

Appendix B. Abbreviations and Definitions

List of Abbreviations Used in the Staff Report

AB	Assembly Bill
ARB	California Air Resources Board
ATLs	Advisory Tissue Levels
BAF	bioaccumulation factor
Basin Plan	Regional Water Quality Control Plan
BCF	bioconcentration factor
BLM	Bureau of Land Management
BMPs	best management practices
BOG	Bioaccumulation Oversight Group
BW	body weight
C.F.R.	Code of Federal Regulations
Cal. Code of Regs.	California Code of Regulations
CALFED	California and Federal Bay-Delta Program
California tribes	California Native American tribes
Caltrans	California Department of Transportation
Caltrans Permit	Statewide Storm Water Permit Waste Discharge Requirements for State of California Department of Transportation
CAMLAG	California Abandoned Mine Lands Agency Group
CCCPWD	Contra Costa County Public Works Department
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CGP	Construction General Permit, also known as the General Permit for Discharges of Storm Water Associated with Construction Activity.
CIWQS	California Integrated Water Quality System database
CSFII	Continuing Survey of Food Intakes by Individuals
CWA	Clean Water Act
CTR	California Toxics Rule
dB	decibels
dBA	A-weighted decibels
DNQ	detected not quantified
DTSC	Department of Toxic Substance Control
DWQ	Division of Water Quality
ECHO	Enforcement and Compliance History Online database
EIR	Environmental Impact Report
ELAP	Environmental Laboratory Accreditation Program
eSMR	electronic Self-Monitoring Reports
FCG	fish contaminant goal

FCM	food chain multipliers
FI	fish intake rate for human fish consumption
FTC	fish tissue concentration
Hg	mercury
IGP	Industrial General Permit, also known as the Statewide General Permit for Storm Water Discharges Associated with Industrial Activities
Impaired Water Bodies	Water Bodies on the 303(d) List
ISWEBE	The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries
LA	Load Allocation
LID	Low Impact Development
Lmax	maximum noise emission levels
LOAEL	lowest observed adverse effect level
LTMS	long term management strategy
MATS	Mercury and Air Toxic Standards
MCL	maximum contaminant level
MDL	minimum detect limit
MeHg	methylmercury
MS4	municipal separate storm sewer system
NAL	Numeric Action Level
ND	non-detect
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OAL	Office of Administrative Law
ODEQ	Oregon Department of Environmental Quality
OEHHA	Office of Environmental Health Hazard Assessment
PCBs	polychlorinated biphenyls
POTW	publicly owned treatment works
ppm	parts per million
Pub. Resources Code	Public Resources Code
Regional Water Board	Regional Water Quality Control Board or Board
RfD	reference dose
RMPs	regional monitoring programs
RSC	relative source contribution
SAIC	Science Applications International Corporations
SB	Senate Bill
SED	Substitute Environmental Documentation
SFEI	San Francisco Estuary Institute
SIP	Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy)
SMARA	Surface Mining and Reclamation Act
SMARTS	Storm Water Multiple Application and Report Tracking System

State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
SWMPs	Storm Water Management Plans
SWPPP	Storm Water Pollution Prevention Plan
TL	trophic level
TLR	trophic level ratios
TMDL	Total Maximum Daily Load
TTWQ	Threat to Water Quality
U.S. EPA	United States Environmental Protection Agency
U.S.C	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VdB	vibration decibels
Wat. Code	California Water Code
Water Boards	the State Water Resources Control Board and the Regional Water Quality Control Boards
WDR	Waste Discharge Requirements
Wetlands Policy	Procedures for Discharges of Dredged or Fill Materials to Waters of the State
WLA	Waste Load Allocation

Scientific Unit Abbreviations Used in the Staff Report

cm	centimeter
fww	fresh wet weight
g/day	grams per day
mg/kg	milligrams per kilogram
mg/m ³	milligrams per cubic meter
MGD	million gallons per day
mm	millimeter
ng/L	nanograms per liter
µg/g	micrograms per gram
µg/L	micrograms per liter
µg/m ³	micrograms per cubic meter
µPa	micropascals

Beneficial Use Abbreviations Used in the Staff Report

AGR	Agricultural supply
AQUA	Aquaculture
ASBS	Preservation of Areas of Special Biological Significance
BIOL	Preservation of Biological Habitats of Special Significance

COLD	Cold Freshwater Habitat
COMM	Commercial and Sport Fishing
CUL	Tribal Traditional and Culture
EST	Estuarine Habitat
FISH	Subsistence Fishing
FLD	Flood Peak Attenuation/Flood Water Storage
FRSH	Fresh Water Replenishment
GWR	Groundwater Recharge
IND	Industrial Service Supply
LWRM	Limited Warm Freshwater Habitat
LREC-1	Limited Water Contact Recreation
MAR	Marine Habitat
MIGR	Migration of Aquatic Organisms
MUN	Municipal and Domestic Supply
NAV	Navigation
POW	Hydropower Generation
PROC	Industrial Process Supply
RARE	Rare, Threatened, or Endangered Species
REC 1	Water Contact Recreation
REC 2	Non-Contact Water Recreation
SAL	Inland Saline Water Habitat
SAL	Saline Water Habitat
SHELL	Shellfish Harvesting
SPWN	Spawning, Reproduction, and/or Early Development
SUB	Subsistence Fishing
T-SUB	California Native American Tribal Subsistence Fishing
WARM	Warm Freshwater Habitat
WET	Wetland
WILD	Wildlife Habitat
WQE	Water Quality Enhancement

Definitions

Areas with elevated mercury concentrations: There are five definitions for this term:

- 6) Areas located in the Coast Range mountains with naturally mercury-enriched soil or sediments with total mercury concentrations of 1 mg/kg or higher;
- 7) Areas located in an industrial area with soil or sediments with total mercury concentrations of 1 mg/kg or higher;
- 8) Areas located within historic mercury, silver, or gold mine tailings;
- 9) Areas located within historic hydraulic gold mining pits in the Sierra Nevada mountain range; or

10) Any other area(s) as determined by the Water Boards in the applicable order.

Bioaccumulation: A process in which an organism's body burden of a pollutant exceeds that of its surrounding environment as a result of chemical uptake through all routes of chemical exposure: dietary and dermal absorption and transport across the respiratory surface. This process takes place when the rate of intake of a substance is greater than the rate of excretion or metabolic transformation of the substance. This process leads to increasing concentrations of the contaminant in successive levels of the food chain, and the highest concentrations of the contaminant in the organisms highest on the food chain.

Bioaccumulation factor (BAF): The ratio of the concentration of a contaminant in the tissue of the organism to the concentration of the contaminant in the surrounding ambient water. BAFs are trophic-level-specific. A BAF can be used to estimate the concentration of the chemical in water (C_{water}) that corresponds to concentration of chemical in fish tissue (C_{tissue}) using the following equation:

$$BAF = \frac{C_{tissue}}{C_{water}}$$

Calendar Quarter: A period of time defined as three successive calendar months.

California Native American Tribe (California Tribe): A federally-recognized California tribal government listed on the most recent notice of the Federal Register or a non-federally recognized California tribal government on the California Tribal Consultation List maintained by the California Native American Heritage Commission.

Dissolved mercury (or filtered mercury): The portion of mercury that passes through a filter. Often the filter has an average pore size of 0.45 μm .

Dissolved methylmercury (or filtered methylmercury): The portion of methylmercury which passes through a filter. Often the filter has an average pore size of 0.45 μm .

Dry weight: The weight of a caught fish after the fish has desiccated (dried out). Dry weight does not include water that may have been in the fish's body when caught. Concentrations expressed as methylmercury in dry weight of fish are not equivalent and must be converted to concentration on a wet weight basis if being compared with the objectives and targets.

Fresh wet weight or wet weight (fww): In general, the weight of a caught fish when measured immediately after the fish has been caught and has not been allowed to dry. Fresh wet weight includes weight from water in the fish's body. For the purposes of the proposed Provisions, wet weight is defined as part of the format for expressing the concentration of methylmercury in fish tissue. The mercury water quality objectives are expressed as a mass of methylmercury per mass of fresh or "wet" fish tissue. Concentrations expressed as methylmercury in dry weight of

fish are not equivalent and must be converted to concentration on a wet weight basis if being compared with the objectives and targets.

Highest Trophic Level Fish: Either trophic level (TL) 3 or trophic level (TL) 4 fish, whichever is the highest trophic level in the water body that is caught during monitoring, assessment, or other studies, that meet applicable quality assurance requirements.

Inorganic mercury: Forms of mercury including elemental mercury and mercury salts and complexes, such as mercury chloride and mercury sulfide (cinnabar). Inorganic forms of mercury are less of a concern for toxicity than organic forms, such as methylmercury. However, inorganic mercury can be transformed into methylmercury in the natural environment.

Insignificant Discharges: NPDES discharges that are determined to be a very low threat to water quality by the Water Boards.

Lifeways: Any customs, practices, or art of a California Native American Tribe.

Mercury (or total mercury, Hg): All forms of mercury, including methylmercury, other organic forms, inorganic, and elemental mercury, including both the dissolved and non-dissolved forms. All of these forms of mercury are toxic. Both inorganic and elemental mercury can be methylated in the environment to form methylmercury.

Mercury Water Quality Objectives: The fish tissue mercury water quality objectives that are set forth in Appendix A, Chapter III.D.2.

Methylmercury (MeHg): An organic form of mercury that bioaccumulates in the food chain. It is the form most readily incorporated into biological tissues, and it is much more toxic to humans and wildlife than inorganic mercury. (Other organic forms of mercury exist, but exposure to them through environmental pathways is not significant.)

Municipal Separate Storm Sewer Systems (MS4s): In general, a sewer system owned or operated by a state or local government to convey and control storm water. MS4s are regulated by specific NPDES permits. The legal definition of an MS4 is set forth in 40 Code of Federal Regulations, section 122.26(b)(8).

Organic Mercury: Mercury compounds that contain carbon and hydrogen. This includes methylmercury, the most toxic form.

Provisions: The beneficial uses, the Mercury Water Quality Objectives, and the implementation of those water quality objectives as set forth in Appendix A, Chapters II, III and IV , respectively.

Publically Owned Treatment Works (POTWs): Facilities owned by a state or municipality that store, treat, recycle, and reclaim municipal sewage or industrial wastes of a liquid nature.

Reasonable Potential: A designation used for a waste discharge that is projected or calculated to cause or contribute to an excursion above a water quality standard.

Small disadvantaged communities: Municipalities with populations of 20,000 persons or less, or a reasonably isolated and divisible segment of a larger municipality encompassing 20,000 persons or less, with an annual median household income that is less than 80 percent of the statewide annual median household income.

Total methylmercury: Dissolved methyl mercury and non-dissolved methylmercury.

Trophic Level (TL): A hierarchical level in a food chain. The food chain represents a succession of organisms that eat other organisms and are, in turn, eaten themselves. The chain starts at trophic level 1 with primary producers and culminates with apex predators at trophic level 4 or 5, depending on the length of the food chain in the particular environment.

Trophic Level 1 Organisms (TL1): Organisms at the base of the aquatic food chain, primary producers, such as phytoplankton and bacteria.

Trophic Level 2 Organisms (TL2): Organisms such as zooplankton, benthic invertebrates and some small fish that consume primary producers or TL1 organisms.

Trophic Level 3 Fish (TL3): Fish that consume mainly zooplankton, benthic invertebrates, and small, phytoplankton-dependent fish. Species include rainbow and brook trout, blue gill, sunfishes, suckers, and bullhead. .

Trophic Level 4 Fish (TL4): Fish that consume TROPHIC LEVEL 3 fish and other aquatic organisms. Species include largemouth, smallmouth, spotted, and striped bass; brown and lake trout; catfish, and Sacramento pikeminnow.

Waste Discharge Requirement (WDR): Regulations pertaining to various categories of discharges to State waters. A WDR is equivalent to the term “permit” as defined in the Federal Water Pollution Control Act.

