

ITEM:  
SUBJECT:

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Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin River Delta Estuary

Board Action:

Consideration of Approval of Environmental Document and Adoption of Proposed Amendments

Background

The Sacramento-San Joaquin Delta Estuary (Delta) is impaired due to elevated levels of mercury in fish tissue. In February 2010, staff completed a total maximum daily load (TMDL) technical report (TMDL Report) and a Basin Plan amendment staff report (BPA Report) that address the impairment. The TMDL Report discusses inorganic mercury and methylmercury from municipal and industrial wastewater, urban runoff, wetlands, open channels, agricultural return flows, and tributaries. The TMDL Report also describes beneficial uses, fish tissue numeric targets, the linkage between methylmercury in water and fish tissue, and methylmercury load reductions required to meet the targets.

The BPA Report proposes a regulatory program to control inorganic mercury and methylmercury in the Delta, and includes: fish tissue objectives to protect humans and wildlife that consume Delta fish, a strategy to reduce methylmercury and inorganic mercury loading to the Delta and Yolo Bypass, and a monitoring program to assess compliance with water quality objectives. The BPA Report also proposes adding the commercial and sport fishing (COMM) beneficial use designation for the Delta in the Basin Plan.

The proposed Basin Plan amendments, along with the TMDL Report and the BPA Report (collectively referred to as the "Amendment Documents") contain all the state and federal required elements of a TMDL. The Amendment Documents establish a loading capacity and waste load and load allocations for methylmercury discharges to Delta and Yolo Bypass. The Amendment Documents also contain an environmental evaluation required under the California Environmental Quality Act, and consider program costs pursuant to state law.

Since 2006, staff conducted a Board workshop in March 2007, two public workshops, and numerous stakeholder meetings to receive comments on the June 2006 version of the TMDL and BPA draft reports. Staff made many revisions to the Amendment Documents based on written and verbal comments from the scientific peer reviewers, workshop participants, and other stakeholders. In April 2008, the Board opened a hearing process to consider adoption of the proposed Basin Plan amendments. At the April 2008 hearing, after extensive public testimony, the Board directed staff to work with stakeholders to resolve concerns regarding the fish tissue objectives, the TMDL language, and the implementation plan.

From December 2008 through February 2010, staff held monthly facilitated stakeholder meetings to solicit input regarding the proposed Basin Plan amendments, which has resulted in the most recent version of the proposed Basin Plan amendments. In addition to being a part of the April 2010 Board Agenda Package, these documents are also available online at: [http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/april\\_2010\\_hg\\_tmdl\\_hearing/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/april_2010_hg_tmdl_hearing/index.shtml).

The proposed Basin Plan amendments include methylmercury allocations for NPDES facilities, municipal stormwater, agricultural lands, wetlands, open water in the Delta and Yolo Bypass, and tributary inputs to the Delta and Yolo Bypass. The proposed amendments also include total mercury mass limits for NPDES facilities that discharge in the Delta and Yolo Bypass, and a plan and schedule to address mercury that leaves the Cache Creek Settling Basin and enters the Yolo Bypass, where extensive wetland projects are planned.

The proposed implementation strategy is divided into two phases. Phase 1, which will last through approximately 2020, is primarily a study period where dischargers will develop and evaluate methylmercury control measures while implementing reasonable measures to reduce inorganic mercury discharges. Phase 1 has several interim reporting requirements to document the progress of required methylmercury control studies. Phase 1 incorporates an adaptive management approach, so that the methylmercury control studies can be adjusted and implemented in the most efficient manner.

At the end of Phase 1, the Central Valley Water Board will review the study results generated during Phase 1, and, as appropriate, will consider revising the fish tissue objectives and methylmercury allocations, and will establish time schedules for implementing feasible and appropriate management practices to achieve the methylmercury allocations.

Phase 2, which begins after the Central Valley Water Board conducts its re-evaluation of the fish-tissue objectives and waste load and load allocations, will require implementation of the methylmercury controls identified by the Phase 1 studies.

The proposed Basin Plan amendments include key principles for developing pilot mercury offsets projects and a schedule for the development of a mercury offset program. During Phase 1, dischargers may propose mercury offset projects for public review and Board approval.

#### Issues:

There are many sources of inorganic mercury and methylmercury to the Delta and its tributary watersheds. Staff frequently hears that a particular discharge does not cause the impairment, and therefore should not be required to implement controls. However, although each discharge by itself may not contribute substantially to the mercury impairment, the sum of all sources causes the impairment. The proposed Basin Plan amendments establish methylmercury load allocations for all sources within the Delta and Yolo Bypass as well as tributary inputs to the Delta and Yolo Bypass, establish a strategy and time schedule to develop methylmercury management methods, and set forth inorganic (total) mercury reductions to be implemented in the Delta and upstream water bodies.

Stakeholders have commented that wetlands should not be required to implement methylmercury management practices because wetlands are important for a healthy Delta ecosystem. However, studies across North America have found that one of the best predictors of methylmercury concentrations in water and in biota is the amount of wetlands present in upstream watersheds. Some types of wetlands are significant sources of methylmercury, while others are not. Wetland acreage is projected to increase dramatically with new wetland restoration projects, thus potentially exacerbating the methylmercury impairment in the Delta if the mercury methylation potential of new wetlands is not addressed. Increases in methylmercury also have the potential to impact some of the species that wetlands are intended to benefit.

The proposed Basin Plan amendments require that wetland managers conduct studies to evaluate potential methylmercury management practices and to identify potential positive and negative impacts of the methylmercury management practices. It is expected that the studies will identify design and operational features and other management practices that can be implemented so that it is possible to increase the acreage of Delta wetland habitat in a way that does not cause unintended methylmercury impacts.

Some stakeholders are concerned that the proposed fish tissue objectives do not protect subsistence fishers in the Delta. The recommended fish tissue objectives would allow pregnant and nursing women and children to eat one meal/week of large, commonly-consumed fish, and are protective of wildlife

species. Lower objectives may not be achievable given local geology and global atmospheric mercury deposition. The fish tissue objectives are to be re-evaluated at the end of Phase 1.

Since mercury levels will remain high in fish for some time, the proposed amendments include requirements designed to implement an Exposure Reduction Program. Staff and stakeholders must determine discharger involvement in the program, and are called up to develop a strategy and workplan. The proposed amendments contain schedules for this process.

RECOMMENDATION:

Staff recommends Board approval of environmental document and adoption of proposed Amendments.

Mgmt. Review \_\_\_\_\_  
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