

# Proposed Aquatic Life and Aquatic-Dependent Wildlife Criteria for Selenium in California's San Francisco Bay and Delta

## Summary

EPA is proposing to revise the current federal Clean Water Act (CWA) selenium water quality criteria applicable to the salt and estuarine waters of the San Francisco Bay and Delta to ensure that the criteria are set at levels that protect aquatic life and aquatic-dependent wildlife, including federally listed threatened and endangered species.

## Background

CWA section 101(a)(2) establishes the national goal that wherever attainable water quality should provide for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water. To protect aquatic communities from the harmful effects of pollutants in surface waters, states must adopt water quality criteria for pollutants that are protective of such designated uses in water bodies. EPA periodically publishes national criteria recommendations for certain pollutants under CWA section 304(a) for states to consider using to protect aquatic life uses.

EPA promulgated the San Francisco Bay and Delta's existing selenium criteria on the state's behalf in 1992 as part of the National Toxics Rule (NTR), using EPA's CWA section 304(a) recommended aquatic life criteria for selenium at the time. However, the latest science on selenium fate and bioaccumulation

indicates that the existing criteria are not protective of aquatic life and aquatic-dependent wildlife in the salt and estuarine waters of the San Francisco Bay and Delta.

EPA determined that new or revised selenium criteria in the salt and estuarine waters of the San Francisco Bay and Delta are necessary to protect the designated uses for these waters. Therefore, to protect aquatic life and aquatic-dependent wildlife in the San Francisco Bay and Delta from the adverse effects of selenium, EPA is proposing the criteria in this rule using the best available science.

## How EPA Derived the Proposed Selenium Aquatic Life and Aquatic-Dependent Wildlife Criteria

In 2016, EPA published revised CWA section 304(a) recommended criteria for selenium, based on the latest science on selenium bioaccumulation and toxicity (*Final Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater 2016*, US EPA, Office of Water, EPA 822-R-16-006). EPA considered the methodology and information used to derive the revised CWA section 304(a) recommended selenium criterion, along with additional information specific to the San Francisco Bay and Delta, in developing the selenium criteria in this proposed rule.

Due to the introduction and population explosion of an invasive clam species, *Potamocorbula amurensis* (commonly known as *Corbula*), there has been a rapid acceleration of selenium accumulation in the food chain of fish and bird species in the San Francisco Bay and Delta ecosystem. The species most at risk in the estuary from selenium are clam-eating fish and clam-eating bird species, and EPA is proposing revised federal criteria to ensure protection of these vulnerable species.

EPA is proposing selenium criteria in fish tissue (a whole body criterion of 8.5 micrograms per gram ( $\mu\text{g/g}$ ) dry weight (dw) and a muscle criterion of 11.3  $\mu\text{g/g}$  dw) and clam tissue (15  $\mu\text{g/g}$  dw), to reflect biological uptake through diet, the predominant pathway for selenium toxicity, and to address reproductive toxicity. In order to facilitate monitoring and regulation of pollutant discharges, EPA is also proposing dissolved and particulate water column selenium criteria of 0.2  $\mu\text{g/L}$  and 1  $\mu\text{g/g}$ , respectively, that are designed to ensure the tissue criteria are met.

### **Public Hearings on the Proposed Rule**

EPA will hold public hearings on the proposed rule so that interested parties may provide oral comments. A virtual hearing will be on August 22, 2016 from 6:00 pm to 8:00 pm. The in-person hearings will be on August 23, 2016, one at 9:00 am and one at 2:00 pm, at EPA's Region 9 Office: 75 Hawthorne Street, San Francisco, CA 94105.

### **Where can I find more information?**

Contact Erica Fleisig at (202) 566-1057, [Fleisig.Erica@EPA.gov](mailto:Fleisig.Erica@EPA.gov) or Diane Fleck at (415) 972-3527, [Fleck.Diane@EPA.gov](mailto:Fleck.Diane@EPA.gov). To access the proposed rule, supporting documents, and more details on how to make written comments and/or how to register to make oral comments at a public hearing, visit EPA's Water Quality Standards website at: <https://epa.gov/wqs-tech/water-quality-standards-establishment-revised-numeric-criteria-selenium-san-francisco-bay>.

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