

Date of Hearing: March 19, 2024

ASSEMBLY COMMITTEE ON TRANSPORTATION

Lori D. Wilson, Chair

AB 1798 (Papan) – As Introduced January 8, 2024

SUBJECT: Department of Transportation: contaminated stormwater runoff: salmon and steelhead trout bearing surface waters

SUMMARY: Requires the California Department of Transportation (Caltrans) and the State Water Resources Control Board (SWRCB) to develop a programmatic environmental review process to prevent 6PPD and 6PPD-quinone (6PPD-q) from entering salmon and steelhead trout bearing surface waters of the state, including implementation of five pilot projects. Specifically, **this bill:**

- 1) Defines the following terms:
 - a) “6PPD” as the chemical compound N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine commonly contained in motor vehicle tires;
 - b) “6PPD-quinone” means the reaction product of 6PPD that is acutely toxic to aquatic life;
 - c) “Biofiltration” means the effect of vegetated treatment facilities that reduce stormwater pollutant discharges by intercepting rainfall on vegetative canopy, and through incidental infiltration or evapotranspiration, and filtration;
 - d) “Bioretention” means the effect of engineered facilities that store and treat stormwater by passing it through a specified soil profile, and either retain or detain the treated stormwater for flow attenuation;
 - e) “Consultation” means the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties’ cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party’s sovereignty. Consultation shall also recognize a tribe’s potential needs for confidentiality with respect to places that have traditional tribal cultural significance; and,
 - f) “Tribal community” means a community within a federally recognized California Native American tribe or nonfederally recognized Native American tribe on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004.
- 2) Requires Caltrans and SWRCB to seek assistance and expertise of the States of Washington and Oregon in the development of the programmatic review process.
- 3) Requires SWRCB to determine the following parameters for Caltrans’s programmatic environmental review process: (1) the frequency and timing for sampling for a qualified storm event; (2) monitoring and reporting protocols; (3) the specific project location for each County; (4) all other information and data deemed necessary to inform future stormwater permit reissuances.
- 4) Requires Caltrans’ 6PPD and 6PPD-quinone programmatic environmental review process to include: (1) no later than December 31, 2026, five pilot projects, one each in the Counties of San Mateo, Contra Costa, Sonoma, Humboldt, and Nevada, to study the effectiveness and

cost effectiveness of installing and maintaining bioretention and biofiltration comparatively along department rights-of-way to eliminate the discharge of 6PPD and 6PPD-q into surface waters; (2) a map of all locations where Caltrans is likely to discharge stormwater into salmon or steelhead trout bearing surface waters, including an overlay of salmon and steelhead fishery information, areas of high vehicle miles traveled, and specific drainage outlets or other likely discharge points for each location; and (3) a strategy to eliminate discharge of 6PPD and 6PPD-q from Caltrans facilities by December 31, 2037, including considerations of cost-savings through implementation of existing total daily maximum load projects and planned projects where biofiltration or bioretention could effectively be implemented to control 6PPD and 6PPD-q. The pilot program would also evaluate the effectiveness of these facilities to control microplastics discharge, including tire wear particles, and other pollutants as deemed appropriate by the SWRCB, from state highways into surface waters.

- 5) Requires Caltrans to provide consultation on a government-to-government basis with tribal communities, as appropriate, in order to allow tribal officials the opportunity to provide meaningful and timely input in the development of the department's strategy to eliminate 6PPD and 6PPD-q from all salmon and steelhead treat bearing surface waters of the state.
- 6) Requires all information provided to SWRCB by Caltrans to be made publicly available through the SWRCB's stormwater data collection system.

EXISTING LAW:

- 1) Establishes the State's role in transportation to implement and maintain a state highway system which supports the goals and priorities determined through the transportation planning process, which is in conformity with comprehensive statewide and regional transportation plans, and which is compatible with statewide and regional socioeconomic and environmental goals, priorities and available resources. (Government Code 14000.5)
- 2) Establishes Caltrans and provides that it has full possession and control of all state highways and property and rights in property acquired for state highway purposes. (Streets and Highways Code (SHC) 90)
- 3) Requires Caltrans to prepare an annual report to the Legislature describing the status of progress in locating, assessing, funding, and remediating barriers to fish passage, and requires an assessment of potential barriers to fish passage prior to commencing project design. (SHC 156, et seq.)
- 4) Establishes the federal Clean Water Act to regulate discharges of pollutants into the waters of the United States and to regulate quality standards for surface waters. (33 United States Code (U.S.C.) §125, et seq.)
- 5) Establishes the National Pollutant Discharge Elimination System (NPDES) permit program requiring the State Water Board and the nine California Regional Water Boards to prescribe waste discharge requirements which, among other things, regulate the discharge of pollutants in stormwater, including municipal stormwater systems. (33 U.S.C. §1342)

FISCAL EFFECT: Unknown

COMMENTS: Salmon are central to California’s ecology and economy, as well as the cultures and religions of Indigenous peoples along the Pacific Coast. Salmon and other salmonid species are migratory fish, moving from large salt- or freshwater bodies to smaller freshwater streams in order to reproduce. Over the last two centuries, salmon populations have declined due in part to changes in water quality and infrastructure that obstruct their annual migrations, or “runs”.

In the Puget Sound region of the Pacific Northwest, Coho salmon migrating through restored urban watersheds contaminated with stormwater runoff have been plagued by recurrent instances of urban runoff mortality syndrome, with up to 90% of salmon in a given run dying before they can spawn. In 2020, researchers identified 6PPD-q as the stormwater pollutant driving these mortality events, demonstrating its acute lethality to Coho salmon. 6PPD-q also appears to be toxic to other salmonid species, including Chinook salmon and steelhead trout, to a lesser degree.

6PPD-q is a byproduct of 6PPD, an additive that protects vehicle tires from degradation caused by atmospheric ozone exposure. 6PPD protects tires by reacting with ozone instead, forming 6PPD-q as a result. When tires make contact with the road, tire residues containing 6PPD and 6PPD-q are worn off. These tire wear particles are washed into waterways via stormwater runoff.

Currently, federal law requires Caltrans to implement stormwater pollutant control measures to address its contribution in degrading the water quality of the receiving waters. Stormwater runoff discharges from roads and other facilities managed by Caltrans are regulated under the NPDES program. The SWRCB oversees Caltrans’s compliance with its statewide stormwater discharge permits, ensuring that Caltrans’s discharges do not exceed total maximum daily loads (TMDLs) of certain pollutants. Neither 6PPD nor 6PPD-q are currently listed in Caltrans’s statewide stormwater runoff permit.

Installation of biofiltration and bioretention systems has been shown to reduce occurrence of urban runoff mortality syndrome. In fact, Caltrans’s Stormwater Management Plan lists biofiltration and detention devices as approved best management practices for managing stormwater discharges, with biofiltration described as a “fiscally reasonable and technically feasible” approach to reducing stormwater pollution. More recent studies have confirmed that 6PPD-q and other harmful contaminants like microplastics can be captured by green infrastructure such as vegetation, sedimentation, or soil before they escape into the environment.

According to the author, “We must take action to preserve the health and safety of rivers and streams in order to build a strong, safe, and sustainable future for Californians everywhere. In doing so we must address the many dangers facing our waterways including micro-particle pollutants and toxic stormwater runoff that threaten native species and aquatic ecosystems. One such pollutant, known as 6PPD, is an emerging toxin found in vehicle tires, that’s alarming scientists due to the extremely dangerous impact that it has on native salmon and trout populations in California surface waters. Fortunately, there are stormwater management practices that are readily available to effectively treat the runoff of 6PPD which helps reduce toxic chemical exposure threatening salmon throughout the state. Therefore, I am proposing Assembly Bill (AB) 1798 which will require the Department of Transportation to develop and implement a strategy to eliminate 6PPD from stormwater discharges into our California aquatic systems. With this bill, California will get in front of the problem and be one step closer towards preserving the health and wellness of our natural water system.”

Committee comments: This bill requires Caltrans and SWRCB to establish a programmatic environmental review process, including implementing five pilot projects to study the effectiveness and cost effectiveness of biofiltration and bioretention systems in reducing 6PPD and 6PPD-q in toxic stormwater runoff, as well as preparing a map indicating locations of likely Caltrans discharge into salmon and steelhead bearing waters and a strategy to reduce 6PPD and 6PPD-q discharge by 2037. In contrast to AB 756 (Papan of 2023), this bill would not mandate statewide installation of biofiltration or bioretention systems.

At this time, Caltrans has not taken any actions specifically to reduce the discharge of 6PPD-q into waters of the state. Although green infrastructure is being incorporated into newer construction projects, many existing state-owned highways and municipal roads do not have biofiltration or bioretention systems to manage stormwater. According to the Department of Toxic Substances Control, California waterways contain 6PPD-q at concentrations known to be lethal to coho salmon. As such, existing catchment systems may be insufficient to control 6PPD-q contamination. It remains unclear whether any stormwater infrastructure upgrades or retrofits planned by Caltrans would sufficiently mitigate 6PPD-q contamination of salmon- and steelhead-bearing waters.

Installing new biofiltration and bioretention systems will likely be of significant cost to Caltrans. Caltrans's funding for stormwater management is primarily derived from fuel tax revenues. According to a 2024 report by the Legislative Analyst's Office, gas and diesel tax revenues are expected to decline with increasing adoption of zero-emission vehicles. This may limit available funding for Caltrans' stormwater management in the future.

The proposed pilot studies would aid development of a strategy to upgrade stormwater infrastructure in a way that is cost-effective for Caltrans, and most impactful for improving water quality for salmon. As an example, Washington State Department of Transportation is leveraging resources allocated for existing transportation improvement projects to install biofiltration systems at the same time, and focusing on locations where pre-spawn mortality events have been documented or where vulnerable habitats intersect with transportation infrastructure. Similarly, the pilot study could help Caltrans to identify when and where it might be suitable to partner with local municipalities and regional water quality control boards to manage stormwater runoff.

Although efforts are underway at the federal and state level to regulate the use of 6PPD in vehicle tires, 6PPD-laced tires will continue to contribute to contamination of California's waterways for many years to come. In the interim, it will be important for SWRCB to assess this relatively new toxin, and for Caltrans to work with SWRCB to help to determine the best way to minimize negative impacts of 6PPD-q and microplastics while our understanding of these contaminants evolves and regulations are developed.

Double Referral: This bill is double referred to the Assembly Environmental Safety and Toxic Materials Committee, and will be heard by that Committee as it relates to issues under its jurisdiction.

Previous legislation:

AB 756 (Papan of 2023) would have required Caltrans to establish an environmental review process including development of (1) a pilot project to study effectiveness and cost of installing bioretention and biofiltration systems along Caltrans rights-of-way; (2) a map of stormwater

discharge points of interest along Caltrans rights-of-way; and (3) strategy for eliminating 6PPD and 6PPD-q runoff. The bill would also have required annual installation of bioretention and biofiltration controls at all locations identified in the map and strategy over a period of ten years. Held in Assembly Appropriations Committee.

SB 857 (Kuehl), Chapter 589, Statutes of 2006, required Caltrans to provide an annual report of progress in locating, assessing, and remediating barriers to fish passage, including salmon and steelhead, to the Legislature through 2020. The bill also requires transportation projects using state or federal funding to assess potential barriers to fish if the project affects a stream crossing.

SB 1263 (Portantino), Chapter 609, Statutes of 2018 requires the Ocean Protection Council to adopt and implement a Statewide Microplastics Strategy to address microplastic materials that pose an emerging concern for ocean health.

REGISTERED SUPPORT / OPPOSITION:

Support

7th Generation Advisors
California Coastkeeper Alliance
California Trout
City/County Association of Governments of San Mateo County
Clean Water Action
Defenders of Wildlife
Environmental Action Committee of West Marin (EAC)
Humboldt Waterkeeper
Inland Empire Waterkeeper
Los Angeles Waterkeeper
Orange County Coastkeeper
Planning and Conservation League
Russian Riverkeeper
San Diego Coastkeeper
Santa Barbara Channelkeeper
Save the Bay
Solano County Water Agency
South Yuba River Citizens League
The Otter Project
Tuolumne River Trust
U.S. Tire Manufacturers Association
Water Climate Trust
Yuba River Waterkeeper

Opposition

None on file

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