



COALITION FOR PRACTICAL REGULATION

"Cities Working on Practical Solutions"

28 April 2011

Aaron Yeow, M.P.H.
Designated Federal Officer
U.S. Environmental Protection Agency
Science Advisory Board
1200 Pennsylvania Avenue, NW, (1400R)
Washington, DC 20460

E-mail: yeow.aaron@epa.gov

Re: Comments for CASAC Lead Review Panel

Dear Mr. Yeow:

The Coalition for Practical Regulation is an *ad hoc* group of 39 cities in Los Angeles County that have come together to work on water quality and the use of improved science in the development of surface water quality standards. We appreciate the opportunity to provide comments for the CASAC Lead Review Panel to consider when providing consultative advice on EPA's draft Integrated Review Plan for the National Ambient Air Quality Standards (NAAQS) for lead. The 2007 adoption of total maximum daily loads (TMDLs) for metals for both the Los Angeles and San Gabriel Rivers in our region brought the air-water interface to the forefront of our concern. It has become apparent that we cannot cost-effectively comply with Clean Water Act requirements if we are not able to successfully address atmospheric deposition of water quality pollutants. The only way to do so is through effective, targeted implementation of Sections 108 and 109 of the Clean Air Act.

Research by the Southern California Coastal Water Research Project (SCCWRP) and UCLA has demonstrated that indirect dry-weather atmospheric deposition could be several thousand kilograms per year in the Los Angeles area alone. Loads of copper, lead, and zinc deposited on the land were several times the estimated loads of these materials in the rivers. The metal loads are deposited from the air onto the ground, and then conveyed via stormwater and urban runoff to local rivers and bays. Through the metal TMDLs, cities throughout the region are now being held accountable for these atmospheric sources of metal pollution in local waters. This is clearly a public welfare issue; the Administrator

ARCADIA
ARTESIA
BALDWIN PARK
BELL GARDENS
BELLFLOWER
CARSON
CERRITOS
COMMERCE
COVINA
DIAMOND BAR
DOWNEY
GARDENA
HAWAIIAN GARDENS
INDUSTRY
IRWINDALE
LA CAÑADA FLINTRIDGE
LA MIRADA
LAKEWOOD
LAWDALE
LYNWOOD
MONTEREY PARK
NORWALK
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA
POMONA
ROSEMEAD
SANTA FE SPRINGS
SAN GABRIEL
SIERRA MADRE
SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
SOUTH PASADENA
VERNON
WALNUT
WEST COVINA
WHITTIER

should propose and promulgate secondary NAAQS standards for air pollutants that pollute water.

The Natural Resource Defense Council (NRDC) recognized the importance of atmospheric deposition in its March 12, 2007 correspondence to the Los Angeles Regional Water Board. The letter, which we are including as an attachment to these comments, includes the following statements:

“The EPA maintains information about which facilities in Los Angeles County release aerial emissions of the above-listed six pollutants, and the amount each facility releases. By reviewing this information, we determined which facilities in Los Angeles County are responsible for emitting each of the six pollutants. In all cases but one, the top ten discharges of each of the six pollutants were responsible for at least 90% of the total reported zinc, 90% of the total reported lead, and 87% of the total reported copper.”

The NRDC letter goes on to state:

“Research strongly suggests that a portion of these emissions are being discharged, either directly or indirectly, into Los Angeles water bodies through aerial deposition. One study found that about 95% of emissions in Santa Monica Bay entered the Bay through aerial deposition. Another study estimated that trace metal loadings from indirect atmospheric deposition to the land surface of the Los Angeles River watershed was even greater than the trace metal loading from urban stormwater runoff.”

Although the California Air Resources Board and the State Water Quality Control Board began discussions on the air-water interface issue during an historic joint workshop of the two Boards on February 9, 2006, the two agencies have not established an on-going cooperative program to address airborne water pollutants. CPR agrees with the NRDC's assertion that “subsequent inaction has left a vacuum” and that “aerial deposition has fallen through the regulatory cracks between air and water agencies.” We also agree with NRDC that it would be more equitable to control pollution at the source, instead of requiring cities to install and maintain expensive “end of pipe” controls to attempt to remove atmospherically deposited metals once they are entrained in stormwater/urban runoff. The unintended consequence of inaction is creating a severe financial hardship for local governments.

Two sections of the Clean Air Act (CAA) govern the establishment and revision of the national ambient air quality standards. The first is Section 108 (42 USC, 7408), which directs the USEPA Administrator to identify and list air pollutants that may reasonably be anticipated to endanger public health and welfare and to issue quality criteria for those that are listed. The second governing section is Section 109 (42 USC, 7409), which requires the USEPA Administrator to propose and promulgate primary and secondary NAAQS standards for pollutants listed pursuant to Section 108 (Federal Register, Jan. 17, 2006, p. 2622). There is widespread evidence that several of the pollutants listed pursuant to the Clean Air Act

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exist, at least in part, as particulate matter, and are known or should be anticipated to cause adverse impacts to water quality.

Welfare effects as defined in CAA section 302(h) 42 USC Section 7602(h) include, but are not limited to, “effects on soils, **water**, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.” Further, 42 USC Section 7409(b)(2) (CCA Section 109b2) requires that “any national secondary ambient air quality prescribed under subsection (a) of this section shall specify a level of air quality the attainment of which is the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse impacts associated with the presence of such air pollutant in the ambient air.” [emphasis added]

Although formally considered a secondary priority, the welfare-based effects of lead in the environment are extremely important and should be given strong consideration. Lead particles that are deposited onto our watersheds through atmospheric deposition are carried into our waterways through stormwater. Once lead is in the water, it is extremely costly – and technically very difficult - to remove. The best method for controlling pollutants such as lead is through true source control measures (product or material substitution). The emerging green chemistry movement is a form of true source control that will ultimately help reduce the presence of toxic metals in the environment. However, the sources of airborne lead that is polluting our waters needs to be controlled now.

USEPA is in a unique position to develop policies related to atmospheric deposition and programs to improve both air and water quality and to provide guidance to other agencies. CPR urges the CASAC Lead Review Panel to recognize the importance of developing workable strategies to control lead emissions that are polluting America’s waterways, and to advise USEPA to include in its Integrated Review Plan a framework for review and revisions of the secondary NAAQS for lead to ensure that atmospheric deposition of lead is eliminated as a source of lead pollution of water. Regulating sources of air emissions polluting local surface waters will only grow more critical as additional metal and nutrient TMDLs are adopted.

Thank you again for the opportunity to provide these comments.

Sincerely,

Larry Forester, Mayor
City of Signal Hill

Attachment: Letter from Natural Resources Defense Council to Los Angeles Regional Water Quality Control Board dated March 12, 2007



NATURAL RESOURCES DEFENSE COUNCIL

March 12, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Bishop:

The purpose of this letter is to petition the Los Angeles Regional Water Quality Control Board ("Regional Board"), pursuant to the California Water Code, including section 13320, to immediately exercise its authority under Water Code section 13267 and issue requests to Los Angeles County industrial aerial emission sources for technical information regarding fate and transport of aerial pollution as it relates to either direct or indirect deposition to Los Angeles County water bodies (hereinafter, "13267 Letters").

Aerial deposition (or atmospheric deposition) is a process by which airborne pollutants settle directly onto the surface of a water body, or reach a water body indirectly through deposition onto land surfaces and subsequent wash-off during storm events.¹ Aerial deposition is increasingly recognized as a significant cause of water quality problems, acidification of streams and lakes, and toxic contamination of fish and the birds that eat them.² Despite this recognition, aerial deposition in the Los Angeles region is not sufficiently understood.³ Better understanding of aerial deposition has become increasingly important as the Regional Board continues to develop total maximum daily loads ("TMDLs") in a watershed that is influenced by aerial emissions.

A TMDL must be developed for each water body on the Clean Water Act section 303(d) list, and each must identify all sources of pollution contributing to impairment, including aerial deposition. Fortunately, the Porter-Cologne Act provides the means with which the Regional Board can investigate aerial deposition and gather information that will better inform the TMDL process and provide the Regional Board with additional pollution control tools and options. In fact, Porter-Cologne requires that *any* entity that is or may be discharging waste that could be affecting water quality within the region obtain

¹ L. Sabin et al., *Dry deposition and resuspension of particle-associated metals near a freeway in Los Angeles*, at 77 (Southern California Coastal Water Research Project ("SCCWRP") 2005-06 Annual Report), <http://www.sccwrp.org/pubs/annrpt/05-06/2005-06contents.htm>.

² See EPA, *Frequently Asked Questions About Atmospheric Deposition*, at 2 (Sep. 2001); Clean Air Act L. & Prac. § 11.31; Water Quality Planning and Management, 65 Fed. Reg. 43,587 (July 13, 2000).

³ See, e.g., L. Sabin et al., *Atmospheric dry deposition of trace metals in the Los Angeles coastal region*, at 51 (SCCWRP 2003-04 Annual Report), <http://www.sccwrp.org/pubs/annrpt/03-04/ar05-lisa.html>.



a waste discharge permit and file a report of discharge.⁴ Under the broad authority of section 13267, the Regional Board can also require these same entities to furnish reports regarding water quality.⁵ As more specifically set forth below, NRDC, therefore, petitions the Los Angeles Regional Board to issue 13267 Letters seeking technical information from Los Angeles County air pollution sources that may be contributing to 303(d)-list impaired waters, by May 15, 2007.

A. Aerial Deposition is a Recognized Problem in Southern California.

“Atmospheric deposition has long been recognized as a potentially significant non-point source of contaminants and nutrients to water bodies,” especially in the northeast region of the United States.⁶ For at least 15 years, studies have been conducted on aerial deposition in the Great Lakes and Chesapeake Bay.⁷ These studies have shown that nitrogen, sulfur, and mercury compounds “make their way into water primarily through [] atmospheric deposition.”⁸ Recently, researchers have been turning their attention to other regions. For example, the Tahoe Research Group has found that aerial deposition is a “significant” source of algal nutrients, nitrogen, and phosphorous to Lake Tahoe.⁹

New studies confirm that Southern California faces similar problems as the northeast United States. Dry deposition represents a major removal pathway in arid regions like Los Angeles, where removal by wet deposition is greatly diminished due to lack of rainfall.¹⁰ In one of the few aerial deposition studies conducted in the Los Angeles region, aerial deposition was found to be a significant contributor of trace metals to the overall pollutant load of Santa Monica Bay, particularly for lead (99%), chromium (50%), zinc (43%), copper (24%), and nickel (13%).¹¹ And “[c]oncentrations of

⁴ Cal. Water Code § 13260, 13263.

⁵ See Letter from Bruce H. Wolf, San Francisco Regional Water Quality Control Board, to Bay Area Petroleum Refineries, at 1 (Feb. 17, 2005), provided with this letter as Attachment 8.

⁶ K. Stolzenbach et al., *Measuring and Modeling of Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed*, at 1 (Final Report to the Santa Monica Bay Restoration Project, Sep. 2001).

⁷ See, e.g., EPA, Great Lakes Monitoring: Atmospheric Deposition of Toxic Pollutants, <http://www.epa.gov/glnpo/glindicators/air/airb.html>; Great Lakes Information Network, Atmospheric Deposition in the Great Lakes Region, <http://www.great-lakes.net/env/air-land/airdep.html>; Maryland Power Plant Research Program, Chesapeake Bay Atmospheric Deposition Study, http://esm.versar.com/pprp/features/Atmosdep/pprp_projects/cbads/cbad_proe.html.

⁸ New England Interstate Water Pollution Control Commission, *From Air to Water: The Challenge of Atmospheric Deposition*, at 1 (2003), http://www.neiwpcc.org/PDF_Docs/air2water.pdf.

⁹ California Air Resources Board, *The Lake Tahoe Atmospheric Deposition Study* (Powerpoint Presentation, Dec. 9, 2004), http://www.swrcb.ca.gov/rwqcb6/TMDL/Tahoe/dec2004_symposium/5%20-%20Atmospheric%20Deposition%20PPT.pdf.

¹⁰ L. Sabin et al., *supra* note 3, at 51.

¹¹ K. Stolzenbach et al., *supra* note 6, at Data Report, Table 14.

chromium, copper, lead, iron, and zinc were all uniformly higher near the shoreline” of Santa Monica Bay than offshore.¹² Further, studies also suggest that, except for lead, trace metal contamination in urban air, and subsequent dry deposition to urban watersheds, is not improving over time.¹³

The State Water Resources Control Board (“State Board”) has itself recently recognized that, “atmospheric deposition of particulates containing trace metals in urban areas of the Los Angeles Region are a substantial source of metals contaminants on land surfaces,” which in turn pose a risk to water quality.¹⁴ Indeed, the State Board is beginning to pay more attention to aerial deposition. The Board held its first joint hearing with the California Air Resources Board (“CARB”) on aerial deposition on February 9, 2006. During the hearing, an attorney for the State Board acknowledged that, “aerial deposition can be a significant source of pollutants to an impaired water [body].”¹⁵ Also, the Regional Board, CARB, and Southern California Air Quality Management District had already met in order to discuss action that needed to be taken, and acknowledged the need to work together to confirm sources and identify effective multi-media regulatory strategies.¹⁶ At the workshop, the State Board further recognized that both the environmental community and the regulated community want the Board to take action.¹⁷

B. Aerial Deposition is a Source of Pollution that Must Be Considered in Developing TMDLs.

As the Regional Board is well aware, a water body is included on the Clean Water Act 303(d) list when it does not meet water quality standards, even after point sources of pollutants have installed the minimum required levels of pollution control technology. A TMDL must be established for each impaired water body on the 303(d) list. The TMDL must identify all sources of pollutants contributing to impairment, including nonpoint sources like aerial deposition. Ultimately, using this information to assign load allocations for sources of aerial deposition would have a number of practical benefits.

¹² K. Stolzenbach et al., *supra* note 6, at 18.

¹³ L. Sabin et al., *supra* note 3, at 58. Lead concentrations have likely decreased due to the elimination of lead from gasoline in the late 1980s. *Id.*

¹⁴ State Water Board Resolution No. 2005-0077, ¶ 5 (Oct. 20, 2005).

¹⁵ State Water Resources Control Board, *Water Quality Regulation: How California Does It* (Workshop Presentation, Feb. 9, 2006), http://www.swrcb.ca.gov/workshops/atmospheric/presentations/sheila_vassey.pdf.

¹⁶ Los Angeles Regional Water Quality Control Board, *Addressing Heavy Metals From Atmospheric Deposition in the Los Angeles Region TMDLs* (Workshop Presentation, Feb. 9, 2006), http://www.swrcb.ca.gov/workshops/atmospheric/presentations/jon_bishop.pdf.

¹⁷ Joint Workshop of State Water Resources Control Board and California Air Resources Board, *Atmospheric Deposition and Water Quality* (Feb. 9, 2006) (statement of Jerry Secundy).

1. TMDLs must consider all nonpoint sources of pollution, including aerial deposition.

In plain language, “[a] TMDL or Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant’s sources.”¹⁸ Those sources fall into two categories: (1) pollution from nonpoint sources or background sources (“load allocations”);¹⁹ and (2) pollution from point sources (“wasteload allocations”). A TMDL must also include a margin of safety.²⁰ “A TMDL defines the specified maximum amount of a pollutant which can be discharged into a body of water from *all sources* combined.”²¹ Further, a TMDL must be established even if nonpoint source pollution is the only source of pollution to a body of water.²²

EPA and the State Board both consider aerial deposition a source of nonpoint pollution. On its website, EPA states, “Atmospheric deposition and hydromodification are also sources of nonpoint source pollution.”²³ In national guidance documents, EPA has emphasized that, while TMDLs can assure compliance with water quality standards without assigning load allocations to air sources, “it is important that atmospheric deposition be included in the development of TMDLs.”²⁴ EPA Region IX has further made clear that in a TMDL:

Point, nonpoint, and background sources of pollutants of concern must be described, including the magnitude and location of sources. The TMDL document [must] demonstrate *all sources have been considered* [40 CFR 130.2(i) and 40 CFR 130.7(c)(1)].²⁵

Similarly, in a resolution regarding implementation and enforcement of nonpoint source pollution, the State Board notes that, “[Nonpoint source] pollution typically results from

¹⁸ See EPA, “What is a Total Maximum Daily Load?”, <http://www.epa.gov/owow/tmdl/intro.html>.

¹⁹ The load allocation is defined as, “The portion of a receiving water’s loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources.” 40 C.F.R. § 130.2(g).

²⁰ 40 C.F.R. § 130.2(g-i); 40 C.F.R. § 130.7(c).

²¹ *American Wildlands v. Browner*, 260 F.3d 1192, 1194 (10th Cir. 2001) (italics added). See also *Pronsolino v. Nastro*, 291 F.3d 1123, 1140-41 (9th Cir. 2002) (stating that CWA section 303 “encompasses a water quality based approach applicable to all sources of water pollution”).

²² See *Pronsolino*, *supra*, at 291 F.3d at 1140-41.

²³ See EPA, *What is Nonpoint Source (NPS) Pollution? Questions and Answers* (excerpt from EPA brochure EPA-841-F-94-005, 1994), <http://www.epa.gov/owow/nps/qa.html>.

²⁴ EPA, *supra* note 2, at 65.

²⁵ EPA, *Guidance for Developing TMDLs in California*, at 4 (2000) (italics added), <http://www.epa.gov/region09/water/tmdl/303d-2002pdfs/caguidefinal.pdf>.

contact between pollutants and land runoff, precipitation, *atmospheric deposition*, drainage, seepage, or hydrologic modification.”²⁶

Accordingly, when developing a TMDL, the Regional Board must identify whether aerial deposition is a source of pollution to an impaired water body. It further must consider the location and magnitude of these sources, including aerial sources.

2. Los Angeles County may have many 303(d)-listed waters affected by aerial deposition.

Section 13267 allows the Regional Board to investigate these potential sources of aerial deposition. Focusing on the larger-volume dischargers, as discussed below, would help determine the fate of the vast majority of aerial emissions in Los Angeles County.

In Region 4, common chemical and metal pollutants in 303(d)-listed water bodies include lead, ammonia, copper, sulfates, zinc, and mercury:

- 31 waters listed for lead;
- 28 waters listed for ammonia;
- 24 waters listed for copper;
- 16 waters listed for sulfates;
- 13 waters listed for zinc;
- 8 waters listed for mercury.²⁷

The EPA maintains information about which facilities in Los Angeles County release aerial emissions of the above-listed six pollutants, and the amount each facility releases.²⁸ By reviewing this information, we determined which facilities in Los Angeles County are responsible for emitting each of the six pollutants.²⁹ In all cases but one, the top ten dischargers of each of the six pollutants were responsible for at least 90% of total, reported emissions of these pollutants in Los Angeles County. That is, the top ten aerial emitters in Los Angeles County in 2004 discharged 100% of the total reported mercury, 100% of the total reported sulfuric acid, 96% of the total reported ammonia, 96% of the total reported zinc, 90% of the total reported lead, and 87% of the total reported copper.

²⁶ State Water Resources Control Board, A Resolution to Adopt the Policy for the Implementation and Enforcement of Nonpoint Source Pollution Control Program and Approve the Functional Equivalent Document, Resolution No. 2004-0030 (May 20, 2004), 2004 WL 1380112, at *8 (*italics added*).

²⁷ Region 4 303(d) list (2006), and “List of Water Quality Limited Segments Being Addressed By USEPA Approved TMDLs,” http://www.swrcb.ca.gov/tmdl/303d_lists2006.html.

²⁸ The EPA’s Toxics Release Inventory (TRI) database contains information on chemical releases reported by industrial facilities in Los Angeles County. The most current data is from 2004. EPA Toxics Release Inventory (2004), <http://www.epa.gov/triexplorer/statefactsheet.htm>, then click “California,” then “Los Angeles,” then “TRI Facilities.”

²⁹ See Attachments 1-6 to this letter (volume is sum of fugitive air emissions and point source air emissions).

According to this same EPA data, these “top ten” dischargers are responsible for the following emissions:

- 2,880,752 pounds of ammonia;
- 54,476 pounds of sulfuric acid;
- 23,214 pounds of zinc compounds;
- 3,088 pounds of lead compounds;
- 2,699 pounds of copper compounds;
- 312 pounds of mercury compounds.³⁰

Further, the data is self-reported by the facilities and therefore, according to EPA, may be up to 15% lower than true emissions.³¹

Research strongly suggests that a portion of these emissions are being discharged, either directly or indirectly, into Los Angeles water bodies through aerial deposition. One study found that about 95% of emissions in Santa Monica Bay come from emission sources in Los Angeles County, and that 99% of lead found in Santa Monica Bay entered the Bay through aerial deposition.³² Another study estimated that trace metal loading from indirect atmospheric deposition to the land surface of the Los Angeles River watershed was even greater than the trace metal loading from urban stormwater runoff.³³

Accordingly, we request that the Regional Board transmit 13267 Letters requiring technical information to each of the top ten dischargers regarding the fate and transport of each of the six pollutants set forth above, as they relate to direct or indirect discharges via aerial deposition into Los Angeles County water bodies.³⁴

3. Assigning load allocations for aerial deposition sources in a TMDL has broad practical benefits.

Armed with information generated from dischargers regarding aerial deposition from their facilities, the Regional Board can then assign load allocations to aerial deposition sources. While TMDLs can be established so as to meet water quality standards by issuing allocations only to discharges of water pollution, there are a number of important benefits associated with not just considering aerial deposition, but actually issuing load allocations to air sources, as well.

³⁰ See Attachment 7 to this letter.

³¹ EPA Toxics Release Inventory (2004), <http://www.epa.gov/triexplorer/statefactsheet.htm>, then click “California,” then “Los Angeles,” then “TRI Facilities.”

³² K. Stolzenbach et al., *supra* note 6, at 23.

³³ L. Sabin, *supra* note 3, at 56-58, and Table 6.

³⁴ See Attachment 7 to this letter.

First, if atmospheric deposition is significant and the load is not considered in the TMDL, a water body may fail to meet water quality standards, despite large reductions in pollutants from water sources.”³⁵ EPA has made similar comments, such as that, “the reductions from the water sources may not be sufficient to achieve the intended water quality benefits (or attain the water quality standard) because there is ‘extra’ pollution that is not accounted for in the TMDL.”³⁶ Since about 85 TMDLs (including 41 high priority TMDLs) must still be developed for Los Angeles water bodies impaired by lead, ammonia, copper, sulfates, zinc, and mercury, gathering information to make accurate load allocations is particularly timely.³⁷

Second, stakeholder dynamics that slow the TMDL regulatory program could be improved by more precise allocation of pollutant reductions so as to include air sources. For example, the City of Los Angeles has stated that, “a major gap in the regulatory process is the incorrect assignment of responsibility and costs of remediation of air deposition pollutants to municipal separate stormwater sewer systems (MS4) permittees and co-permittees instead of air pollution sources.”³⁸ The City’s position ignores its duty to control pollutants that discharge from its storm drain system, and we do not agree that responsibility for pollutants in MS4s is incorrectly assigned to municipalities. Nevertheless, having relevant information about aerial deposition could help prevent such pollution by stopping it at the source. This may be more efficient and, in the view of some, more equitable. The State Board agrees, stating that, “in developing allocations to various [pollution] sources it is imperative to consider the possible mechanisms by which pollution can be reduced.”³⁹

Third, accumulating the appropriate information on aerial deposition meshes with one of the Porter-Cologne Act’s policies. The Act states, “Pollution prevention means actions that cause a net reduction in the use or generation of hazardous substances or other pollutants discharged into water. It does not include actions that merely shift a pollutant in wastewater from one environmental medium to another unless clear environmental benefits are demonstrated as a result of the shift.”⁴⁰ Currently, aerial

³⁵ New England Interstate Water Pollution Control Commission, *Path to Clean Water*, at 2 (“Consideration of atmospheric deposition loads is important in TMDL development.”).

³⁶ EPA, *supra* note 2, at 64.

³⁷ See “List of Water Quality Limited Segments Being Addressed By USEPA Approved TMDLs,” http://www.swrcb.ca.gov/tmdl/303d_lists2006.html; “Final 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments,” http://www.swrcb.ca.gov/tmdl/303d_lists.html.

³⁸ Letter from Rita Robinson, City of Los Angeles to Tam Doduc, State Water Resources Control Board, at 2 (Feb. 7, 2006).

³⁹ See State Water Resources Control Board, “TMDL Background & Information”, <http://www.waterboards.ca.gov/tmdl/background.html#background>.

⁴⁰ Cal. Water Code § 13263.3(b)(2); Cal. Civ. Prac. Environmental Litigation § 7:4. This type of holistic approach is reflected elsewhere as well. A California Attorney General opinion stated, “The powers of the state water resources control board and the regional water quality control boards are not so limited and they

deposition has fallen through the regulatory cracks between air and water agencies. Lack of appropriate air quality regulation may simply transfer the pollution problem to water bodies. Thus, making sure the regulatory gap is closed furthers a policy of the Porter-Cologne Act.

C. The Porter-Cologne Act Authorizes the Regional Board to Request Technical Information about Aerial Deposition.

The Porter-Cologne Act gives the Regional Board wide latitude to investigate and regulate essentially any source of pollution to waters in its jurisdiction. This is evident in both policy and specific sections of the Act. For example, the State Board has said that, "Planning authority under the Porter-Cologne Act extends to *any activity or factor* that may affect water quality."⁴¹ The Act also states that, "the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation originating inside or outside the boundaries of the state."⁴²

Specific sections of the Act are written broadly enough to encompass a regional board's regulation of air pollution. For example, section 13263 states that, "The regional board . . . shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed." Since aerial deposition allows air pollutants to settle *upon* waters, this section requires regional boards to prescribe discharge requirements when a polluter is discharging or proposing to discharge aerial pollutants which effect waters through aerial deposition. Also, Porter-Cologne requires these same dischargers to file a report of discharge. The Act states that, "Any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system" shall file a report of the discharge.⁴³

The Porter-Cologne Act also authorizes the Regional Board to investigate water quality, including aerial deposition, and to request such reports with respect to its investigation. Section 13267 states in relevant part:

not only can, but must consider the effects of a proposed discharge upon all aspects of the environment." 57 Ops. Atty. Gen. 19, 1-16-74.

⁴¹ State Water Resources Control Board, A Resolution to Adopt the Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program and Approve the Functional Equivalent Document, Resolution No. 2004-0030 (May 20, 2004), 2004 WL 1380112, at *4 (citing Final Report of the Study Panel to the California State Water Resources Control Board Study Project, Water Quality Control Program, at 3-4 (1969)).

⁴² Cal. Water Code § 13000.

⁴³ Cal. Water Code § 13260.

(a) A regional board, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the state within its region.

(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

Requesting technical information from dischargers in order to better understand aerial deposition falls within the broad boundaries of section 13267. First, the statute envelopes a large category of dischargers. It authorizes regional boards to seek reports from *any* person who has discharged in the past, is currently discharging, is suspected of discharging, or proposes to discharge waste. Thus, a regional board need not show that a discharger is currently affecting water quality. Also, nothing in the statute's definition of "discharger" precludes a regional board from requesting information from an emitter of aerial pollutants.

Second, the Porter-Cologne Act includes broad definitions of "waste" and "waters of the state." Water Code section 13050(d) defines "waste" as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." Aerial pollutants clearly fit within this definition, being particulate matter or gases associated with human habitation. The definition of "waters of the state" is similarly inclusive, defined as "*any* surface water or groundwater, including saline waters, within the boundaries of the state."⁴⁴ Both direct and indirect aerial deposition fall within this definition; aerial pollutants either settle directly onto surface waters, or enter via deposition to the watershed and subsequent transport to surface waters via tributaries or urban runoff.

⁴⁴ Cal. Water Code § 13050(e) (*italics added*).

The State Board's own interpretation of section 13267 further supports its application to emitters of aerial pollutants. The Board has interpreted a regional board's authority to require investigation under section 13267 as "extremely broad."⁴⁵ To require investigation, "the Regional Board need only cite evidence sufficient to suspect that a discharge has occurred."⁴⁶ And finally, in a draft policy for addressing impaired waters, the State Board stated that it and the regional boards "are responsible for the quality of all waters of the state, irrespective of the cause of impairment."⁴⁷ Thus, regardless of whether water pollution originates from aerial polluters, the Regional Board has the authority to flex its regulatory muscle in response.

In fact, in 2005 the San Francisco Regional Board issued a section 13267 letter to five petroleum refineries, requiring the refineries to submit technical reports related to aerial deposition.⁴⁸ Specifically, the letter requested information "on the portion of mercury in crude oil processed in Bay Area petroleum refineries that is emitted from the refineries directly to the atmosphere and that could then enter the Bay via direct deposition to the Bay surface or deposition to the Bay's watershed and subsequent transport to the Bay via tributaries or urban runoff."⁴⁹ San Francisco Regional Board staff identified the information "as a major source of uncertainty that needs to be resolved for successful TMDL implementation."⁵⁰ It is appropriate here for the Los Angeles Regional Board to take a similar approach to address a broader suite of pollutants regionwide.

D. There is a "Reasonable Relationship" between the Benefits and Burdens of Such a Request.

Section 13267 contains a requirement that, "The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports."⁵¹ In issuing a similar 13267 letter, the San Francisco Regional Board emphasized the lack of understanding of the fate of pollutants contained in crude oil as justification for the requests.⁵² As in San Francisco, there is no doubt that

⁴⁵ *In Re: Chevron Products Co.*, Cal. SWRCB WQO 2004-0005 (May 20, 2004), 2004 WL 1378359, at *4.

⁴⁶ *Id.*

⁴⁷ The State Water Board's Revised Draft Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Option, at 4 (June 1, 2005), <http://www.waterboards.ca.gov/tmdl/docs/impairedwaterspolicvdrft.pdf>.

⁴⁸ Letter from Bruce H. Wolf, San Francisco Regional Board, to Bay Area Petroleum Refineries, at 1 (Feb. 17, 2005), provided with this letter as Attachment 8.

⁴⁹ *Id.*

⁵⁰ *Id.* at 2.

⁵¹ Cal. Water Code § 13267(b)(1).

⁵² Letter from Bruce H. Wolf, San Francisco Regional Board, to Bay Area Petroleum Refineries, at 2 (Feb. 17, 2005), provided with this letter as Attachment 8.

information regarding aerial deposition in Los Angeles is also lacking—and on a greater scale with respect to a larger number of impairing pollutants:

- “Virtually no research has been published on dry deposition of trace metals to coastal watersheds in southern California.”⁵³
- While aerial deposition has been studied more extensively in the Northeast, “[t]here is virtually no monitoring of atmospheric deposition in the [Los Angeles] basin.”⁵⁴
- “[O]ver the years, only a relatively small number of studies have addressed the problem of aerosol deposition on the coastal waters of Los Angeles.”⁵⁵
- “[T]here are relatively few studies specifically targeting the pollutant contribution of atmospheric deposition to urban stormwater runoff in Los Angeles.”⁵⁶
- “Dry deposition in coastal areas is not studied or well understood.”⁵⁷

In situations where there is a gap in available information, the State Board has indicated its strong support for requiring technical reports pursuant to section 13267. In a 2004 case, for example, the State Board declared:

For sites where insufficient data are available to make a determination as to responsibility, it is imperative that regional boards pursue all available avenues for gathering the necessary information to proceed to cleanup. This clearly includes requiring that all parties with potential responsibility participate in investigating the sources and extent of pollution.⁵⁸

Further, the pollutants at issue have well-documented adverse effects on human health and the environment. For example, excessive exposure to zinc and copper can cause stomach cramps, skin irritations, vomiting, and nausea.⁵⁹ Lead and mercury can have more serious consequences, such as brain damage, disruption of the nervous system,

⁵³ L. Sabin et al., *supra* note 3, at 51.

⁵⁴ K. Stolzenbach et al., *supra* note 6, at 2.

⁵⁵ R. Lu et al., *Dry deposition of airborne trace metals on the Los Angeles basin and adjacent coastal waters*, *Journal of Geophysical Research*, Vol. 108, No. D2, 4074, page AAC 11-2 (Jan. 2003).

⁵⁶ L. Sabin et al., *Contribution of trace metals from atmospheric deposition to stormwater runoff in a small impervious urban catchment*, *Water Research* 39 (2005) 3929-3937, at 3930.

⁵⁷ Casco Bay Air Deposition Study Team, *Estimating Estuarine Pollutant Loading From Atmospheric Deposition Using Casco Bay, Maine as a Case Study*, at 3 (May 2003), <http://www.epa.gov/owow/oceans/airdep/air.html>.

⁵⁸ *In re: Chevron*, *supra*, at 2004 WL 1378359, at *4.

⁵⁹ See <http://www.lenntech.com/Periodic-chart-elements/Zn-en.htm>; <http://www.lenntech.com/Periodic-chart-elements/Cu-en.htm>.

and negative reproductive effects.⁶⁰ The benefits to be obtained from moving toward cleaning up these dangerous pollutants bear a reasonable relationship to the burden of preparing reports.

E. The Los Angeles Regional Board Must Act Now.

Los Angeles water quality continues to remain compromised. Water quality problems are reflected in the high number of waters on the Region 4 303(d) list and the number of high priority TMDLs that still need to be drafted. Indeed, the substances discussed here—copper, mercury, lead, zinc, ammonia, and sulfates—are linked to serious adverse health effects to humans and the environment. In developing these TMDLs, the Regional Board has a duty to identify all sources of pollution, including aerial deposition.

This type of multi-media regulatory approach is overdue, particularly in a region that is well-known for its persistent air pollution. It is also supported by precedent and both legal and policy rationales. Indeed, some states have already developed a small number of TMDLs that identify the total loading from atmospheric deposition.⁶¹ Also, in 2001, EPA suggested implementing load reductions called for in a TMDL “through air permits or other mechanisms.”⁶² However, the information needed to effectively move toward a more multi-media approach in the Regional Board’s jurisdiction is lacking, with a number of studies and scientific papers calling for the need for further research.

One year ago, the California Air Resources Board and the State Board took the unique step of holding a joint hearing on aerial deposition, but subsequent inaction has left a vacuum. Now, the Regional Board has an opportunity to take cutting-edge action that could be replicated in other jurisdictions. San Diego has already identified at least 16 water bodies on the 303(d) list that may be influenced by aerial deposition.⁶³ Ventura County acknowledges that “similar patterns of aerial deposition” in Los Angeles “likely occur” in Ventura County.⁶⁴ Thus, obtaining technical reports about aerial deposition in

⁶⁰ See <http://www.lenntech.com/Periodic-chart-elements/pb-en.htm>; <http://www.lenntech.com/Periodic-chart-elements/Hg-en.htm>.

⁶¹ EPA, *supra* note 2, at 64.

⁶² *Id.* See also Wendy E. Wagner, *Stormy Regulation*, 9 Chap. L. Rev. 191, 230-31 (Spring 2006) (suggesting more usage of low and zero emissions vehicles to prevent stormwater runoff).

⁶³ See Project Clean Water Science and Technology Technical Advisory Committee, *An Overview of Aerial Deposition as a Priority Source of Surface Water Impairment in San Diego County* (Draft), at 4 (June 2003).

⁶⁴ Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES No. CAS004002 Order No. 07-xxx), at 7-8 (Dec. 27, 2006), [http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/ventura_ms4/First%20Draft%20Ventura%20MS4%20Permit%20\(12-27-06\)%20Complete.pdf](http://www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/ventura_ms4/First%20Draft%20Ventura%20MS4%20Permit%20(12-27-06)%20Complete.pdf) (“Of the atmospherically deposited pollutants on the watersheds, ten to twenty percent may account for the total load for copper, zinc, nickel, lead, and chromium to the water bodies.”). *Id.*

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Los Angeles County and using that information to assign load allocations to aerial deposition could support important pollution reduction activities in other Southern California jurisdictions and beyond. The entities in the best position to provide this information are the dischargers themselves. The Porter-Cologne Act provides the necessary tools with which the Regional Board can require this information.

Accordingly, we formally request that the Regional Board require the Los Angeles County facilities listed on Attachment 7 to submit technical information regarding fate and transport of the aerial pollutants listed on Attachment 7 as it relates to either direct or indirect deposition to Los Angeles County water bodies, by May 15, 2007. Failure to issue 13267 Letters pursuant to this request by May 15, 2007, will be considered a "failure to act" under California Water Code section 13320(a) for purposes of an appeal to the State Board.

Sincerely,

David S. Beckman
Michelle S. Mehta
Natural Resources Defense Council