Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for Centerville River System, Barnstable, Massachusetts: Final Report, Nov. 2006, at 30-31. The MEP Technical reports, on which the TMDLs were based, account for current nitrogen removal rates by existing septic systems.

¹³ *Id.*

¹⁴ *Id.*

Stormwater Systems

49. Stormwater systems that discharge through the aquifer or directly into connected surface waters also play a significant role in channeling nitrogen into the embayments. These systems collect stormwater from impervious surfaces and funnel the nitrogen-laden stormwater into pipes. These pipes then add nitrogen pollution into the aquifer and/or surface waters and then into the degraded embayments. In some areas of Cape Cod, stormwater discharges make up as much as forty-five percent of the controllable nitrogen load.¹⁵ In fact, most towns on Cape Cod have National Pollutant Discharge Elimination System (“NPDES”) permits issued by EPA Region 1 for their stormwater systems. The TMDLs recognize that municipal stormwater systems are point sources of pollution under the CWA.¹⁶

50. Stormwater discharges are composed of pipes and other conveyances that add nitrogen as a pollutant to water that flows directly through well-documented aquifer systems carrying nitrogen-contaminated water into the embayments subject to the Cape Cod TMDLs.

Wastewater Treatment Facilities

51. Wastewater treatment facilities (“WWTFs”) also discharge nitrogen-laden effluent to through the aquifer in an underground plume that flows directly into the affected Cape Cod embayments. These WWTFs contribute substantially to excessive nitrogen pollution. The WWTF in the West Falmouth Harbor system, for example, deposits over 13,000 kilograms of nitrogen into the embayment system each year, and constitutes fully three-quarters of the controllable nitrogen load.¹⁷

¹⁵ See, e.g., Little Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Mar. 3, 2008, at 6, Fig. 4 (describing stormwater as “land use”-based nitrogen loading).

¹⁶ See, e.g., Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on Dec. 20, 2007, at 17; Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007, at 18.

¹⁷ Massachusetts Estuaries Project, *Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for West Falmouth Harbor, Falmouth, Massachusetts* (May 2006), at 34.

52. The WWTFs are composed of pipes and other conveyances that add nitrogen as a pollutant to water that flows directly through well documented aquifer systems carrying nitrogen-contaminated water into the embayments subject to the Cape Cod TMDLs.

The Cape Cod TMDLs

53. Nitrogen loadings, and the resulting elevated nitrogen concentrations in Cape Cod embayments, must be reduced in order to restore and protect these embayment systems. Currently, concentrations of nitrogen in Cape Cod embayments exceed threshold concentrations that cause deleterious environmental impacts. The nitrogen TMDLs must be set at a level that will reduce nitrogen concentrations in the waters to a level below these threshold concentrations and that will meet water quality standards.

54. MassDEP has identified numerous Cape Cod embayments that exceed the Commonwealth's WQS for nitrogen and thus require a TMDL.¹⁸

55. The Massachusetts Estuaries Project ("MEP") is a collaborative research effort established by MassDEP and the University of Massachusetts to assess the nitrogen threat to these embayments.

56. Relying on data from MEP, MassDEP began developing nitrogen TMDLs for the embayments in or around 2004. From 2004 to 2009, as required by the CWA, MassDEP submitted the Cape Cod TMDLs to EPA Region 1 for review and approval.

57. To date, MassDEP has developed and submitted thirteen TMDLs for nitrogen-threatened embayments on Cape Cod and Nantucket to EPA for approval. These thirteen TMDL approvals are the following:

¹⁸ See MassDEP, Final Massachusetts Year 2008 Integrated List of Waters (CWA §§ 303d & 305b) (approved by EPA Region 1 on May 4, 2009), available at <http://www.mass.gov/dep/water/resources/tmdls.htm>.

- 1) Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek (Chatham) TMDLs for Total Nitrogen, approved by EPA Region 1 on June 21, 2006;
- 2) Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River (Waquoit Bay System) TMDLs for Total Nitrogen, approved by EPA Region 1 on November 7, 2007;
- 3) Great, Green, and Bournes Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007;
- 4) Popponeset Bay TMDLs for Total Nitrogen, approved by EPA Region 1 on January 22, 2008;
- 5) Pleasant Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on October 24, 2007;
- 6) Three Bays System TMDLs for Total Nitrogen, approved by EPA Region 1 on February 13, 2008;
- 7) Centerville River – East Bay System TMDLs for Total Nitrogen, approved by EPA Region 1 on December 20, 2007;
- 8) West Falmouth Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008;
- 9) Phinney’s Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on February 5, 2008;
- 10) Little Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on March 3, 2008;

- 11) Oyster Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008;
- 12) Nantucket Harbor Bay System TMDL for Total Nitrogen, approved by EPA Region 1 on May 12, 2009; and
- 13) Stage Harbor/Oyster Pond, Sulphur Springs/Bucks Creek, Taylors Pond/Mill Creek (Chatham) TMDL Re-Evaluations for Total Nitrogen, approved by EPA Region 1 on June 22, 2009.

EPA Incorrectly Approved the Cape Cod TMDLs

58. Following internal reviews, EPA approved each of the Cape Cod TMDLs identified in paragraph 57.

EPA Inappropriately Categorized Septic Systems as Nonpoint Sources of Pollution in the Load Allocation Sections of the Cape Cod TMDLs

59. Defendants erred in their approval of the Cape Cod TMDLs by arbitrarily and capriciously approving MassDEP's flawed allocations of point and nonpoint sources.

60. Assigning nitrogen loads from septic systems to the LA is clearly erroneous. Septic systems on Cape Cod add pollutants to the embayments through the aquifer and are therefore "point sources" under the CWA and EPA regulations. Point sources must be included in the WLA of a TMDL, not the LA.

61. Septic systems are "discernable, confined and discrete conveyance[s]" that receive wastewater through a pipe and discharge nitrogen to the embayments through the aquifer system. CWA § 502(14), 33 U.S.C. § 1362(14). Septic systems add nitrogen into the aquifer, which then flows through the sandy soils at a well-documented rate and then discharges into the connected surface waters including, ultimately, the degraded embayments. The hydraulic

connection is direct and the contamination discharged from the septic system is traceable to the connected surface waters.

62. Given the characteristics of Cape Cod soils and the traceability of the contamination from these septic systems into connected surface waters, neither the TMDLs nor EPA offer any reasoned explanation for why Cape Cod septic systems were treated as nonpoint sources and assigned to the LA.

63. Scientific evidence available to MassDEP and EPA shows that the nitrogen from septic systems is added into and travels directly through Cape Cod's highly permeable, sandy soils, from the septic system into the threatened embayments.¹⁹

64. The administrative record does not support inclusion of septic systems in the LAs as nonpoint sources and therefore, EPA's approval of the Cape Cod TMDLs is arbitrary and capricious, an abuse of discretion, and not in accordance with law.

Cape Cod Stormwater Discharges are Point Sources of Pollution Properly Included in the WLA of the TMDL

65. Twelve of the Cape Cod TMDLs²⁰ are based on a division of stormwater systems into two categories.²¹ Stormwater systems serving impervious areas located more than 200 feet from the shoreline were assumed to travel initially into groundwater and were therefore categorized as nonpoint sources and included in the LA. Systems serving impervious areas

¹⁹ See, e.g., Cape Cod Commission, *Regional Wastewater Management Strategy Development Project*, at 1.

²⁰ The Nantucket Harbor Bay System TMDL Report calculated loadings from all impervious area and placed these in a WLA portion of the TMDL. Nantucket Harbor Bay System TMDLs, for Total Nitrogen, at App. C, p. 24. However EPA's approval letter for the TMDLs concluded that the WLA was zero, placing these sources in the LA portion of the TMDL. EPA Approval Letter to MassDEP, Nantucket Harbor Bay System TMDLs for Total Nitrogen, May 12, 2009, at 7, 12, available at <http://www.epa.gov/region1/eco/tmdl/pdfs/ma/NantucketHarbor.pdf> (last accessed 8-19-10).

²¹ See, e.g., Stage Harbor, Sulphur Springs, Taylors Pond, Bassing Harbor and Muddy Creek (Chatham) TMDLs for Total Nitrogen, approved by EPA Region 1 on June 21, 2006; Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River (Waquoit Bay System) TMDLs for Total Nitrogen, approved by EPA Region 1 on Nov. 7, 2007; Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007.

located less than 200 feet from the shoreline were assumed to enter into surface waters and were categorized as point sources.

66. The distinction between systems more than or less than 200 feet from surface water is arbitrary and lacks any legal or factual support in the record.

67. As a result of this categorization, the vast majority of the nitrogen pollutant load from stormwater systems was assigned to the LA portion of the Cape Cod TMDLs.

68. Stormwater systems within the areas subject to the Cape Cod TMDLs are “municipal separate storm sewer systems” as that term is defined in EPA’s regulations, and are therefore point sources under the CWA that must be included in the WLA as a matter of law. 40 C.F.R. §§ 122.26(b)(16) & 122.32(a)(1); *see also*, 64 Fed. Reg. 68722, 68818-19 (Dec. 8, 1999). Municipal stormwater systems on Cape Cod are “point sources” under the plain meaning of the CWA and EPA regulations, as these systems collect nitrogen-laden stormwater from impervious surfaces before discharging it into surface waters or into aquifers that in turn discharge into surface waters. CWA § 502(14), 33 U.S.C. § 1362(14). EPA-generated maps associated with the MS4 stormwater program delineate the regulated MS4 area of certain Cape Cod towns and clearly include geographic areas beyond 200 feet from a surface water body.

69. EPA’s approval of this arbitrary categorization of stormwater systems, therefore, is also contrary to law.

70. As the TMDLs recognize, EPA interprets 40 C.F.R. § 130.2(h) to require allocations for NPDES-regulated discharges of stormwater to be included in the WLA component of the TMDL.²² Neither the TMDLs nor the administrative record provide any explanation that supports the 200-foot “cutoff” for stormwater from particular impervious areas.

²² *See, e.g.*, Phinney’s Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 5, 2008, at 14; Little Pond Embayment System TMDLs for Total Nitrogen, at 14, approved by EPA Region 1 on

71. The 200-foot cutoff is arbitrary, capricious and contrary to EPA regulations. EPA's approval of the TMDLs, with inclusion of stormwater systems more than 200 feet from surface waters in the nonpoint source category, is contrary to law.

Cape Cod Wastewater Treatment Facilities are Point Sources of Pollution Properly Included in the WLA of the TMDL

72. Six of the TMDLs cover embayment systems receiving WWTF discharges.²³ These TMDLs classify WWTFs discharging pollutants to the embayments through the aquifer as nonpoint sources and assign the nitrogen from the WWTFs to the LA with no explanation.

73. Assigning nitrogen loads from WWTFs to the LA is erroneous, and the record lacks any reasoning or basis for doing so.

74. The WWTFs identified in the TMDLs are point sources. First, these WWTFs comprise systems of pipes, ditches, catch basins, or other "discrete conveyance[s]." CWA § 502(14), 33 U.S.C. § 1362(14). Second, these facilities discharge pollutants into the waters of the United States. *See* 40 C.F.R. § 122.2 (defining "discharge of a pollutant"). The identified Cape Cod WWTFs add pollutants into the aquifer, which, due to Cape Cod's hydrogeology, are connected to and directly flow into the endangered embayments carrying nitrogen.

75. In fact, in the technical reports developed as the basis for the TMDLs, MEP recognizes that these WWTFs are point sources of pollution.²⁴

Mar. 3, 2008; Oyster Pond Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008, at 14.

²³ Great, Green, and Bourne Pond Embayment Systems TMDLs for Total Nitrogen, approved by EPA Region 1 on July 18, 2007; Quashnet River, Hamblin Pond, Little River, Jehu Pond, and Great River (Waquoit Bay System) TMDLs for Total Nitrogen, approved by EPA Region 1 on Nov. 7, 2007; Popponesset Bay TMDLs for Total Nitrogen, approved by EPA Region 1 on Jan. 22, 2008; Three Bays System TMDLs for Total Nitrogen, approved by EPA Region 1 on Feb. 13, 2008; West Falmouth Harbor Embayment System TMDLs for Total Nitrogen, approved by EPA Region 1 on May 5, 2008; Stage Harbor/Oyster Pond, Sulphur Springs/Bucks Creek, Taylors Pond/Mill Creek (Chatham Southern Embayments) TMDL Re-Evaluations for Total Nitrogen, approved by EPA Region 1 on June 22, 2009.

²⁴ MEP, *Embayment Restoration and Guidance for Implementation Strategies* (2003), at 10; Massachusetts Estuaries Project, *Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for West Falmouth Harbor, Falmouth Massachusetts*, at 2, 54.

76. The record for EPA's approval of the TMDLs does not include any rationale for including the WWTFs in the LAs as nonpoint sources.

Failure to Analyze Climate Change in Approving the Cape Cod TMDLs

77. In approving the Cape Cod TMDLs, EPA unlawfully failed to consider scientific findings demonstrating an ongoing and increasing trend of accelerated climate change and the impact of that change on affected embayments.

78. Prior to EPA's approval of the TMDLs, federally-sponsored research concluded that global temperatures were rising and, in turn, affecting weather patterns and water quality.²⁵

79. Climate science is unequivocal about the fact that, under the most probable future scenario, coastal ecosystems will be subjected to more strains than they would be without climate change. It is therefore unreasonable to ignore climate change in setting TMDLs because doing so will result in a TMDL that is insufficiently stringent.

80. Accordingly, EPA's approval of the Cape Cod TMDLs, by failing to analyze impacts associated with climate change, was unlawful.

81. Specifically, since climate change will impact the seasonal timing of runoff to freshwater and coastal systems, EPA's failure to take it into account when addressing seasonal variability in the TMDLs makes EPA's approval of those TMDLs unlawfully deficient.²⁶ By turning a blind eye to climate change's impact on water quality in the Cape Cod region, EPA disregarded mounting scientific evidence on climate change and unlawfully approved TMDLs that did so as well.

82. Furthermore, climate science demonstrates that climate change creates uncertainty with regard to the range of possible future impacts of such change on coastal ecosystems. This

²⁵ See, e.g., Nat'l Assessment Synthesis Team, *Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change* (2001).

²⁶ See *id.* at 110.

uncertainty gives rise to the need for a wider margin of safety in the Cape Cod TMDLs, which would accommodate the lack of knowledge concerning the relationship between pollution controls and water quality in the future.

83. EPA did not provide an adequate margin of safety when approving the TMDLs. Scientific information readily available to EPA at the time of its approval of the Cape Cod TMDLs required EPA to apply more conservative assumptions for nitrogen allocations when establishing the TMDL margin of safety.

84. In addition, since climate change will impact the seasonal timing of runoff to freshwater and coastal systems, EPA's failure to take it into account when addressing seasonal variability in the TMDLs makes EPA's approval of those TMDLs unlawfully deficient. By turning a blind eye to climate change's impact on water quality in the Cape Cod region, EPA disregarded mounting scientific evidence on climate change and unlawfully approved TMDLs that did so as well.

EPA's Approval of the Cape Cod TMDLs was Unlawful

85. EPA approved all of the TMDLs at issue in this matter despite the erroneous characterization of point sources of pollution (including WWTFs, septic systems, and stormwater systems) as nonpoint sources in violation of the CWA and applicable regulations.

86. EPA's approval of the Cape Cod TMDLs constitutes final agency action subject to judicial review under 5 U.S.C. § 704.

87. Defendants' approval of Cape Cod TMDLs violates 5 U.S.C. § 706(2) because it is arbitrary, capricious, and an abuse of discretion and otherwise not in accordance with the CWA and its implementing regulations.

COUNT I

88. Plaintiffs re-allege all preceding paragraphs of their Complaint.

89. Defendants' approval of the Cape Cod TMDLs was arbitrary and capricious, an abuse of discretion and otherwise not in accordance with the CWA and the APA because the TMDLs erroneously include point sources such as stormwater discharges, WWTFs, and septic systems in the LA portion of the TMDL rather than in the WLA. CWA § 502(14), 33 U.S.C. § 1362(14); 40 C.F.R. § 122.2; APA§ 706(2), 5 U.S.C. § 706(2).

COUNT II

90. Plaintiffs re-allege paragraphs 1 through 87 of their Complaint.

91. Defendants' approval of the Cape Cod TMDLs was arbitrary and capricious, an abuse of discretion and otherwise not in accordance with the CWA and the APA because the TMDLs fail to include an adequate margin of safety that takes into account lack of knowledge concerning the relationship between effluent limitations and water quality. CWA § 303(d)(1)(C), 33 U.S.C. § 1313(d)(1)(C); APA§ 706(2), 5 U.S.C. § 706(2).

COUNT III

92. Plaintiffs re-allege paragraphs 1 through 87 of their Complaint.

93. Defendant's approval of the TMDLs, including the underlying WLA, seasonal variation assessment, and the margin of safety, was arbitrary and capricious, an abuse of discretion and otherwise not in accordance with the CWA and the APA because Defendants failed to analyze water resources impacts associated with documented and predicted climate change. CWA § 303(d)(1)(C), 33 U.S.C. § 1313(d)(1)(C); APA§ 706(2), 5 U.S.C. § 706(2).

RELIEF REQUESTED

Wherefore, Plaintiffs Conservation Law Foundation, Inc. and The Coalition for Buzzards Bay, Inc. respectfully request that the Court grant the following relief:

1. A declaratory judgment that Defendants' approvals of the Cape Cod TMDLs constitutes final agency action that is arbitrary and capricious, an abuse of discretion, and otherwise not in accordance with the provisions of the CWA and its implementing regulations.
2. A declaratory judgment that Defendants' approvals of the Cape Cod TMDLs violated the CWA and its implementing regulations because the Cape Cod TMDLs inaccurately and impermissibly treat septic systems, stormwater systems, and wastewater treatment facilities as nonpoint sources and thus assign waste from such sources to the LA portion of the TMDLs.
3. A declaratory judgment that Defendants' approvals of the Cape Cod TMDLs violated the CWA and its implementing regulations because the Cape Cod TMDLs fail to include a sufficient margin of safety and fail to satisfy applicable WQS.
4. A declaratory judgment that Defendants' approvals of the Cape Cod TMDLs were arbitrary and capricious, and an abuse of discretion and otherwise not in accordance with the CWA and its implementing regulations, because Defendants approved the TMDLs without analyzing relevant environmental effects of documented and predicted climate change.
5. An order setting aside Defendants' approvals of the Cape Cod TMDLs, and compelling Defendants to comply with the CWA and its implementing regulations by establishing lawful TMDLs that properly allocate septic systems, stormwater systems, and WWTFs to the WLA while including an adequate margin of safety.

6. An injunction barring EPA from approving or adopting any TMDL for the embayments that treats septic systems, stormwater systems, and WWTFs as nonpoint sources, and assigning them to the LA, or both.
7. An injunction barring EPA from approving any TMDL for the embayments that fails to analyze water resources impacts associated with documented and predicted climate change when establishing the WLA, LA and overall TMDL.
8. Such additional judicial determinations and orders as may be necessary to effectuate the foregoing request for relief.
9. An award and judgment to Plaintiffs of their costs and disbursements, including reasonable attorney's and expert witness fees, as authorized by the Equal Access to Justice Act, 28 U.S.C. § 2412.
10. Such other relief as this Court deems appropriate.

Dated: Boston, Massachusetts
August 24, 2010

CONSERVATION LAW FOUNDATION, INC.

By its attorney:

/s/ Cynthia E. Liebman
Cynthia Liebman
BBO No. 665528
Conservation Law Foundation, Inc.
62 Summer Street
Boston, Massachusetts 02110
(617) 350-0990
cliebman@clf.org

THE COALITION FOR BUZZARDS BAY, INC.

By its attorney:

/s/ Korrin Petersen
Korrin Petersen

BBO No. 654736
Coalition for Buzzards Bay
114 Front Street
New Bedford, MA 02740
(508) 999-6363 ext 206
petersen@savebuzzardsbay.org