



February 17, 2017

Public Comment
Beneficial Uses and Mercury Objectives
Deadline: 2/17/17 12 noon

The Honorable Felicia Marcus, Chair and Members of the Board
State Water Resources Control Board
PO Box 100
Sacramento, CA 95812-2000
Via: commentletters@waterboards.ca.gov



RE: SWRCB Proposed Inland Surface Waters, Enclosed Bays & Estuaries Plan for Tribal, Tribal Cultural & Subsistence Fishing Beneficial Uses and Statewide Mercury Water Quality Objectives

Dear Chair Marcus, and Members of the Board:

On behalf of the signatories to this letter, we appreciate your consideration of the following comments with regard to the proposed Tribal, Tribal Cultural & Subsistence Fishing Beneficial Uses and Statewide Mercury Water Quality Objectives under the Inland Surface Waters, Enclosed Bays & Estuaries Plan as released for public review and comment on January 4, 2017. These comments seek to highlight but a few of the critical issues of importance to us including process and timeline, point sources, Numeric Action Levels, and attainability.

Process & Timeline

Based on the timeline provided by staff, we understand the State Water Resources Control Board (SWRCB) has set a comment deadline of February 17th to enable an ambitious timeline for adoption of the Beneficial Use definitions and Mercury Water Quality Objectives (WQO). As currently intended, the Board aims to adopt these provisions before the U.S. EPA Consent Decree deadline of June 30, 2017. We remain concerned, however, that this timeline will drastically condense the opportunity for meaningful engagement by industrial stakeholders. While interrelated, the two sets of provisions are distinct and will have widespread impact on industrial dischargers in the state. Despite this widespread impact, we have been provided a mere 45 days in which to review a more than 700 page staff report and technical supporting documents, assess all of the potential impacts, contemplate proposed revisions to mitigate concerns and draft comments for submission.

In this regard, we urge the Board to adopt our request that the provisions be bifurcated to allow for more time to work with the Board and staff to identify revisions that may help to alleviate the regulated community's serious concerns. Additionally, this additional time – particularly on the new Beneficial Uses – would provide sufficient time to develop guidance for regional boards in designating waters in a consistent, clear manner across the state.

Point Sources

By staff's own admission in the Staff Report, point sources (i.e. industrial sources) are a minor contribution of mercury as compared with other sources. In this regard, we question the approach contemplated in the Provisions that would impose stringent numeric limitations on those sources when they will have little, if any, effect on mercury concentrations in fish and the environment. More specifically, the Staff Report notes the following:

“Even if all sources of the contaminants are eliminated, the contaminants are likely to remain high for decades, because either they do not degrade or they degrade very slowly. Much of the mercury in fish today is thought to be from historic mining in the late 19th century and early 20th century. Further, current sources may not be directly regulated by water boards (e.g., atmospheric emissions, naturally occurring in soils, or geothermal sources)” (page 108).

The Staff Report clearly indicates that point sources are not the culprit for mercury; rather, non-point sources have been documented to provide the largest fraction of mercury in the State's water bodies. Without changing course and continuing to focus mercury reductions on municipal and industrial discharges will not achieve the state's objectives given the small relative contribution, and would therefore be arbitrary and capricious and an abuse of discretion.

Stringency and focus of mercury limits and controls should be commensurate with the significance of the contributing source. As exemplified throughout the draft report (e.g., Table N-11), watershed contributions of mercury vary significantly depending upon source type. In fact, the largest contributors of mercury are not permitted sources such as municipal wastewater and industrial dischargers with NPDES permits. Rather, the largest mercury sources are tributaries, sediment disposition from non-point sources (e.g., storm water, bed erosion) and legacy mining operations. While it is acknowledged that statewide mercury limits are necessary to protect beneficial uses, the stringency and focus of control should be commensurate with the source and its corresponding mercury loading. Tighter controls for NPDES point sources will not result in significant reductions in mercury levels. Targeting this sector will not achieve the state's objectives. Rather, the state should focus more effort, investment, and resources on non-point sources such as legacy mining sites. If appropriate focus is not applied to the most significant sources, mercury water quality will not improve and significant additional burdens on already stringently regulated dischargers is not justified or reasonable.

Water Concentration-Based Objectives for Mercury

The Staff Report recommends that the SWRCB adopt statewide Mercury WQOs that are based on water concentration targets. (See, Issue L, Option 1 (Recommended), Staff Report/SED at pages 144-151.) The other option considered – but rejected by State Board staff – would establish fish tissue-based mercury targets. (See, Issue L, Option 2.) For reasons discussed below, the State Board should reject “Option 1” and instead direct staff to pursue fish tissue-based objects as described in “Option 2.”

At the outset, it is important to note that water column concentration targets recommended by staff are based on the application of very complex calculations using bioaccumulation factors – or “BAF” – that related fish tissue concentrations to mercury in the water column. Further, the application of these water concentration targets would, by their very nature, only be applied to traditional point sources such as municipal and industrial wastewater treatment facilities. These traditional point sources are almost routinely demonstrated to be statistically *insignificant sources* of mercury to California’s waters. Thus, if the State Water Board were to embrace this approach, these *de minimis* point sources would face the specter of having to achieve ultra-low mercury effluent limits, even where their *collective* contribution to mercury loading is often infinitesimal. Indeed, in San Francisco Bay, municipal and industrial dischargers combined account for less than 1.4% of the ongoing mercury loading to San Francisco Bay. (See, San Francisco Bay Mercury TMDL (2006).)

Turning to specific concerns of staff’s approach in “Option 1”, we note that the BAF-based concentration numbers are based on US EPA’s “default” BAF for lakes and rivers. This reliance on a nationwide BAF grossly oversimplifies the extremely complex process of bioaccumulation, and completely ignores site-specific conditions in a given waterbody. Applying nationwide, default BAF – or even statewide BAF – and their translation factors, are highly variable, uncertain and can lead to erroneous effluent limits for a specific waterbody. Moreover, and as the Staff Report acknowledges, water quality criteria based on a national BAF can be over- or under-protective in different water bodies.

To be appropriately used, BAF should be site-specific values because they are affected by and dependent upon numerous physical, chemical and biological factors. These include: pH, dissolved organic carbon, salinity, water flow, redox potential, fish size and age, and concentration depended demethylation. Conditions in California vary considerably between regions and, as a result, the nationwide or state-wide “default” values are likely to be inaccurate on a site-specific basis.

Reliance on BAF for translating fish tissue targets into water column objectives was the favored approach, nationally, until 2010. Although USEPA called for the use of BAFs in its 2001 Guidance for implementing methylmercury criterion, this approach was basically rejected when USEPA issued its new “*Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*” (USEPA Mercury Guidance) because evaluation of the relationship between total mercury concentrations in ambient waters showed no meaningful correlation with the levels of mercury in fish tissue. According to the 2010 Mercury Guidance:

“Assessing and predicting methylmercury bioaccumulation in fish is complicated by a number of factors that influence bioaccumulation. These factors include the age or size of the organism; food web structure; water quality parameters such as pH, DOC, sulfate, alkalinity, and dissolved oxygen; mercury loadings history; proximity to wetlands; watershed land use characteristics; and waterbody productivity, morphology, and hydrology. In combination, these factors influence the rates of mercury bioaccumulation in various - and sometimes competing - ways. For example, these factors might act to increase or decrease the delivery of mercury to a waterbody, alter the net production of methylmercury in a waterbody (through changes in methylation and/or demethylation rates), or influence the bioavailability of methylmercury to aquatic organisms. Although bioaccumulation models have been developed to address these and other factors for mercury, their broad application can be limited by the site- or species-specific nature of many of the factors that influence bioaccumulation and by limitations in the data parameters necessary to run the models.” (USEPA Mercury Guidance, §3.1.3.1 at p. 26.)

One consequence of using BAFs to establish water column objectives is that it typically leads to NPDES effluent limits that are based on these water column numbers. In fact, one of the primary justifications provided in the Staff Report for recommending “Option 1” was the ease in which Regional Board permit writers can implement the WQOs with respect to traditional point sources. However, selecting this Option is simply likely to obscure the insignificance of NPDES sources to fish tissue concentrations at the broader watershed level and instead to focus on an end-of-pipe approach to NPDES permitting.

While typical approaches to managing mercury loads *via* the TMDL framework lead to more holistic efforts to control mercury sources and enable Regional Boards to have a clear picture of the relative importance of NPDES sources to fish tissue levels and provides, the end-of-pipe permitting approach fails to recognize or account for the relative importance of a permitted source. This leads to the situation - described in the Staff Report/SED - where significant treatment plant technology upgrades are anticipated for municipal and industrial point sources, even though those sources are recognized to be insignificant. (Staff Report §6.12.3 at p. 146.) According to a 2013 assessment of treatment technologies available to achieve ultra-low mercury water concentration limits (5 ng/L) in the State of Washington, only **advanced treatment** (micro-filtration/reverse osmosis) can reliably attain such low, end-of-pipe limits, and at a capital cost of approximately \$350 million for a 25 MGD treatment facility.

Another reason for the State Board to reject the BAF-derived water column objectives approach (particularly for implementation of NPDES-permitted municipal and industrial point sources) is that it is not required under the Clean Water Act (CWA). The decision to use BAFs, instead, is a policy choice that is intended to simplify the analysis of reasonable potential and the derivation of effluent limitations in the NPDES permitting process. But this choice comes with many disadvantages, many of which are recognized in the Staff Report. Given that it is a policy choice for the State Board, it is

also appropriate to identify and understand the disadvantages associated with this decision.

It is important to point to the historical underpinnings that lead to the use of BAFs in regulating mercury at both the federal and state levels. In 2000, USEPA adopted mercury water column standards for California part of the California Toxics Rule (CTR), relying on bioaccumulation factors. However, USEPA readdressed national mercury objectives in 2010 when it adopted the Mercury Guidance for Tribes and states for implementing Clean Water Act requirements. The Mercury Guidance pointedly recommends that mercury criteria be adopted as fish tissue standards. Notably, USEPA recommends against converting fish tissue standards into water column standards through the application of BAFs, in large part due to the recognition that the determination and use of total mercury BAFs is complex and problematic. Indeed, USEPA's 2010 Mercury Guidance specifically states that, "[a] state or authorized tribe could decide to develop TMDLs and calculate WQBELs in NPDES permits directly without first measuring or calculating a BAF." (USEPA Mercury Guidance, §3.1.2 at p. 21.)

Lastly, there are two important regulatory actions taken by the State Water Board in the past ten years where the BAF approach for translating fish tissue standards into water column concentration objectives were *rejected*. These actions were the State Water Board's approvals of the San Francisco Bay and Sacramento-San Joaquin Delta Mercury TMDLs. It should also be noted that USEPA approved both of these fish tissue-based mercury control plans. Not surprisingly, when it adopted the 2010 Mercury Guidance, USEPA concluded that fish tissue standards were more appropriate for mercury criteria development to more "closely tie" the "fishable designated use goal" to particular waterbodies, to more consistently relate applicable fish tissue concentration values with how fish advisories are issued, and because at environmentally relevant concentrations, some forms of mercury are easier to detect in fish tissue than in water samples. (See, USEPA Mercury Guidance, §3.1.2.2 at p. 22.)

Numeric Action Levels

Under the stormwater Industrial General Permit (IGP), permittees are subject to Numeric Action Levels (NAL) for a number of contaminants, including mercury. The IGP contains annual and instantaneous maximum NALs with the annual NALs having been established as the 2008 EPA Multi-Sector General Permit (MSGP) benchmark values. They are applicable for all parameters including total mercury, which is set at 1400 ng/L. Despite the Staff Report providing that the "provisions would not impose any new requirements" (page 10), they would result in the currently established NAL being set at a more stringent 300 ng/L. This lower threshold and the rationale provided in the Staff Report inappropriately compare the use of a benchmark to a water quality criterion, which have very different purposes. Further, the Staff Report has not provided any analysis regarding the economic impact of the revised NALs on the total number of industrial facilities that this will affect.

While we understand the intent of the proposed provisions, we are concerned that the approach undermines the overarching construct of the IGP and the use of the USEPA

MSGP benchmark values as a way to gauge pollutant control performance at a facility. In addition, we are concerned that the impact of the revised NAL on industrial facilities has not been adequately assessed. In this regard, we strongly urge the Board to retain the current IGP benchmarks.

Attainability

As a clarification of the legislature's intent on required considerations for establishing WQOs, the California Water Code § 13241 establishes factors for Regional Boards to consider in establishing WQOs including, "*(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area*" and "*(d) Economic considerations*". In addition, in the definition of a water quality control plans in the California Water Code § 13050 requires that the water quality control plans include, "*A program of implementation needed for achieving water quality objectives*." These factors must also be considered by the State Board in establishing statewide WQOs.

Unfortunately, however, the Staff Report as currently drafted does not provide a clear, requisite program of implementation necessary for reasonably achieving the proposed objectives. As a matter of fact, the Staff Report concludes:

"...it may take a significant period of time to attain the objectives by implementing the mercury controls in the Provisions and developing and implementing other water quality control programs, such as TMDLs. Additionally, the Tribal Subsistence Fishing Water Quality Objective and the Subsistence Fishing Water Quality Objective may be very difficult to achieve in most waters as discussed in Section 6.5" (page 264).

Designation under beneficial uses typically subject permittees to numeric values that seek to ensure that those uses are protected, maintained or attained. However, these numeric values often end up being receiving water limitations and/or total maximum daily waste load allocations that are nearly impossible for stormwater permittees to meet. They do not typically have control over the sources of pollutants in question. Given the largest sources of Mercury are acknowledged to come from non-point sources, these provisions – if adopted by the Board – would set standards that are essentially unattainable and would therefore place an unfair regulatory burden on point dischargers despite the fact that whatever levels of controls are instituted, the standards will never be met due to the non-point source contribution of mercury.

In this regard, we urge the Board to revise the Staff Report to provide a range of acceptable implementation options and assess whether they would result in reasonable attainability of the proposed objectives. Further, to avoid situations where the new beneficial uses are designated by a regional board for a particular waterbody without the ability for industrial dischargers to be in attainment, the Board should take the time to work with the regulated community and other stakeholders to identify site specific factors and other criteria that should be considered prior to the designation of the new beneficial uses. More specifically, guidance should be prepared to set forth the minimum data and information details upon which a regional board should base its

consideration of designating a waterbody with one of the new beneficial uses. Currently, the Staff Report contains no minimum informational or data standards for regional boards and the SWRCB to base its consideration. Such guidance should be solidified in a way to provide for consistent review and application of the beneficial use designation by regional boards, understanding that each region and water body may need to take into account those site specific considerations.

On behalf of the signatories to this letter, we appreciate your consideration of our comments and look forward to continuing to work with the Board to address these significant issues. If you have questions regarding the points raised in this letter, please contact Dawn Koepke with McHugh, Koepke & Associates at (916) 930-1993. Thank you.

Sincerely,

Building Industry Legal Defense Foundation
California Association of Winegrape Growers
California Building Industry Association
California Chamber of Commerce
California League of Food Processors
California Manufacturers & Technology Association
California Metals Coalition
Chemical Industry Council of California
Construction Industry Coalition on Water Quality
National Federation of Independent Business
Western States Petroleum Association

cc: Honorable Board Members, SWRCB
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