AMERICAN RIVERS
NATURAL RESOURCES DEFENSE COUNCIL

together with Los Angeles Waterkeeper

Petition For A Determination That Stormwater Discharges From Commercial, Industrial, And Institutional Sites Contribute To Water Quality Standards Violations in the Alamitos Bay/Los Cerritos Watershed (Los Angeles County, California) And Require Clean Water Act Permits

September 17, 2015

Jared Blumenfeld, Regional Administrator
EPA Region 9
75 Hawthorne Street
Mail Code: ORA-1
San Francisco, CA 94105
Blumenfeld.Jared@epa.gov

Dear Regional Administrator Blumenfeld,

American Rivers, the Natural Resources Defense Council, and Los Angeles Waterkeeper hereby petition you, the Regional Administrator of U.S. Environmental Protection Agency Region 9, for a determination that currently unpermitted stormwater discharges from privately-owned commercial, industrial, and institutional sites are contributing to violations of water quality standards in the Alamitos Bay/Los Cerritos Channel watershed, and therefore require National Pollutant Discharge Elimination System (NPDES) permits pursuant to Section 402(p) of the Clean Water Act.[1]

Evidence summarized in this petition and included in the attached Exhibits shows that commercial, industrial, and institutional (CII) sites are unquestionably contributing to the watershed's zinc, copper, and ammonia impairments because:

- CII sites occupy 30.6% of the land area in the Alamitos Bay/Los Cerritos watershed.
- 93.0% of this CII area is located within a half-mile of a receiving water.
- Modeled results indicate that, out of all urban stormwater sources, CII sites contribute at least 30% of zinc loadings, 18% of copper loadings, and 26% of nitrogen loadings in the watershed.
- CII sites likely cover 21.4% of the watershed with impervious surface.
- Studies of average pollutant loadings suggest that CII sites are alone contributing four times the pollutant loadings that the Los Cerritos Channel and Colorado Lagoon would receive from the entire watershed under natural conditions.

Under the current regulatory program, municipalities bear the brunt of legal requirements to address the impacts of stormwater runoff pollution. However, remediating the degradation caused by stormwater often requires managing the runoff from a greater proportion of the landscape than a municipality directly controls. As a result, it is essential for private properties to take part in watershed restoration efforts, helping to implement the stormwater controls that are needed to reduce pollution and achieve clean rivers and streams. Imposing permitting requirements on private sites through residual designation authority (RDA) would make those sites part of the solution to our national and regional stormwater problems and would represent a more equitable allocation of clean-up responsibilities.

Factual Background

The Alamitos Bay/Los Cerritos Channel watershed drains an area of approximately 24,000 acres in Los Angeles County, California, emptying into the Pacific Ocean. Its official 12-digit hydrologic unit code (HUC-12) watershed designation is 180701060702. No other HUC-12 watersheds lie upstream of it or flow into it. The watershed contains portions of the cities of

[1] *See* 33 U.S.C. §§ 1342(p)(2)(E), (p)(6); 40 C.F.R. §§ 122.26(a)(1)(v), (a)(9)(i)(D), (f)(2).

Long Beach, Lakewood, Bellflower, Paramount, Downey, Signal Hill, and Cerritos, as well as a small portion of Los Angeles County.[2] The watershed is bordered by the Los Angeles River watershed to the west and the San Gabriel River watershed to the east.

The watershed has three major subparts: the area draining to Los Cerritos Channel's freshwater portion; the area draining to the Channel's tidal estuary; and the area draining to Colorado Lagoon and directly to Alamitos Bay.[3] Los Cerritos Channel is an open, concrete-lined flood control channel that flows through a densely urbanized area. Its upstream portion carries freshwater, and has a drainage area of 27.7 square miles.[4] Its downstream portion, the 1.5 miles between Atherton Road and the Channel's mouth at Alamitos Bay, is tidally influenced and drains 4.1 square miles.[5] Wetlands connect to the Channel a short distance from its lower end; this portion of the Channel constitutes habitat for a great diversity of birds, including at least one known endangered species.[6] One small marina is located in the Channel, which is used by rowing teams and is a popular fishing area.

The 15-acre tidal Colorado Lagoon lies within the watershed and is connected to Alamitos Bay via an underground culvert; its drainage area is 1.8 square miles.[7] The Lagoon contains sensitive estuarine habitat abundant in wildlife, including migratory birds, and provides opportunities for public recreation such as swimming and fishing.

Land cover data indicate that the Alamitos Bay/Los Cerritos watershed is 61.2% impervious. As discussed in more detail below, portions of the Los Cerritos Channel and the Colorado Lagoon are impaired by copper, zinc, and/or ammonia pollution in stormwater runoff from the predominantly urban land use within the watershed.

Stormwater runoff from impervious areas harms water quality in the Los Cerritos Channel and Colorado Lagoon, as well as throughout California, Region 9, and nationwide. As the EPA Office of Water acknowledged, "Stormwater runoff in urban and developing areas is one of the leading sources of water pollution in the United States."[8] The National Research

---

[2] U.S. EPA Region IX, *Los Cerritos Channel Total Maximum Daily Loads for Metals* at 2 (March 2010), *available at* http://www.epa.gov/region9/water/tmdl/los-cerritos/03-18-10LosCerritosChannel-metalsTMDLs.pdf (hereinafter "Los Cerritos Metals TMDL").

[3] Los Angeles County Flood Control District & County of Los Angeles Department of Public Works, *Alamitos Bay/Los Cerritos Channel Watershed Management Area Coordinated Integrated Monitoring Program* at 2-4 (June 2014), *available at* http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_cerritos_channel/alamitos_bay/AB-LCC_CIMP.pdf (hereinafter "AB/LCC WMA Monitoring Program").

[4] *Id.* at 3.

[5] *Id.* at 4.

[6] Los Cerritos Metals TMDL, *supra* note 2, at 2.

[7] AB/LCC WMA Monitoring Program, *supra* note 3, at 4.

[8] U.S. Environmental Protection Agency, Office of Water, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*, Forward by Peter S. Silva, Assistant Administrator (Dec. 2009), *available at* http://www.epa.gov/oaintrnt/documents/epa_swm_guidance.pdf.

Council (NRC) agrees: "Stormwater runoff has a deleterious impact on nearly all of the nation's waters"[9] – as does the U.S. Court of Appeals for the Ninth Circuit Court: "Stormwater runoff is one of the most significant sources of water pollution in the nation."[10]

In its preamble to the permitting regulations for stormwater sources in 1999, EPA explained the impacts of stormwater runoff in detail:

> Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables. … Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction.[11]

These water quality impairments "result[] in an unhealthy environment for aquatic organisms, wildlife, and humans."[12]

EPA accepts that stormwater runoff is a "contributor to water quality impairments across the country, particularly in developing and urbanized areas."[13] Stormwater causes these problems in large part due to the harmful contaminants that it carries into receiving waters. According to the NRC, "The chemical effects of stormwater runoff are pervasive and severe throughout the nation's urban waterways, and they can extend far downstream of the urban source. … A variety of studies have shown that stormwater runoff is a vector of pathogens with potential human health implications."[14]

In particular, over 250 studies reveal that increases in impervious area associated with urban development are a "collection site for pollutants,"[15] and generate greater quantities (and additional types) of contaminants. Urban development creates new pollution sources as population density increases and brings with it "proportionately higher levels of car emissions, maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be

---

[9] National Research Council, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, *Urban Stormwater Management in the United States* at 25 (2009), *available at* http://www.nap.edu/catalog.php?record_id=12465.
[10] *Environmental Defense Center v. EPA*, 344 F.3d 832, 840 (9th Cir. 2003).
[11] National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722, 68,724 (Dec. 8, 1999) (citation omitted).
[12] *Id.*
[13] U.S. Environmental Protection Agency, *TMDLs to Stormwater Permits Handbook*, Office of Water cover letter (2008), *available at* http://www.epa.gov/owow/tmdl/pdf/tmdl-sw_permits11172008.pdf.
[14] National Research Council, *supra* note 9, at 26.
[15] EPA, Office of Water, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*, *supra* note 8, at 5.

washed into receiving waters by storm water."[16] These increases in pollutant loadings can result in immediate and long-term effects on the health of the water body and the organisms that live in it.[17] The U.S. Geological Survey found that, in areas of increased urban development, local rivers and streams exhibited increased concentrations of contaminants such as nitrogen, chloride, insecticides, and polycyclic aromatic hydrocarbons (PAHs).[18]

The increased stormwater volume and pollutant loadings caused by urbanization, especially impervious cover, are closely connected with water body impairment. Contaminants, habitat destruction, and increasing streamflow flashiness resulting from urban development have been associated with the disruption of biological communities.[19] The NRC states, "By almost any currently applied metric…the net result of human alteration of the landscape to date has resulted in a degradation of the conditions in downstream watercourses."[20]

A review of the lists of impaired waters states must compile in compliance with the Clean Water Act (CWA or Act) reveals the deleterious effects of urbanization on water quality. Thousands of water bodies nationwide fail to meet standards established for stormwater-source pollutants such as pathogens, nutrients, sediments, and metals.[21] Of those impaired water bodies, by 2000, stormwater runoff sources were "responsible for about 38,114 miles of impaired rivers and streams, 948,420 acres of impaired lakes, 2,742 square miles of impaired bays and estuaries, and 79,582 acres of impaired wetlands" – and the NRC considers these figures to underestimate actual impairments.[22] Urban stormwater is listed as the "primary" source of impairment for 13 percent of all rivers, 18 percent of all lakes, and 32 percent of all estuaries, despite the fact that urban areas cover just 3 percent of U.S. land mass.[23]

In California, urban runoff is a "leading source" of water body impairment.[24] Stormwater and urban runoff are also the leading source of water pollution in the Los Angeles area. [25]

Since the 1999 adoption of the Phase II stormwater rule, which established permitting requirements for small municipalities and construction sites, the scientific understanding of the correlation between impervious surfaces and water quality impairments has increased

---

[16] 64 Fed. Reg. at 68,725.
[17] U.S. Geological Survey, *Effects of Urban Development on Stream Ecosystems in Nine Metropolitan Study Areas Across the United States* at 20 (2012), *available at* http://pubs.usgs.gov/circ/1373/.
[18] *Id.* at 3.
[19] *Id.* at 1.
[20] National Research Council, *supra* note 9, at 17.
[21] EPA, *TMDLs to Stormwater Permits Handbook*, *supra* note 13, at Cover Letter.
[22] National Research Council, *supra* note 9, at 25.
[23] *Id.*
[24] U.S. Environmental Protection Agency Region 9, *Municipal Storm Water and Ground Water Discharge Regulations in California* (2002), *available at* http://www.epa.gov/region9/water/groundwater/uic-pdfs/calif5d-muniguide.pdf.
[25] Shapiro, N., The Stranger Amongst Us: Urban Runoff, the Forgotten Local Water Resource, *available at* http://water.epa.gov/polwaste/nps/stormwater/upload/2003_03_26_NPS_natlstormwater03_33Shapiro.pdf (*quoting* Cone, M., Study Finds Widespread Runoff Peril on the Coast, Los Angeles Times, November 29, 2000).

significantly. EPA recognizes the now-well-understood connection between high percentages of impervious cover in watersheds and pollutant loading-driven impairments (among many other deleterious effects). EPA commonly approves state-developed 303(d) lists identifying impaired waters afflicted by pollutants typically discharged from stormwater sources. Numerous peer reviewed scientific articles and publications document the connection between impervious cover and declines in water quality and stream health.

In recent years, EPA created the Causal Analysis/Diagnosis Decision Information System, or "CADDIS" Urbanization Module**,** "a website developed to help scientists and engineers in the Regions, States, and Tribes conduct causal assessments in aquatic systems."[26] Through this module EPA provides a comprehensive overview of the connection between impervious surfaces (and other facets of urbanization) and declines in water quality for use in causal assessment for specific stressors including pollutant categories. In the CADDIS Module, EPA reiterated that "Urbanization has been associated with numerous impairments of water and sediment quality," including, but not limited to, increased nitrogen and phosphorus.[27]

The National Stormwater Quality Database, now in its fourth version, represents perhaps the greatest development in available data since adoption of the Phase II rule.[28] This database enables the publication of numerous analyses corroborating prior understandings and providing new and very reliable characterizations of pollutant loading and concentrations from specific land use categories. Shaver et al. underscored the significance of the NSQD:

> In the NSQD project, stormwater quality data and site descriptions are being collected and reviewed to describe the characteristics of national stormwater quality, to provide guidance for future sampling needs, and to enhance local stormwater management activities in areas having limited data. Over 10 years of monitoring data collected from more than 200 municipalities throughout the country have a great potential in characterizing the quality of stormwater runoff and comparing it against historical benchmarks. This project is creating a national database of stormwater monitoring data collected as part of the existing stormwater permit program, providing a scientific

[26] U.S. EPA, "CADDIS: The Causal Analysis/Diagnostic Decision Information System," http://www.epa.gov/caddis/index.html.
[27] U.S. EPA, "CADDIS Volume 2: Sources, Stressors & Responses," http://www.epa.gov/caddis/ssr_urb_wsq1.html.
[28] National Stormwater Quality Database, http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml & http://www.bmpdatabase.org/nsqd.html. According to Pitt et al., to create the NSQD, "The University of Alabama and the Center for Watershed Protection were awarded an EPA Office of Water 104(b)3 grant in 2001 to collect and evaluate stormwater data from a representative number of NPDES (National Pollutant Discharge Elimination System) MS4 (municipal separate storm sewer system) stormwater permit holders." Robert Pitt et al., *The National Stormwater Quality Database (NSQD, Version 1.1)* 2 (2004), *available a*t http://rpitt.eng.ua.edu/Research/ms4/Paper/MS4%20Feb%2016%202004%20paper.pdf.

> analysis of the data as well as recommendations for improving the quality and management value of future NPDES monitoring efforts (Pitt et al., 2004).[29]

The authors of the first report on the NSQD concluded that the national dataset represented in the database is so robust that "general characterization" monitoring is no longer needed and can no longer be justified.[30] Specifically, the authors stated:

> The excellent U.S. national coverage, along with the broad representation of land uses, seasons, and other factors, makes this information highly valuable for numerous basic stormwater management needs. Monitoring with no specific objective, except for general characterization in an area, is not likely to provide any additional value beyond the data and information contained in NSQD. After a sufficient amount of data has been collected by a Phase 1 community for representative land uses and other conditions, outfall characterization monitoring resources should be re-directed to other specific data collection and evaluation needs. Burton and Pitt (2001) provide much additional information on determining an adequate outfall monitoring program. Similarly, communities that have not initiated a stormwater monitoring program . . . may not require general characterization monitoring . . . , if they can identify a regional Phase I community that has compiled extensive monitoring data as part of their required NPDES stormwater permit. Obviously, there will be some situations that are not well represented in NSQD and additional characterization monitoring may be warranted. These situations will be identified in the final data analyses.[31]

In other words, available data are able to characterize stormwater pollutant concentrations and loading rates for purposes of regional or watershed analyses, such as residual designation. Indeed, in developing stormwater permit requirements, EPA has used literature reviews, including analyses of NSQD data, to conclude that discharges of urban runoff can be "reasonably assumed" to contain certain pollutants at predictable average concentrations.[32]

More recently, Version 3.1 of the NSQD has been compiled and improved through integration of various databases into one highly reliable dataset.[33] NSQD 3.1 provides a basis for assessing runoff sources nationally and includes detailed analysis of the expanded datasets

---

[29] Earl Shaver et al., *Fundamentals of Urban Runoff Management: Technical and Institutional Issues* 3-59 (2007), *available at* http://www.ilma-lakes.org/PDF/Fundamentals_full_manual_lowres.pdf.
[30] Pitt et al., *The National Stormwater Quality Database (NSQD, Version 1.1), supra* note 28, at 33.
[31] *Id.*
[32] U.S. EPA Region 1, Statement of Basis for Proposed Modifications to the Draft General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in New Hampshire at 2 (2015), *available at* http://www.epa.gov/region1/npdes/stormwater/nh/nhms4-renotice-statement-of-basis.pdf (hereinafter "New Hampshire MS4 Statement of Basis").
[33] Robert Pitt, *The National Stormwater Quality Database, Version 3.1* (Mar. 8, 2011), available at http://rpitt.eng.ua.edu/Publications/4_Stormwater_Characteristics_Pollutant_Sources_and_Land_Development_Characteristics/Stormwater_characteristics_and_the_NSQD/NSQD%203.1%20summary%20for%20EPA%20Cadmus.pdf.

within EPA designated "Rain Zones," which reflect the differences in precipitation in various defined regions of the nation.

Just as EPA knows more today about pollutant concentrations and loadings from urban areas, the agency knows much more about the connection between large areas of impervious cover and water quality impairments. As EPA acknowledges: "There is a direct relationship between the amount of impervious cover and the biological and physical condition of downstream receiving waters."[34] The fact that commercial, industrial and institutional facilities with large areas of impervious cover contribute pollutants to receiving waters can no longer be reasonably refuted. Having acknowledged these now well-understood facts, EPA must, at long last, assist municipalities in addressing these pollutant sources by exercising its residual designation authority under the Clean Water Act to require those facilities to address their contribution to water quality violations.

Regulatory Framework

In order to achieve the Clean Water Act's fundamental goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters,"[35] EPA and states that are delegated authority to administer the Act must establish minimum water quality standards.[36] These standards define "the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses."[37] California established, and EPA approved, water quality standards pursuant to this requirement.[38]

In order to ensure that such water quality standards will be achieved, no person may discharge any pollutant into waters of the United States from a point source without a National Pollutant Discharge Elimination System (NPDES) permit.[39] NPDES permits must impose water quality-based effluent limitations, in addition to any applicable technology-based effluent limitations, when necessary to meet water quality standards.[40]

The Act defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit…from which a pollutant is or may be discharged."[41] EPA's Clean Water Act regulations further specify that "discharge of a pollutant" includes "additions of pollutants into waters of the United States from: surface runoff

---

[34] EPA, *Managing Stormwater with Low Impact Development Practices: Addressing Barriers to LID* 1 (Apr. 2009), *available at* http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/AddressingBarrier2LID.pdf.
[35] 33 U.S.C. § 1251(a).
[36] 33 U.S.C. § 1313; 40 C.F.R. § 131.2.
[37] 40 C.F.R. § 131.2.
[38] U.S. EPA, "State, Tribal & Territorial Standards: Repository of Documents: California," http://water.epa.gov/scitech/swguidance/standards/wqslibrary/ca_index.cfm.
[39] 33 U.S.C. §§ 1311(a), 1362(12)(A).
[40] 33 U.S.C. § 1311(b).
[41] 33 U.S.C. § 1362(14).

which is collected or channeled by man."[42] Consequently, although stormwater discharges are often characterized as "non-point" in nature, it is legally well settled that "[s]torm sewers are established point sources subject to NPDES permitting requirements."[43] As EPA has stated, "For the purpose of [water quality] assessments, urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA."[44]

Despite the fact that stormwater runoff channeled through a conveyance is a point source subject to the Act's permitting requirements, EPA did not regulate stormwater through the NPDES program until Congress amended the statute in 1987 to explicitly require it[45] and EPA promulgated its Phase I and II regulations in 1990 and 1999, respectively.[46] As a result, the Clean Water Act now requires NPDES permits for discharges of industrial and municipal stormwater.[47] While these are the only categories of stormwater discharges called out for regulation in the text of the statute, Congress also created a catch-all provision directing EPA to require NPDES permits for any stormwater discharge that the Administrator or the State director determines "contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."[48]

This catch-all authority—known as EPA's residual designation authority—is a critical tool to ensure that problematic discharges of stormwater do not go unregulated. In the preamble to its Phase II stormwater regulations, EPA described the need for this authority: "EPA believes…that individual instances of storm water discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves

---

[42] 40 C.F.R. § 122.2.

[43] *Environmental Defense Center v. EPA*, 344 F.3d at 841 (citing *Natural Resources Defense Council v. Costle*, 568 F.2d 1369, 1379 (D.C. Cir. 1977)).

[44] National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990, 47,991 (Nov. 16, 1990).

[45] *See* 33 U.S.C. § 1342(p). Congressional insistence that stormwater be regulated through the NPDES program is evident in the legislative history of the 1987 amendment, such as the following statement from Senator Durenberger during the floor debates:

> The Federal Water Pollution Control Act of 1972 required all point sources, including storm water discharges, to apply for NPDES permits within 180 days of enactment. Despite this clear directive, E.P.A. has failed to require most storm water point sources to apply for permits which would control the pollutants in their discharge. The conference bill therefore includes provisions which address industrial, municipal, and other storm water point sources. I participated in the development of this provision because I believe it is critical for the Environmental Protection Agency to begin addressing this serious environmental problem.

133 Cong. Rec. S752 (daily ed. Jan. 14, 1987).

[46] National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990 (Nov. 16, 1990); National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722 (Dec. 8, 1999).

[47] 33 U.S.C. § 1342(p)(2).

[48] 33 U.S.C. § 1342(p)(2)(E); 40 C.F.R. § 122.26(a)(1)(v).

the regulatory authority to subsequently address a source (or category of sources) of storm water discharges of concern on a localized or regional basis."[49] Citizens may petition EPA for designation of stormwater sources for regulation under this authority.[50] In recent years, often acting in response to such petitions, EPA and delegated States have moved to exercise this residual designation authority on multiple occasions.[51]

Categories of sources designated under EPA's residual designation authority may be geographically broad. The agency has stated that "the designation authority can be applied within different geographic areas to any single discharge (i.e., a specific facility), or category of discharges…The added term 'within a geographic area' allows 'State-wide' or 'watershed-wide' designation within the meaning of the terms."[52] The Ninth Circuit Court of Appeals and Supreme Court of Vermont have both found that the designation of broad regional categories of sources is a reasonable exercise of statutory authority.[53]

Once EPA has made a finding or determination that a category of discharges meets the statutory criterion of "contribut[ing] to a violation of a water quality standard," it must designate that category for regulation, and those "operators *shall* be required to obtain a NPDES permit."[54] In other words, "the Agency's residual designation authority is not optional."[55]

EPA has not defined a threshold level of contribution to water quality standards violations that would suffice to make such a determination. However, the agency has advised delegated States that "it would be reasonable to require permits for discharges that contribute more than *de minimis* amounts of pollutants identified as the cause of impairment to a water

[49] National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. at 68,781.
[50] 40 C.F.R. § 122.26(f)(2).
[51] U.S. EPA Region VI, *Los Alamos County Preliminary Designation Document* (Mar. 2015), *available at* http://www.epa.gov/region6/water/npdes/publicnotices/nm/preliminary_designation_los_alamos_full_doc.pdf; U.S. EPA Region IX, *Request for Designation of MS4 Discharges on the Island of Guam for NPDES Permit Coverage* (Feb. 2011), *available at* http://www.epa.gov/region9/water/npdes/pdf/guam/Guam-ms4-residual-designation-memo.pdf; Vermont Agency of Natural Resources, Department of Environmental Conservation, *Final Designation Pursuant to the Clean Water Act for Designated Discharges to Bartlett, Centennial, Englesby, Morehouse and Potash Brooks* (Nov. 2009), *available at* http://www.vtwaterquality.org/stormwater/docs/swimpairedwatersheds/sw_rda_final_determination.pdf; U.S. EPA Region I, *Final Determination Under Section 402(p) of the Clean Water Act—Long Creek* (Oct. 2009), *available at* http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/LongCreekFinalResidualDesignation.pdf; U.S. EPA Region I, *Residual Designation Pursuant to Clean Water Act—Charles River* (Nov. 2008), *available at* http://www2.epa.gov/sites/production/files/2015-03/documents/rodfinalnov12.pdf.
[52] National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. at 68,781.
[53] *Environmental Defense Center*, 344 F.3d at 875-76; *In re Stormwater NPDES Petition*, 910 A.2d 824, 829-32 (Vt. 2006).
[54] 40 C.F.R. § 122.26(a)(9)(i)(D) (emphasis added).
[55] *In re Stormwater NPDES Petition*, 910 A.2d at 835-36.

body."[56] The Supreme Court of Vermont has recognized this analysis as a valid interpretation of the RDA threshold.[57]

Once the Regional Administrator receives an RDA petition requesting that it exercise this authority, EPA must make a final decision on the petition within 90 days.[58]

Analysis

Discharges from impervious surfaces associated with privately-owned commercial, industrial, and institutional (collectively, "CII") sites[59] (including rooftops and parking lots) are contributing to violations of water quality standards in the Alamitos Bay/Los Cerritos watershed. This petition demands that EPA exercise its mandatory residual designation authority to designate non-NPDES-permitted stormwater discharges from sites in these categories for regulation under the NPDES program. For purposes of this petition, "non-NPDES-permitted stormwater discharges" includes any stormwater discharge from a private property, or from a portion of a property, that is not subject to post-construction stormwater pollution control requirements under a NPDES permit. For example, where an industrial stormwater permit requires pollution controls only for stormwater discharges from the portions of an industrial site on which "industrial activity" takes place, stormwater discharges from the remaining portion of that industrial site are included in the term "non-NPDES-permitted stormwater discharges." The term "non-NPDES-permitted stormwater discharges" includes stormwater discharges from properties (or portions thereof) that are within the geographic boundaries of a regulated municipal separate storm sewer system (MS4).

In 2013, several environmental organizations, including American Rivers and the Natural Resources Defense Council, petitioned EPA Regions 1, 3, and 9 for a determination that commercial, industrial, and institutional sites throughout those EPA regions were contributing to violations of water quality standards. (Those petitions are hereafter referred to as the "2013 Petitions.") In responding to the 2013 Petitions, EPA considered three factors: (i) the likelihood of exposure of pollutants to precipitation at sites in the categories identified in the petition; (ii) the sufficiency of available data to evaluate the contribution of stormwater discharges to water quality impairment from the targeted categories of sites; and (iii) whether other federal, state, or local programs adequately address the known stormwater discharge contribution to a water quality standard violation. As discussed in more detail below, the petitioners do not concede that the third of these factors is a permissible factor for EPA to consider when deciding whether to

[56] Letter from G. Tracy Mehan III, EPA Assistant Administrator, to Elizabeth McLain, Secretary, Vermont Agency of Natural Resources 3 (Sept. 16, 2003).
[57] *In re Stormwater NPDES Petition*, 910 A.2d at 836 n.6.
[58] 40 C.F.R. § 122.26(f)(5).
[59] For purposes of this petition, these CII land use categories are defined by the Southern California Association of Governments' 2009 Los Angeles Countywide Zoning dataset. CII sites include the following Los Angeles zoning categories: Airport Related, Commercial and Services, Educational Institutions, Industrial, Mixed Commercial and Industrial, Mixed Urban, and Other Commercial. Los Angeles County GIS Data Portal, 2009 Countywide Zoning, *available at* http://egis3.lacounty.gov/dataportal/2012/04/10/countywide-zoning/.

exercise RDA. Nonetheless, because EPA established these as its review criteria in responding to the 2013 Petitions, this petition is structured to address each of those three criteria in turn.

I. Stormwater Discharges from CII Sites Contain Copper, Zinc, and Ammonia

Runoff from commercial, industrial, and institutional sites consistently contains high levels of copper and zinc (collectively referred to as "metals"), as well as ammonia. As EPA has noted, heavy metals, particularly copper and zinc, are by far the most prevalent priority pollutant constituents found in urban runoff, and these metals have the potential to cause acute or chronic toxic impacts for aquatic life.[60] EPA lists industry and automobiles as the primary sources of metals in urban runoff.[61] Metals like zinc and copper get into runoff from impervious areas that are trafficked by vehicles, such as driveways and parking lots, from vehicle wear, tire wear, motor oil, grease, and rust.[62] Ammonia is "the nitrogen form that is usually the most readily toxic to aquatic life."[63] EPA lists urban runoff as a source of ammonia, particularly due to fertilizer use, and notes that ammonia pollution can lead to eutrophication and low dissolved oxygen levels.[64]

Research demonstrates, and EPA has recognized, that commercial, industrial, and institutional land uses consistently discharge metals and nitrogen (including ammonia) at expected, elevated concentrations (both generally as well as for specific runoff events) and have large annual per-acre pollutant loads. Relying on the NSQD and a literature review of other studies, including many discussed below, EPA has determined that "it can be reasonably assumed" that urban stormwater discharges, which include discharges from CII sites, contain metals and nutrients at predicted average concentrations.[65] Further, EPA has recommended the use of pollutant loading and assessment models based on well-established pollutant loading levels associated with commercial, industrial, and institutional land uses.

In recent years, an EPA-sponsored stormwater practice performance analysis relied on "pollutant loading export rates . . . obtained from the *Fundamentals of Urban Runoff Management: Technical and Institutional Issues* (Shaver et al. 2007)…because they have been reported in several sources of stormwater management literature."[66] This analysis identified "typical" zinc and nitrogen loading export rates from different land uses. In turn, the Shaver et

---

[60] U.S. EPA, *Preliminary Data Summary of Urban Storm Water Best Management Practices* at 4-16 (Aug. 1999), *available at* http://water.epa.gov/scitech/wastetech/guide/stormwater/.
[61] *Id.*
[62] U.S. Department of Transportation, Federal Highway Administration, *Stormwater Best Management Practices in an Ultra-Urban Setting: Selection and Monitoring* Chapter 2, Table 1, *available at* http://environment.fhwa.dot.gov/ecosystems/ultraurb/uubmp2.asp.
[63] EPA, *Preliminary Data Summary*, *supra* note 60, at 4-13.
[64] U.S. EPA, "Ammonia: Introduction," http://www.epa.gov/caddis/ssr_amm_int.html.
[65] EPA Region 1, New Hampshire MS4 Statement of Basis, *supra* note 32, at 2.
[66] Tetra Tech, Inc., *Stormwater Best Management Practices (BMP) Performance Analysis* 18 (Dec. 2008, revised Mar. 2010), prepared for EPA Region 1, *available at* http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/BMP-Performance-Analysis-Report.pdf.

al. study referenced in that EPA-sponsored guidance cites EPA's own *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*, states: "Many models utilize literature-based values for water-quality concentrations to estimate pollutant loads (US-EPA 2005)."[67] In the 2008 version of that handbook, EPA provides a specific recommendation with regard to "where to get export coefficients" for different land uses, including a reference to a 2004 data review by Jeff P. Lin, which "summarizes and reviews published export coefficient and event mean concentration (EMC) data for use in estimating pollutant loading into watersheds."[68] Lin in turn confirms that numerous studies have been completed that document consistently high pollutant concentrations from commercial and industrial sources both on a per-year and per-acre basis.[69] Burton and Pitt's *Stormwater Effects Handbook*, cited in Shaver et al., further documents that commercial, parking lot, and industrial land uses had consistently high copper and nitrogen levels in addition to the zinc levels cited in the EPA analysis, and also shows that stormwater nutrient runoff may stimulate ammonia production.[70] These long-accepted estimates of total annual loading underscore that commercial, industrial, and institutional land uses are large per-acre contributors of pollutants.[71]

Analyses of the extensive dataset in the NSQD confirm that stormwater discharges from commercial, industrial, and institutional land uses consistently contain high loading levels of these impairment-causing pollutants. The NSQD, extensively referenced in Shaver et al. 2007, is very valuable because it builds on and corroborates prior datasets.[72] This dataset is also important because analysis and comparison of both median and mean pollutant concentrations in the data across numerous pollutant parameters clearly demonstrates that commercial, industrial, and institutional land uses discharge elevated *concentrations* of zinc, copper, and nitrogen (including ammonia).[73] These elevated concentrations are responsible in part for the high pollutant loadings from these land uses; the increased impervious cover on these types of sites generates greater runoff volumes, and loadings are the product of volume and pollutant concentration. Based on the Center for Watershed Protection's "Simple Method" for calculating pollutant loads, for unit-area loadings to a water body, essentially any medium- to high-intensity

---

[63] Earl Shaver et al., *Fundamentals of Urban Runoff Management*, *supra* note 29, at 3-63.[68]EPA, *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* at 8-7 (2008), *available at* http://water.epa.gov/polwaste/nps/upload/2008_04_18_NPS_watershed_handbook_handbook.pdf.

[68]EPA, *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* at 8-7 (2008), *available at* http://water.epa.gov/polwaste/nps/upload/2008_04_18_NPS_watershed_handbook_handbook.pdf.

[69] Jeff P. Lin, U.S. Army Corps of Engineers, Wetlands Regulatory Assistance Program, *Review of Published Export Coefficient and Event Mean Concentration (EMC) Data* (2004), *available at* http://coast.noaa.gov/digitalcoast/_/pdf/GetTRDoc.pdf.

[70] G.A. Burton & R.E. Pitt, *Stormwater Effects Handbook* (2002).

[71] *See* National Research Council, *supra* note 9, at 180.

[72] Shaver et al., *Fundamentals of Urban Runoff Management*, *supra* note 29, at 3-59; Pitt, *The National Stormwater Quality Database, Version 3.1*, *supra* note 33, at 1 ("Recently, version 3 of the NSQD was completed, and besides expanding to include additional stormwater NPDES MS4 permit holders, most of the older NURP data, and some of the International BMP database information was also added, along with data from some USGS research projects.").

[73] Pitt et al., *The National Stormwater Quality Database (NSQD, Version 1.1)*, *supra* note 28; Pitt, *The National Stormwater Quality Database, Version 3.1*, *supra* note 33.

land use (like the uses subject to this petition) is likely to impose 10- to 20-fold increases in pollutant loadings.[74] Higher average pollutant concentrations at commercial, industrial, and institutional sites increase pollutant load contributions even further.

The NSQD found median Total Kjeldahl Nitrogen (TKN) concentrations of 1.6 mg/L at commercial areas, 1.4 mg/L at industrial areas, and 1.35 mg/L at institutional areas.[75] (TKN is a measurement that includes both ammonia and organic nitrogen.[76]) It also found median total copper concentrations of 17 µg/L at commercial areas and 22 µg/L at industrial sites.[77] Finally, it found median zinc total concentrations of 150 µg/L at commercial sites, 210 µg/L in industrial areas, and 305 µg/L in institutional areas.[78]

Recent analysis of Version 3.1 of the NSQD demonstrates elevated mean concentrations for TKN, total copper, and total zinc as well.[79] For TKN, in Rain Zone 6 (where the Alamitos Bay/Los Cerritos Channel watershed is located), the mean concentration was 4.3 mg/L at commercial sites and 4.2 mg/L at industrial sites. For total copper, the mean concentration was 21 µg/L at commercial sites and 78 µg/L at industrial sites. For total zinc, the mean concentration was 343 µg/L at commercial sites and1720 µg/L at industrial sites.[80] Values for concentrations of all three pollutants were unavailable for institutional sites in Rain Zone 6, but at institutional sites nationally, the mean concentration of TKN was 1.5 mg/L, total copper was 21 µg/L, and total zinc was 210 µg/L.[81] Analysis of this extensive database generally indicates that the subject land uses discharge elevated concentrations of copper and zinc.

EPA's National Urban Runoff Program study found similar results: it found median TKN concentrations at commercial sites were 1.179 mg/L, median copper concentrations at commercial sites were 29 µg/L, and median zinc concentrations at commercial sites were 226 µg/L.[82]

The USGS has found mean TKN concentrations of 1.7 mg/L at commercial rooftops and 1.5 mg/L at commercial parking lots; total recoverable zinc concentrations of 348 µg/L at commercial rooftops and 148 µg/L at commercial parking lots; and mean total recoverable copper of 23 µg/L at commercial rooftops and 25 µg/L at commercial parking lots.[83]

---

[74] *See* Center for Watershed Protection, *Impacts of Impervious Cover on Aquatic Systems* (2003) at Section 4.3.
[75] Pitt et al., *The National Stormwater Quality Database (NSQD, Version 1.1)*, *supra* note 28, at 9-10.
[76] *See* U.S. EPA, *Total Nitrogen*, http://www.epa.gov/region9/water/tribal/training/pdf/TotalNitrogen.pdf.
[77] Pitt et al., *The National Stormwater Quality Database (NSQD, Version 1.1)*, *supra* note 28, at 10-11.
[78] *Id.*
[79] Pitt, *The National Stormwater Quality Database, (NSQD, Version 3.1)*, *supra* note 33, at 6.
[80] *Id.*
[81] *Id.*
[82] Burton & Pitt, *Stormwater Effects Handbook*, *supra* note 70, at Table 2.4.
[83] Jeffrey Steuer et al., U.S. Geological Survey, *Sources of Contamination in an Urban Basin in Marquette, Michigan and an Analysis of Concentrations, Loads, and Data Quality* 19 (1997), *available at* http://pubs.usgs.gov/wri/1997/4242/report.pdf.

One study found an average TKN concentration of 5.07 mg/L in surface runoff from industrial sites.[84] Another study found that TKN event mean concentrations for asphalt parking lots on commercial sites averaged in range from 0.38 to 1.37 mg/L.[85] In another study conducted in Southern California, industrial and commercial land uses were shown to have a mean event mean concentration (EMC) for copper of approximately 42 µg/L and 70 µg/L, respectively.[86] For zinc, EMC in industrial and commercial land uses averaged 599 µg/L and 362 µg/L, respectively.[87]

Table 1: Summary of Copper, Zinc, and TKN Concentrations Documented in CII Site Runoff

Study	Commercial Sites	Industrial Sites	Institutional Sites
NSQD 1.1	Copper: 17 µg/L Zinc: 150 µg/L TKN: 1.6 mg/L	Copper: 22 µg/L Zinc: 210 µg/L TKN: 1.4 mg/L	 Zinc: 305 µg/L TKN: 1.35 mg/L
NSQD 3.1	Copper: 21 µg/L Zinc: 343 µg/L TKN: 4.3 mg/L	Copper: 78 µg/L Zinc: 1720 µg/L TKN: 4.2 mg/L	Copper: 21 µg/L Zinc: 210 µg/L TKN: 1.5 mg/L
National Urban Runoff Program	Copper: 29 µg/L Zinc: 226 µg/L TKN: 1.179 mg/L		
USGS	Copper: 23 µg/L (rooftops), 25 µg/L (parking lots) Zinc: 348 µg/L (rooftops), 148 µg/L (parking lots) TKN: 1.7 mg/L (rooftops), 1.5 mg/L (parking lots)		
Choe et al.		TKN: 5.07 mg/L	
Passeport & Hunt	TKN: 0.38-1.37 mg/L		
Tiefenthaler et al.	Copper: 70 µg/L Zinc: 362 µg/L	Copper: 42 µg/L Zinc: 599 µg/L	

Consistent with elevated concentrations in pollutant discharges, these land uses have been shown to generate large annual copper, zinc, and ammonia (measured as TKN) loadings as well. Shaver et al., based on data collected by Burton and Pitt, found that commercial areas typically discharge 6.7 pounds per acre per year (lbs/ac-yr) of TKN, 0.4 lbs/ac-yr of copper, and 2.1 lbs/ac-yr of zinc; parking lots discharge 5.1 lbs/ac-yr of TKN, 0.06 lbs/ac-yr of copper, and 0.8

[84] J.S. Choe et al., "Characterization of Surface Runoff of Urban Areas," *Water Sci. Tech.* 45(9) (2002), 249-54, at Table 3.
[85] E. Passeport & W. Hunt, "Asphalt Parking Lot Runoff Nutrient Characterization for Eight Sites in North Carolina, USA," *Journal of Hydrologic Engineering* Vol. 14, Special Issue: Impervious Surfaces in Hydrologic Modeling and Monitoring (2009), 352-62, at Table 4.
[86] LL Tiefenthaler et al., Watershed and Land-Use Based Sources of Trace Metals in Urban Storm Water (2008), Environmental Toxicology and Chemistry, at 18-20, *available at* ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/2007AnnualReport/AR07_013_030.pdf.
[87] *Id.*

lbs/ac-yr of zinc; industrial areas discharge 3.4 lbs/ac-yr of TKN, 0.1 lbs/ac-yr of copper, and 0.4 lbs/ac-yr of zinc; and shopping centers discharge 3.1 lbs/ac-yr of TKN, 0.09 lbs/ac-yr of copper and 0.6 lbs/ac-yr of zinc.[88]

An earlier report recommended annual unit total nitrogen loads of 11.2 kilograms per hectare per year (kg/ha-yr) from commercial land use and 7.8 kg/ha-yr from industrial land use, compared to 0.22 kg/ha-yr from open (undeveloped) land.[89] (Total nitrogen is the sum of ammonia, organic nitrogen, nitrite, and nitrate.) For copper, the same study recommended annual unit loads of .049 kg/ha-yr from commercial land use and .077 kg/ha-yr from industrial land use, compared to 0.007 kg/ha-yr from undeveloped land.[90] And for zinc, it recommended annual unit loads of 0.63 kg/ha-yr from commercial land and .98 kg/ha-yr from industrial land, compared to 0.081 kg/ha-yr from undeveloped land.[91]

Another study found median copper loadings of 2.1 kg/ha-yr from commercial sites, compared to 0.03 kg/ha-yr from undeveloped forests.[92] The same report found median total nitrogen (TN) loadings of 5.2 kg/ha-yr from commercial sites, compared to 2.0 kg/ha-yr from forests.[93] A study of aggregate runoff from parking lots in a particular county found that nitrogen loadings from these parking lots were 6,930 pounds, copper loadings were 74 pounds, and zinc loadings were 930 pounds, compared to loadings of 1,993 pounds of nitrogen, 1.648 pounds of copper, and 6.794 pounds of zinc before the land became parking lots.[94] Yet another study found annual loadings of 15.4 lbs/ac-yr of nitrogen and 0.30 lbs/ac-yr of zinc from parking lots, compared to 2.0 lb/ac-yr of nitrogen and a non-detectable amount of zinc in runoff from undeveloped meadows.[95]

---

[88] Shaver et al., *Fundamentals of Urban Runoff Management* (2007), *supra* note 29, at 3-63; Burton and Pitt, *Stormwater Effects Handbook*, *supra* note 70, at Table 2.5.

[89] J. Marsalek, National Water Research Institute, Canada Centre for Inland Waters, *Pollution Due to Urban Runoff: Unit Loads and Abatement Measures* at Table 7 (1978), *available at* http://agrienvarchive.ca/download/PLUARG_pollution_urban_runoff.pdf.

[90] *Id.*

[91] *Id.*

[92] Shaver et al., *Fundamentals of Urban Runoff Management* (2007), *supra* note 29, at 3-64 (presenting data from Horner 1992).

[93] *Id.*

[94] Amélie Y. Davis et al., "The Environmental and Economic Costs of Sprawling Parking Lots in the United States," *Land Use Policy* 27 (2010) at 259, *available at* http://iesp.uic.edu/Publications/Faculty%20Publications/Davis/Davis_TheEnvironmentalAndEconomicCostsSprawling.pdf.

[95] Tom Schueler, "The Importance of Imperviousness," Center for Watershed Protection, Table 1 (2000), *available at* http://www.cwp.org/online-watershed-library/doc_download/308-the-importance-of-imperviousness.

Table 2: Summary of Copper, Zinc, and Nitrogen Loadings Documented at CII Sites

Study	Commercial Sites	Industrial Sites	Open Space
Shaver et al. (data from Burton & Pitt)	Copper: 0.4 lbs/ac-yr Zinc: 2.1 lbs/ac-yr TKN: 6.7 lbs/ac-yr	Copper: 0.1 lbs/ac-yr Zinc: 0.4 lbs/ac-yr TKN: 3.4 lbs/ac-yr	
Marsalek	Copper: 0.049 kg/ha-yr Zinc: 0.63 kg/ha-yr Total N: 11.2 kg/ha-yr	Copper: 0.077 kg/ha-yr Zinc: 0.98 kg/ha-yr Total N: 7.8 kg/ha-yr	Copper: 0.007 kg/ha-yr Zinc: 0.081 kg/ha-yr Total N: 0.22 kg/ha-yr
Horner	Copper: 2.1 kg/ha-yr Total N: 5.2 kg/ha-yr		Copper: 0.03 kg/ha-yr Total N: 2.0 kg/ha-yr
Schueler	Zinc: 0.30 lbs/ac-yr N: 15.4 lbs/ac-yr		Zinc: ND N: 2.0 lb/ac-yr

To summarize, the aggregate of stormwater pollution research consistently supports the irrefutable conclusion that CII land uses typically generate pollutant loadings that are many times greater than loadings from undeveloped land. According to EPA-accepted data, commercial sites can generate copper loadings that are 57 times greater than loadings generated by undeveloped open space such as parks; parking lots generate copper loadings 8.6 times greater; industrial sites generate copper loadings 11 times greater; and shopping centers generate copper loadings 12.9 times greater.[96] Commercial sites also generate zinc loadings that are 12 times greater than loadings generated by undeveloped open space.[97] Finally, commercial sites generate nitrogen loadings (which include ammonia) 50 times greater than undeveloped land, while industrial sites generate nitrogen loadings 35 times greater.[98]

These results indicate that CII sites usually generate heavy metal and nitrogen/ammonia loadings that are, conservatively, at least an order of magnitude greater than loadings from undeveloped land. When this information was presented in the 2013 Petitions, EPA agreed that "impervious cover is a source of pollutants."[99] And for purposes of those petitions, EPA accepted "that many CII sites have significant amounts of impervious surface, which are exposed to a variety of pollutants that can discharge during rain events."[100] As such, "EPA agree[d] that it is reasonable to expect that the pollutants identified in the petition [including ammonia, copper, and zinc] may be exposed to precipitation at CII sites with impervious cover."[101] Further, EPA noted that when the agency was considering additional categories of stormwater discharges for

[96] Shaver et al., *Fundamentals of Urban Runoff Management* (2007), *supra* note 29, at 3-63; Burton and Pitt, *Stormwater Effects Handbook*, *supra* note 70, at Table 2.5; U.S. EPA Region I, *Residual Designation Pursuant to Clean Water Act—Charles River*, *supra* note 51, *at 5*; Marsalek, *supra* note 89, at Table 7.
[97] *Id*.
[98] Marsalek, *supra* note 89, at Table 7.
[99] Enclosure to letter from Jared Blumenfeld, Regional Administrator, U.S. EPA Region 9, to Jon Devine, Natural Resources Defense Council, at 5 (Mar. 12, 2014) (hereinafter "Region 9 Response").
[100] *Id*. at 6.
[101] *Id*.

potential permitting under the Phase II stormwater program, it considered NSQD data, indicating that the agency considers the NSQD to be a reputable data source.[102]

II. Stormwater Discharges from CII Sites Contribute to Water Quality Impairment in the Alamitos Bay/Los Cerritos Channel Watershed

After copper, zinc, and ammonia are exposed to precipitation at CII sites, stormwater runoff carries those pollutants into the Los Cerritos Channel and Colorado Lagoon, contributing to violations of water quality standards. According to California's water quality assessments, portions of the Channel and Lagoon are currently impaired by pollutants typically contained in runoff from CII sites.[103] The TMDL for metals in the Los Cerritos Channel attributes its impairments to stormwater and urban runoff.[104] GIS data confirm that a significant percentage of the watershed is occupied by CII sites and a significant portion of that CII land area is located within close proximity to the receiving water. Altogether, this information demonstrates that discharges from CII sites are contributing to violations of water quality standards in the Alamitos Bay/Los Cerritos watershed.

i. Prior EPA discussions of when a discharge "contributes to a violation of a water quality standard"

EPA has interpreted what it means for a discharge to "contribute to a violation of a water quality standard" in at least three contexts: in responding to the 2013 Petitions, in proposing to designate new MS4s in New Mexico, and in proposing modified conditions for MS4 permits in New Hampshire. (The petitioners do not concede that these interpretations are legally correct, but present them here to provide context for the factual support contained in this petition.)

In responding to the 2013 Petitions, EPA determined whether the discharges at issue contributed to water quality standard exceedances by evaluating two sources of information. First, EPA considered geographic information system (GIS) data. Regions 3 and 9 stated that it is important to use such data "to assess the location of the CII sites relative to the impaired waters."[105] Region 3 performed a GIS analysis that focused on "highly impervious" (CII) sites located within a half-mile of an impaired stream.[106] Second, EPA considered TMDL source assessments. Regions 3 and 9 stated, "The most relevant and readily available data to assess whether CII sites are contributing to particular WQS exceedances are Total Maximum Daily Load (TMDL) analyses."[107] According to Region 9, "[T]he source assessments that accompany the TMDLs provide useful insights into determining whether CII sites in particular, or

[102] *Id.* at 5.
[103] California State Water Resources Control Board, 2012 Integrated Report (CWA Section 303(d) List / 305(b) Report, http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml.
[104] Los Cerritos Metals TMDL, *supra* note 2, at 23.
[105] Region 9 Response, *supra* note 99, at 8.
[106] Enclosure to letter from Shawn Garvin, Regional Administrator, U.S. EPA Region 3, to Jon Devine, Natural Resources Defense Council, at 9 (Mar. 12, 2014) (hereinafter "Region 3 Response").
[107] *Id.* at 7; Region 9 Response, *supra* note 99, at 6.

alternatively, urban runoff more generally, is contributing to the impairments."[108] More generally, Regions 3 and 9 indicated that a "watershed-specific analysis" can be used "to identify which source or sources contribute to an exceedance of water quality standards."[109]

In proposing to designate new MS4s for NPDES permitting in New Mexico, Region 6 described how it determined whether the discharges at issue were contributing to water quality impairments. Because the discharges "contain pollutants for which the state of New Mexico has listed receiving waters as impaired," Region 6 determined that "these discharges are at least contributing to the associated water quality impairments."[110] Region 6 additionally cited assessments by the state of New Mexico attributing the impairments to "urban-related causes."[111]

Finally, in proposing modified conditions for MS4 permits in New Hampshire, Region 1 performed a literature review and analysis of NSQD data to "reasonably assume" that stormwater discharges from urban areas contain certain pollutants at expected average concentrations.[112] Region 1 went on to state:

> When a waterbody is found to be impaired pursuant to Clean Water Act (CWA) Section 303(d) or 305(b) for a particular pollutant, or the receiving water is experiencing an excursion above water quality standards due to the presence of a particular pollutant, it indicates that the waterbody has no assimilative capacity for the pollutant in question. EPA reasonably assumes that urban stormwater discharges from urbanized areas in New England contain bacteria/pathogens, nutrients, chloride, sediments, metals, and oil and grease (hydrocarbons) and *finds that MS4 discharges are likely causing or contributing to the excursion above water quality standards when the receiving waterbody impairment is caused by bacteria/pathogens, nutrients, chloride, metals, sediments or oil and grease (hydrocarbons).* EPA has determined that it is appropriate to require additional controls on such discharges to protect water quality.[113]

This statement indicates that EPA accepts average pollutant concentration and loading data as evidence that a category of stormwater discharges is causing or contributing to violations of water quality standards, and that the agency considers such evidence sufficient to support the imposition of NPDES permit obligations on those stormwater sources.

[108] Region 9 Response, *supra* note 99, at 7.
[109] Region 3 Response, *supra* note 106, at 7; Region 9 Response, *supra* note 99, at 6.
[110] U.S. EPA Region VI, *Los Alamos County Preliminary Designation Document*, *supra* note 51, at 1.
[111] *Id.* at 8.
[112] EPA Region 1, New Hampshire MS4 Statement of Basis, *supra* note 32, at 2.
[113] *Id.* at 2-3 (emphasis added).

ii. The Los Cerritos Channel and Colorado Lagoon are impaired by copper, zinc, and ammonia

Portions of the Los Cerritos Channel are currently failing to meet water quality standards for many pollutants, including ammonia and metals. California's 2012 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) lists the Los Cerritos Channel as impaired for copper, zinc, and ammonia, among other pollutants.[114] As such, it is not suitable for its designated beneficial uses, which include secondary water recreation, warm water habitat, and wildlife habitat uses.[115] Additionally, Colorado Lagoon is listed as impaired for zinc, contributing to its failure to attain its recreation, aquatic life, and commercial and sport fishing uses.[116]

iii. Stormwater runoff from CII sites contributes to these impairments

EPA Region 9 determined, in developing the TMDL for metals in the freshwater (upstream) portion of the Los Cerritos Channel, that "[u]rban stormwater has been recognized as a substantial source of metals," and that metals such as copper and zinc "are typically associated with fine particles in stormwater runoff."[117] The TMDL further found that the potential for significant metals contribution to the freshwater Channel from urban stormwater (MS4s) is "high."[118] Likewise, the Colorado Lagoon TMDL concluded, "The point sources of . . . metals discharged to Colorado Lagoon are urban runoff and stormwater discharges from the municipal separate storm sewer systems (MS4s) and California Department of Transportation (Caltrans)."[119]

The Los Cerritos Channel metals TMDL briefly discusses the extent to which particular land uses' stormwater discharges contribute to the Channel's impairments, noting that the upstream portion of the watershed addressed by the TMDL is 93% urban. The TMDL report contains a table showing modeled average copper and zinc loading rates by overall land use; the loading rates for commercial and industrial land are among the highest of any land uses (institutional land is not specifically listed in the table).[120] Elsewhere, the document specifically mentions the high loading rates of copper and zinc from industrial land use, stating, "Industrial sites typically have >70% impervious cover as well as on-site sources of metals which may

[114] California 2012 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report), *supra* note 103.
[115] Los Cerritos Metals TMDL, *supra* note 2, at 6.
[116] California 2012 Integrated Report, *supra* note 103; *see also* California Regional Water Quality Control Board, Los Angeles Region, Resolution No. R09-005, Amendment to the *Water Quality Control Plan for the Los Angeles Region* to Incorporate a Total Maximum Daily Load for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), Sediment Toxicity, Polycyclic Aromatic Hydrocarbons (PAHs), and Metals for Colorado Lagoon (Oct. 2009), *available at* http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/coloradolagoontoxicity/signedresolutionr09_005_amendments.pdf (hereinafter "Colorado Lagoon TMDL").
[117] Los Cerritos Metals TMDL, *supra* note 2, at 23.
[118] *Id.*
[119] Colorado Lagoon TMDL, *supra* note 116, at Attachment A, page 3.
[120] Los Cerritos Metals TMDL, *supra* note 2, at 25.

explain the higher loadings of copper and zinc from industrial land use sites . . ."[121] Neither the Los Cerritos TMDL nor the Colorado Lagoon TMDL discuss the sources of ammonia pollution in the watershed, as ammonia is not one of the pollutants addressed by these TMDLs. However, as discussed above, runoff from CII sites consistently contains elevated levels of ammonia and other forms of nitrogen, in addition to elevated levels of zinc and copper.

A GIS analysis, attached as Exhibit A and summarized below, shows that a significant proportion of the Alamitos Bay/Los Cerritos watershed is occupied by CII land use, and that most of these CII areas are located in close proximity to the receiving water. Because CII sites generate much of the runoff flowing into the Los Cerritos Channel and Colorado Lagoon, these sites contribute to these waters' documented exceedances of water quality standards; to claim or act otherwise would be arbitrary and capricious.

The GIS analysis attached to this petition addresses land areas whose runoff flows into the Channel's impaired segments (either directly or by way of an unimpaired stream segment), as well as the land areas flowing into the Lagoon. All of these areas are contained within the Alamitos Bay/Los Cerritos HUC-12 because no other HUC-12 lies upstream of it. The GIS analysis reveals that this HUC-12 contains twelve subwatersheds, of which eleven drain into the Los Cerritos Channel, its tributaries, or the Colorado Lagoon. This petition addresses and seeks designation for CII sites within the eleven contributing subwatersheds that drain into the Los Cerritos Channel or the Lagoon. All future references to the "watershed" refer exclusively to those eleven subwatersheds that contribute runoff to the Channel and/or Lagoon.

In total, 30.6% of the land area in the eleven contributing subwatersheds of the Alamitos Bay/Los Cerritos watershed – nearly a third of the Channel and Lagoon's drainage area – is occupied by CII sites.[122] All land within the watershed is located within one mile of a receiving water – either the Los Cerritos Channel, a tributary, or Colorado Lagoon. Of the watershed's CII land area, 64.1% is within a quarter-mile of a receiving water, and 93.0% is within a half-mile.[123] Since the TMDLs have established that the Los Cerritos Channel and Colorado Lagoon metals impairments are caused by stormwater runoff from land in the watershed, and this GIS analysis

[121] *Id.* at 18.

[122] 7,019 acres out of 22,917 total acres in the watershed are CII land, totaling 30.6%. CII sites include the following 2009 Los Angeles County zoning categories: Airport Related, Commercial and Services, Educational Institutions, Industrial, Mixed Commercial and Industrial, Mixed Urban, and Other Commercial (*see* footnote 59, *supra*). While the "Transportation" land use category, which includes the Long Beach Airport, was excluded from the CII grouping in the GIS analysis, the "Airport Related" land use was included as a CII category. The GIS analysis does not distinguish between publicly and privately owned sites; this petition only seeks designation of the latter. However, publicly owned sites are likely to fall only within the "Educational Institutions" CII land use category, which makes up 1,085 acres or 4.7% of the Los Cerritos/Alamitos Bay watershed (much of which is privately owned), so the inclusion of such sites does not significantly affect the analysis. The analysis in Exhibit A also presents information from the National Land Cover Database's 2011 dataset, which generally corroborates the correlation between urbanized land use and impairment but does not break down land use information sufficiently to distinguish between CII and other land uses.

[123] 4,498 of 7,019 acres of CII land are within a quarter-mile of a receiving water, equaling 64.1%. 6,527 of 7,091 acres of CII land are within a half-mile of a receiving water, equaling 93.0%.

demonstrates that nearly a third of that land is covered by CII sites, it is indisputable that stormwater discharges from CII sites are contributing to the impairments.

A modeled estimate of average annual pollutant loadings from the urban land uses in the watershed, attached as Exhibit B, confirms that CII sites are responsible for a significant portion of the urban stormwater metals and ammonia loadings to Los Cerritos Channel and Colorado Lagoon.[124] This modeling used an approach for calculating regional event mean concentrations (EMCs) using data from the National Stormwater Quality Database is consistent with methods that EPA itself has used on other occasions, according to documents obtained via a Freedom of Information Act (FOIA) request.[125] The modeling indicates that sites in CII land use categories contribute at least 30% of zinc loadings, 18% of copper loadings, and 26% of nitrogen loadings (which include ammonia) in the watershed. This proportion is commensurate with CII sites' land area in the watershed and confirms that the metals and ammonia that CII sites generate are contributing to the Channel and Lagoon impairments.

It is true that certain industrial sites and areas on industrial sites (the portion on which "industrial activity," as defined by EPA regulations, is occurring) are already required to obtain NPDES permit coverage for industrial stormwater discharges, and are therefore excluded from the scope of this petition.[126] As a result, the analysis presented herein overestimates, at least to some extent, the geographic area occupied by *non-NPDES-permitted* CII areas and the pollutant loadings generated by such areas. Information about the percentage of the total area on industrial sites that is subject to the NPDES permitting requirement for industrial stormwater discharges is not publicly available; therefore, it was not possible to subtract the NPDES-permitted areas of industrial sites from the attached analysis. However, it is certain that at least some portions of the industrial sites in the watershed are not required to obtain NPDES permits for post-construction stormwater runoff; along with commercial and industrial sites, those must be

[124] The CII and non-CII acreage totals presented in Exhibit B differ from those in Exhibit A. This is because the GIS analysis in Exhibit A presents acreage numbers for each land use category as they appear in the 2009 Los Angeles County zoning dataset, while the pollutant modeling in Exhibit B refines those land use categories into subcategories, corresponding to National Stormwater Quality Database land uses, in order to present a more accurate estimate of pollutant loadings. This process is explained in more detail in the memorandum accompanying Exhibit B.

[125] For example, EPA Region I used the NSQD to calculate regional EMCs in developing a protocol for Phosphorus Control Plans as part of the Massachusetts small MS4 general permit. Memorandum from Mark Voorhees, EPA Region 1, to Permit File for Draft Small Massachusetts MS4 General Permit, re: Annual Average Phosphorus Load Export Rates (PLERs) for Use in Fulfilling Phosphorus Load Reduction Requirements in EPA Region 1 Stormwater Permits (Apr. 22, 2014) (on file with petitioners).

[126] EPA regulations require industrial stormwater permit coverage only for the portion of an industrial site where defined "industrial activity" takes place. 40 C.F.R. § 122.26(b)(14) ("The term [industrial activity] excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas."). Therefore, impervious areas such as parking lots and rooftops, which typically are not the site of industrial activity but are important sources of urban stormwater pollution, typically are non-NPDES permitted on industrial sites.

designated under EPA's residual designation authority because of their ongoing contributions to the impairments in the Alamitos Bay/Los Cerritos watershed.

In addition to the well-established pollutant loadings from CII sites, the high imperviousness of such sites further proves their contribution to water quality impairments. EPA has recognized that "the level of imperviousness in an area strongly correlates with the quality of the nearby receiving water."[127] In fact, many studies have shown that watershed imperviousness above 5-10% is significantly correlated with water quality degradation.[128] Moreover, EPA has also recognized "that many CII sites have significant amounts of impervious surface, which are exposed to a variety of pollutants that can discharge."[129] In fact, EPA concluded, based on analysis of various research studies, that "CII sites often have 70% or greater area of imperviousness associated with them."[130] Based on EPA's 70% imperviousness estimate, CII sites *alone* likely cover approximately 21.4% of the Alamitos Bay/Los Cerritos watershed with impervious surface (70% of the 30.6% of the watershed occupied by CII land use) – well above the 5-10% impairment-causing imperviousness threshold documented by decades of scientific research. This fact corroborates the conclusion already established by average pollutant loading data: CII sites in the Alamitos Bay/Los Cerritos watershed contribute to the Channel's copper, zinc, and ammonia impairments and the Lagoon's zinc impairment.

Aside from the pollutant contributions of CII sites relative to those of other land uses currently present in the watershed, the contributions of such sites relative to the original natural

---

[127] Region 9 Response, *supra* note 99, at 6 (quoting 64 Fed. Reg. 68,722, 68,725 (Dec. 8, 1999)).

[128] *See, e.g.*, Glenn E. Moglen, Dep't of Civil & Envtl. Engineering, Virginia Tech, "Limiting Imperviousness to Maintain Ecological Quality: Are Threshold-Based Policies a Good Idea?" (Apr. 23, 2014), *available at* http://www.chesapeake.org/stac/presentations/230_Track%206%20Moglen.pdf ("There is considerable evidence of severe ecological impacts if imperviousness > 10%"); Roy Schiff & Gaboury Benoit, *Effects of Impervious Cover at Multiple Spatial Scales on Coastal Watershed Streams* (June 2007), *available at* http://clear.uconn.edu/projects/tmdl/library/papers/SchiffBenoit_2007.pdf ("We identified a critical level of 5% impervious cover, above which stream health declined. Conditions declined with increasing imperviousness and leveled off in a constant state of impairment at 10%."); Jim Gibbons, University of Connecticut, *Nonpoint Education for Municipal Officials, Technical Paper No. 1: Addressing Imperviousness in Plans, Site Design and Land Use Regulations* (2002), *available at* http://nemo.uconn.edu/publications/tech_papers/tech_paper_1.pdf ("In addition to imperviousness' adverse impacts on water quantity, numerous studies document its water quality impacts with evidence of stream impairment when watershed imperviousness approaches 10 percent."); Karen Cappiella & Kenneth Brown, Center for Watershed Protection, *Impervious Cover and Land Use in the Chesapeake Bay Watershed* at Appendix A (2001), *available at* http://www.cwp.org/online-watershed-library/doc_download/619-impervious-cover-and-land-use-in-the-chesapeake-bay-watershed (literature review "which summarizes 43 studies including recent research that generally confirm the Impervious Cover Model by documenting the impacts of stormwater on streams and receiving waters"); Marjorie Kaplan, NJ Dep't of Envtl. Protection, & Mark Ayers, USGS, *Impervious Surface Cover Concepts and Thresholds* (2000), *available at* https://rucore.libraries.rutgers.edu/rutgers-lib/37001/pdf/1/ ("There is evidence in the scientific literature that there is a link between impervious surface cover and stream ecosystem impairment, some researchers have suggested that impairment begins to be significant at approximately 10-percent impervious surface cover…"). All of these documents were included in the administrative record for EPA's response to the 2013 Petitions.

[129] Region 9 Response, *supra* note 99, at 6.

[130] *Id.* at 7; *see also* EPA Region 3, *Rationale for 70% Impervious Surface Indicator Used in the RDA Petition Response* (2014).

condition of the watershed also provide evidence that these sites are contributing to the Los Cerritos Channel and Lagoon's impairments. As discussed above, CII sites typically generate pollutant loadings that are at least an order of magnitude greater than loadings from undeveloped land. As a result, based on this conservative estimate, CII sites in the Alamitos Bay/Los Cerritos watershed area – which occupy more than 30% of the watershed – are *alone* contributing more than four times the loadings of metals and ammonia that the Channel and Lagoon would be receiving from the *entire* watershed under natural conditions.[131] This massive pollutant increase compared to background loadings is additional reason to conclude that CII sites have a significant impact on the water quality in the Channel and Lagoon, causing them to become degraded from their natural condition.

III. No Ongoing Programs Are Adequately Addressing the Contributions of CII Site Discharges to the Los Cerritos Channel and Colorado Lagoon Impairments

As discussed above, the petitioners reject the premise that the existence of ongoing stormwater regulatory programs is a permissible factor for EPA to consider when deciding whether to exercise RDA. The Clean Water Act explicitly states that EPA *must* require a NPDES permit for any stormwater discharge that contributes to a violation of a water quality standard.[132] Neither the statute nor EPA's implementing regulations give the agency the discretion to decline to designate a discharge for permitting based on other factors beyond the discharge's contribution to impairment. Unless the stormwater discharge in question is already directly regulated by NPDES permit – i.e., the discharger is itself a permittee with legal obligations to reduce pollution – the existence of any other ongoing regulatory programs is legally irrelevant. The existence of other programs is also irrelevant from a practical perspective because those programs are not necessarily targeted toward achieving water quality standards in the Los Cerritos Channel and Colorado Lagoon. RDA is the most appropriate tool for attaining water quality standards in this watershed because it can be tailored to address the specific discharges from the categories of sites that are contributing to the watershed's particular impairments. RDA is also a superior approach to other existing efforts because applying permitting requirements to all contributing sources would result in a more equitable distribution of responsibility. However, because EPA considered this factor in responding to the 2013 Petitions, the petitioners address it here, without in any way conceding that doing so is necessary or pertinent.[133]

---

[131] If a given land use generates pollutant loadings that are an order of magnitude (10 times) greater than loadings from undeveloped land, then that land use, occupying 10% of a watershed, will generate the same amount of pollution that the entire watershed (100%) would generate under natural conditions. In other words, replacing 10% of an undeveloped watershed with the given land use will roughly double the watershed's pollution loadings; replacing 20% will roughly triple the loadings; and so forth.

[132] 33 U.S.C. § 1342(p)(2)(E).

[133] In its response to the 2013 Petitions, EPA noted that the U.S. Court of Appeals for the Ninth Circuit previously upheld EPA's consideration of this factor when it decided which categories of stormwater discharges to regulate as part of the Phase II rule in 1999. However, that ruling does not justify the use of this factor in the RDA context; the

i. Municipal separate storm sewer system (MS4) permitting

The Alamitos Bay/Los Cerritos watershed is located within Los Angeles County, and is regulated by the state of California via two NPDES municipal separate storm sewer system (MS4) permits, one for Los Angeles County and one for the City of Long Beach.[134] These permits require the permittees, which include the Los Angeles County Flood Control District, the County of Los Angeles, and the seven incorporated cities within the Alamitos Bay/Los Cerritos watershed, to take certain steps to manage the stormwater runoff that is discharged through their MS4s. However, for two principal reasons, the permits do not sufficiently control CII site discharges, nor are they an adequate substitute for direct NPDES regulation of private CII sites.

First, the permits impose no legal obligations on the owners of privately owned CII sites to take any steps whatsoever to reduce the amounts or concentrations of metals or ammonia discharged from their properties. This is because the permittees are the county and its local municipalities, not private landowners.

Second, the permits' requirements do not obligate the county or other permittees to reduce pollution from private CII sites in the Alamitos Bay/Los Cerritos watershed. As an initial matter, we maintain that several provisions of the Los Angeles County MS4 Permit fail to meet the requirements of the federal Clean Water Act and California Porter Cologne Act, and therefore are inconsistent with both state and federal law. The Natural Resources Defense Council (NRDC) and other environmental groups have filed a petition, which is under review by the State Water Resources Control Board ("State Board") and demonstrates the ways in which the 2012 Permit violates these legal requirements, some of which are detailed below.[135]

In order to satisfy their obligations under the permits, the Alamitos Bay/Los Cerritos watershed jurisdictions are required to implement certain stormwater management measures described in the permits. These requirements do not compel any pollutant reductions from privately-owned CII sites.

---

considerations relevant to deciding whether to regulate a broad nationwide category of sites are not necessarily relevant to the residual designation of a discrete set of sites that are contributing to a known water body impairment.

[134] Los Angeles Regional Water Quality Control Board/Los Angeles County MS4 Permit, NPDES Permit No. CAS004001 (as amended June 15, 2015), *available at* http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/la_ms4/2015/OrderR4-2012-0175-FinalOrderasamendedbyOrderWQ2015-0075.pdf (hereafter "Los Angeles County MS4 Permit"). The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of Los Angeles County, are co-permittees. Los Angeles Regional Water Quality Control Board, NPDES No. CAS004003, Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach, *available at* http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/ms4_permits/long_beach/2014/LB_MS4_Permit_final.pdf (hereafter "Long Beach MS4 Permit").

[135] For a full explanation of how the permit violates the law, see Memorandum of Points and Authorities in Support of Petition of NRDC, Los Angeles Waterkeeper and Heal the Bay for Review of Action by the California Regional Water Quality Control Board, Los Angeles Region, in Adopting the Los Angeles County Municipal Separate Stormwater National Pollutant Discharge Elimination System (NPDES) Permit; Order No. R4-2012-0175; NPDES Permit No. CAS004001(Dec, 10, 2012) ("Environmental Groups' Petition"), SWRCB/OCC File No. A-2236(m).

- The permits require the permittees to apply performance criteria for stormwater management at new development and redevelopment.[136] These performance criteria are discussed in more detail below, but they do not require pollution reductions from the *existing* CII sites that already occupy a significant percentage of the Alamitos Bay/Los Cerritos watershed. The permits' post-construction provisions also require the jurisdictions to adopt procedures to ensure the proper maintenance of stormwater management practices, but do not otherwise require practices to be used at existing developed sites if they are not already in place.[137]

- The permits' construction site requirements apply only during the construction phase and do not require long-term stormwater controls at CII sites.[138] Likewise, the permits' "public agency activities" provisions do not contain requirements applicable to *private* CII discharges.[139]

- Illicit discharge requirements relate to non-stormwater discharges to the watershed's MS4s and therefore have no impact on stormwater discharges from CII sites.[140]

- The public education components of the permits require the jurisdictions to provide information to private landowners that could theoretically cause them to reduce pollution from CII properties, but such reductions are neither required nor guaranteed, and the effectiveness of public outreach measures is generally unknown.[141]

- The permits require the permittees to develop an "industrial/commercial facilities program" that is "designed to prevent illicit discharges into the MS4 and receiving waters, reduce industrial/commercial discharges of storm water to the maximum extent practicable, and prevent industrial/commercial discharges from the MS4 from causing or contributing to a violation of receiving water limitations."[142] However, the permit specifies only a few mandatory minimum components of such programs, such as maintaining an inventory of industrial and commercial

[136] Los Angeles County MS4 Permit at 100-116; Long Beach MS4 Permit at 61-73.
[137] Los Angeles County MS4 Permit at 115-16; Long Beach MS4 Permit at 72-73.
[138] Los Angeles County MS4 Permit at 116-25; Long Beach MS4 Permit at 73-83.
[139] Los Angeles County MS4 Permit at 125-40; Long Beach MS4 Permit at 83-97.
[140] Los Angeles County MS4 Permit at 140-44; Long Beach MS4 Permit at 97-101.
[141] Los Angeles County MS4 Permit at 89-91; Long Beach MS4 Permit at 53-55.
[142] Los Angeles County MS4 Permit at 91-92; Long Beach MS4 Permit at 55-56.

sites, educating site owners about stormwater pollution, and ensuring that sites are complying with local ordinances.[143]

- Finally, the permits require permittees to compile an inventory of retrofit opportunities at existing developments.[144] However, permittees are not actually required to implement or install any retrofits. They are required to "consider" the identified projects as high priorities in their stormwater management plans and as off-site mitigation locations, as well as to "consider" strategies like subsidies, stormwater fees, and mandatory retrofit requirements that could be used to implement retrofits on private property; none of these "considerations" are mandatory.[145]

Not only are these control measures inadequate to control runoff from existing CII sites, the permits' water quality-based provisions also fail to ensure compliance with water quality standards in Los Cerritos Channel and Colorado Lagoon. The Los Angeles County MS4 Permit contains numerous "safe harbors" from compliance with water quality standards. For example, under the permit, a permittee can develop a self-customized plan, known as a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP), for managing stormwater discharges from its sewer systems.[146] Under these plans, a permittee may select its own measures and practices for controlling urban runoff, and oftentimes, may simply *propose* to implement a type of project (without actually implementing the project) and thereby be deemed in compliance with meeting the permit's water quality standards.[147] Further, for some permittees, the types of projects proposed need not be related to stormwater capture for them to benefit from the safe harbor; simply developing a WMP or EWMP is sufficient.[148] The safe harbor from compliance with water quality standards afforded to permittees that elect to develop WMPs is particularly concerning because, unlike EWMPs, which require a watershed-based stormwater management approach as well as retention of the 85th percentile, 24-hour storm event "wherever feasible,"[149] WMPs do not require the use of stormwater capture projects, nor do they require permittees to collaborate to determine a watershed-based approach for more effective stormwater management.[150] In other words, permittees are under no independent obligation to comply with, or require non-permittee dischargers to comply with, water quality standards or attain wasteload allocations as long as they propose management measures as

[143] Los Angeles County MS4 Permit at 92-96; Long Beach MS4 Permit at 55-60.
[144] Los Angeles County MS4 Permit at 128-29; Long Beach MS4 Permit at 85-86.
[145] *Id.*
[146] Los Angeles County MS4 Permit at 47-50; Long Beach MS4 Permit at 36-38.
[147] *Id.*
[148] Environmental Groups' Petition, supra note 135, at 30.
[149] Los Angeles County MS4 Permit at 49; Long Beach MS4 Permit at 37.
[150] Environmental Groups' Petition, supra note 135, at 30.

specified in the permit.[151]

Further, the Los Angeles County MS4 permit's Watershed Management Program requires that, for the minimum control measures related to the Industrial/Commercial Facilities Program, permittees "shall identify potential modifications that will address watershed priorities."[152] This requirement to merely *identify potential* modifications does not constitute a mandate that permittees eliminate CII sites' contributions to water quality standard violations.

Permittees have developed draft plans for both WMPs and EWMPs, but these plans fall significantly short of complying with permit requirements. The draft WMPs and EWMPs do not ensure that discharges from the permittees' MS4 systems do not cause or contribute to exceedances of Receiving Water Limitations, including applicable water quality standards, or TMDL limitations in the Los Angeles County MS4 Permit, and otherwise fail to meet permit requirements. In particular, the WMPs and EWMPs lack specificity with respect to the type, location and timing of Best Management Practices for stormwater management. In April 2015, the Los Angeles Regional Water Quality Control Board (the "Regional Water Board") approved deficient WMPs, and NRDC and other environmental organizations filed an administrative petition requesting that both the Regional Water Board and the California State Water Resources Control Board review the Regional Water Board's decision to approve the draft WMPs. The Regional Board will consider the petition in September 2015.

The WMP developed for the Alamitos Bay/Los Cerritos watershed in particular is insufficient to control CII site runoff and/or reduce pollution to levels that would attain water quality standards in the Channel and Lagoon.[153] As an initial matter, the WMP is primarily focused on attaining reductions in loadings of metals and does not address the Channel's ammonia impairment. More importantly, the WMP lacks any concrete strategy for controlling pollution other than implementing the MS4 permits' minimum control measures (which, as discussed above, have no effect on existing CII sites) and implementing retrofits as funding allows. The WMP does not set out a plan to secure funding, implement stormwater control measures, or identify target sites and land uses. It primarily relies upon redevelopment to result in the installation of stormwater BMPs on private land; the deficiencies with local stormwater standards for development are described in the following section of this petition. It is clear that the Los Cerritos WMP will not result in pollution reductions from *existing* CII sites sufficiently to achieve water quality goals.

---

[151] The petitioners do not concede or otherwise agree that the lack of such an obligation is lawful under the Clean Water Act.

[152] Los Angeles County MS4 Permit at 63; Long Beach MS4 Permit at 46.

[153] Los Cerritos Channel Watershed Group, *Los Cerritos Channel Watershed Management Program* (June 2015), *available at* http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/watershed_management/los_cerritos_channel/LosCerritosChannel_FinalWMP.pdf.

In sum, nothing in either the Los Angeles County MS4 Permit or the Long Beach MS4 Permit requires permittees to reduce pollution whatsoever from existing, privately owned CII sites in the Alamitos Bay/Los Cerritos watershed or to comply with water quality standards in Los Cerritos Channel or Colorado Lagoon.

ii. State and local development regulations

Under the Los Angeles County and Long Beach MS4 permits, permittees submitting a WMP or EWMP must either develop a Low Impact Development (LID) ordinance or demonstrate that such an ordinance is in place.[154] All permittees must also implement a Planning and Land Development Program "to minimize the percentage of impervious surfaces on land developments by minimizing soil compaction during construction, designing projects to minimize the impervious area footprint, and employing [LID] design principles."[155] As part of this program, permittees must require certain types of development projects that are subject to permittee approval, including CII sites, to meet stormwater management performance criteria. Accordingly, Long Beach and other jurisdictions in the Alamitos Bay/Los Cerritos watershed have developed ordinances implementing these requirements.[156]

The permits' stormwater control requirements apply to new development and redevelopment projects over a certain size, with the size threshold varying based on the site's land use.[157] Sites subject to the requirement must retain on-site the runoff from the 0.75-inch, 24-hour rain event, or the 85th percentile, 24-hour rain event, whichever is greater.[158] Under the Long Beach ordinance, runoff must be "infiltrated, captured and reused, evapotranspired, and/or treated on-site through storm water best management practices allowed in the LID Best Management Practices Manual."[159] However, the permits provide for exceptions due to "technical infeasibility," which may result from conditions including high groundwater tables, brownfields, and impermeable soils.[160] In cases of technical infeasibility, the permittee must make up the difference through on-site biofiltration or an off-site project within the same HUC-12 subwatershed.[161]

Further, since the LID requirements only apply to new development and redevelopment, they fail to address the many existing CII sites in the Alamitos Bay/Los Cerritos watershed. GIS analysis indicates that nearly all of the land in the watershed has already been developed. Very little of this existing development was built to the current regulatory standard. The current Long

[154] Los Angeles County MS4 Permit at 56-57; Long Beach MS4 Permit at 43.
[155] Los Angeles County MS4 Permit at 94-95; Long Beach MS4 Permit at 61.
[156] *See, e.g.*, Long Beach Municipal Code §§ 18.74.010-18.74.070 (2010); County of Los Angeles Department of Public Works, *Low Impact Development Standards Manual* (Feb. 2014), *available at* http://dpw.lacounty.gov/ldd/lib/fp/Hydrology/Low%20Impact%20Development%20Standards%20Manual.pdf.
[157] Los Angeles County MS4 Permit at 98-100; Long Beach MS4 Permit at 61-62.
[158] Los Angeles County MS4 Permit at 101; Long Beach MS4 Permit at 63-64.
[159] Long Beach Municipal Code § 18.74.040(A)(1).
[160] Los Angeles County MS4 Permit at 101-02; Long Beach MS4 Permit at 64-65.
[161] Los Angeles County MS4 Permit at 102-07; Long Beach MS4 Permit at 65-70.

Beach stormwater ordinance was not adopted until 2010, with other watershed jurisdictions applying the MS4 permits' standard in the past few years as well. Consequently, only a small percentage of existing developments in the watershed have been required to meet the current regulatory standard for development, and sites smaller than the applicable regulatory thresholds have never been subject to any stormwater control requirements at all. Moreover, even for CII sites in the watershed that have been or will be required to meet the current standard, the fact that they were or will be designed to manage the required volume does not guarantee that those sites will not contribute to the Los Cerritos Channel and Colorado Lagoon impairments. The development standard applies throughout Los Angeles County and Long Beach and thus was not selected based on whether it would prevent stormwater runoff from causing or contributing to water quality standard violations in the Alamitos Bay/Los Cerritos watershed specifically. As a result, there is no reason to believe that stormwater regulations in the watershed will adequately address the contribution of CII sites to the impairments in Los Cerritos Channel and Colorado Lagoon.

iii. Voluntary local programs

In responding to the 2013 Petitions, EPA Region 9 stated that in addition to federal, state, and local stormwater laws, the agency would also take into account the presence of "[v]igorously implemented controls that might otherwise be 'voluntary.'" [162] However, no voluntary retrofit programs or other voluntary management measures could be identified in the Alamitos Bay/Los Cerritos watershed beyond certain isolated stormwater retrofit projects in the vicinity of Colorado Lagoon, which are unlikely to have a significant pollution reduction impact on their own,[163] and certain regional stormwater recharge studies that have not been implemented.[164] Moreover, voluntary programs that, by definition, have no enforceability cannot possibly substitute for enforceable permit requirements under residual designation.

iv. Worsening water quality proves that existing programs are not sufficiently controlling runoff from CII sites

The City of Long Beach maintains a Los Cerritos Channel monitoring site in the east central portion of Long Beach at Stearns Street. The site is bound on the north, south, east, and west by Spring Street, Rendina Street, the San Gabriel River, and Bellflower Boulevard, respectively, and the stormwater monitoring station was installed in a steel utility box located on the west side of the channel south of Stearns Street.[165] Water quality samples have also been

[162] Region 9 Response, *supra* note 99, at 4-5.
[163] Friends of Colorado Lagoon, "Colorado Lagoon Habitat Restoration," http://www.coloradolagoon.org/restoration.html.
[164] Council for Watershed Health, *Stormwater Recharge Feasibility and Pilot Project Development Study* (Aug. 2012), *available at* http://www.wrd.org/1208020_SWRechargeFeasibility%20and%20PPDS_FinalReport.pdf.
[165] City of Long Beach, *City of Long Beach Stormwater Monitoring Report 2001-2002* at 17 (July 2002), *available at* http://www.longbeach.gov/pw/media-library/documents/resources/stormwater-management/reports/monitoring-reports/monitoring-report-fy-2001-2002/.

collected at East Willow Street, just upstream from Stearns Street, in the impaired segment of Los Cerritos Channel.[166] Copper and zinc are Category 1 ("highest priority") pollutants for the Los Cerritos Channel, and ammonia is a Category 2 ("high priority") pollutant.[167] According to the Stearns Street station's data reports, 31 of 34 copper and 24 of 34 zinc wet weather samples collected between 2003 and 2013 were above numeric Method Detection Limit targets.[168] These pollutant trends indicate that existing programs are not sufficiently controlling runoff from pollution dischargers, including CII sites, in the watershed. Indeed, these results make sense given that no requirements currently exist for CII sites to reduce their discharges of metals and ammonia. Exercising RDA to impose controls on CII sites is both necessary and prudent, and it would not duplicate any existing efforts or disrupt other programs.

Conclusion

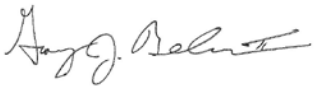
In conclusion, the Clean Water Act places EPA under a non-discretionary duty to exercise residual designation authority over non-NPDES-permitted commercial, industrial, and institutional sites in the Alamitos Bay/Los Cerritos watershed. The Los Cerritos Channel and Colorado Lagoon are impaired because of ammonia and heavy metal pollution commonly found in runoff from CII sites. All available evidence strongly indicates that CII sources contribute to violations of water quality standards in this watershed. No existing regulatory programs are adequately addressing these sources' contribution to the impairment, and in fact have failed to improve water quality in the Channel and Lagoon. Fulfilling EPA's statutory obligation and designating these sites for permitting will assist Los Angeles County and City of Long Beach permittees in achieving a fishable, swimmable waterway for the residents of the watershed.

[166] E-mail from M. Stevenson, Kinnetics Laboratories, Inc., to K. Graves, EPA Region 9, October 21, 2009 (on file with petitioners).
[167] *Los Cerritos Channel Watershed Management Program*, *supra* note 153, at 4-7.
[168] *Id.* at Table 2-7.

Respectfully submitted,

AMERICAN RIVERS
NATURAL RESOURCES DEFENSE COUNCIL

Dated: September 17, 2015

By: 

_____

Gary Belan
1101 14th Street NW, Suite 1400
Washington, DC 20005
(202) 243-7027
gbelan@americanrivers.org

Senior Director, Clean Water Supply Program, American Rivers

Jeffrey Odefey
120 Union Street
Nevada City, CA 95959
(530) 478-0206
jodefey@americanrivers.org

Director, Clean Water Supply Program, American Rivers

_____

Rebecca Hammer
Jon Devine
1152 15th Street NW, Suite 300
Washington, DC 20005
(202) 289-6868
rhammer@nrdc.org
jdevine@nrdc.org

Larry Levine
40 West 20th Street
New York, NY 10011
(212) 727-2700
llevine@nrdc.org

Attorneys for Natural Resources Defense Council

Johanna Dyer
1314 Second Street
Santa Monica, CA 90401
(310) 434-2300
ngarrison@nrdc.org

Karen Hobbs
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606
(312) 663-9900
khobbs@nrdc.org

Policy Analysts for Natural Resources Defense Council

LOS ANGELES WATERKEEPER

Bruce Reznik, Executive Director
120 Broadway
Santa Monica, CA 90401
(310) 394-6162
reznikbruce@gmail.com