

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2003-0105

APPLICABLE WATER QUALITY CONTROL PLANS
AND DEFINITIONS
FOR
DISCHARGES FROM IRRIGATED LANDS TO SURFACE WATERS

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED LANDS

The following information is provided to ensure that individual Dischargers and Coalition Groups are aware of the existing Water Quality Objectives contained in the Regional Board's Water Quality Control Plans (Basin Plans). This information is not a complete list. More specific Water Quality Objectives and implementations plans regarding discharges from agricultural lands are contained within these Basin Plans. This information will be used to assess and measure the impact of discharges of waste in irrigation water and stormwater from irrigated lands to surface waters under the terms and conditions of the Conditional Waivers and to develop a 10-year implementation program.

WATER QUALITY CONTROL PLANS

From the Water Quality Control Plans (Basin Plans) for the California Regional Water Quality Control Board, Central Valley Region:

The Sacramento River Basin and San Joaquin River Basin, Fourth Edition – 1998

The Tulare Lake Basin, Second Edition – 1995

Identical Water Quality Objectives for inland surface waters from both Basin Plans

The following are some of the applicable water quality objectives that relate to irrigated lands activities. For a complete list of the water quality objectives, refer to the Basin Plans. Also, please note that the Basin Plans are revised periodically.

Color - Water shall be free of discoloration that causes nuisances or adversely affects beneficial uses.

Sediment - The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Settleable Material - Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affects beneficial uses.

Suspended Material - Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Tastes and Odors – Waters shall not contain taste- or odor-producing substances in concentrations, that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

Toxicity - All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, and biotoxicity tests of appropriate duration or other methods as specified by the Regional Water Board. The Regional Water Board will also consider all material and relevant information submitted by the Discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the California Department of Health Services, the U.S. Food and Drug Administration, the National Academy of Sciences, the U.S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors shall not be less than that for the same water body in areas unaffected by the waste discharge, or, when necessary, for other control water that is consistent with the requirements for "experimental water" as described in *Standard Methods for the Examination of Water and Wastewater*, latest edition. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate; additional numerical receiving water quality objectives for specific toxicants will be established as sufficient data become available; and source control of toxic substances will be encouraged.

Turbidity - Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.

- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

Water Quality Objectives from the Sacramento River and San Joaquin River Basin Plan

Floating Material - Water shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.

Pesticides

- No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
- Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.
- Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.
- Pesticide concentrations shall not exceed those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.).
- Pesticide concentrations shall not exceed the lowest levels technically and economically achievable.
- Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

Where more than one objective may be applicable, the most stringent objective applies.

For the purposes of this objective, the term pesticide shall include: (1) any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever, or (2) any spray adjuvant, or (3) any breakdown products of these materials that threaten beneficial uses. Note that discharges of "inert" ingredients included in pesticide formulations must comply with all applicable water quality objectives.

Temperature - The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California* including any revisions. There are also temperature objectives for the Delta in the State Water Board's May 1991 *Water Quality Control Plan for Salinity*.

At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.

Temperature changes due to controllable factors shall be limited for the water bodies specified as described in the table below. To the extent of any conflict with the above, the more stringent objective applies.

In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

SPECIFIC TEMPERATURE OBJECTIVES

DATES

APPLICABLE WATER BODY

From 1 December to 15 March, the maximum temperature shall be 55°F.

From 16 March to 15 April, the maximum temperature shall be 60°F.

From 16 April to 15 May, the maximum temperature shall be 65°F.

From 16 May to 15 October, the maximum temperature shall be 70°F.

From 16 October to 15 November, the maximum temperature shall be 65°F.

From 16 November to 30 November, the maximum temperature shall be 60°F.

Sacramento River from its source to Box Canyon Reservoir; Sacramento River from Box Canyon Dam to Shasta Lake

The temperature in the epilimnion shall be less than or equal to 75°F or mean daily ambient air temperature, whichever is greater.

Lake Siskiyou

The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor above 68°F in the reach from Hamilton City to the I Street Bridge during periods when temperature increases will be detrimental to the fishery.

Sacramento River from
Shasta Dam to
I Street Bridge

Turbidity - For Folsom Lake and American River (Folsom Dam to Sacramento River), except for periods of storm runoff, the turbidity shall be less than or equal 10 NTUs. To the extent of any conflict with the general turbidity objective, the more stringent applies.

Water Quality Objectives from the Tulare Lake Basin Plan

Floating Material - Waters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Pesticides - Waters shall not contain pesticides in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (For the purposes of this objective, the term pesticide is defined as any substance or mixture of substances used to control objectionable insects, weeds, rodents, fungi, or other forms of plant or animal life.) The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the California Department of Health Services, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444- A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

In waters designated COLD, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, 18th Edition, or other equivalent methods approved by the Executive Officer.

Temperature - Natural temperatures of waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California, including any revisions.

Elevated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

Other Relevant Plans and Policies:

State Board Resources Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*

Plan for California's Nonpoint Source Pollution Control Program

DEFINITIONS

The following definitions apply to the Resolution, Conditional Waivers and Monitoring and Reporting Programs as the related to discharges from the Irrigated Lands as described in these documents.

1. Irrigated lands – Lands where water is applied for the purpose of producing crops, including field and tree crops, For the purpose of this Waiver, commercial nurseries, nursery stock production, managed wetlands and rice production are considered irrigated lands.
2. Irrigation return flow – Surface and subsurface water which leaves the field following application of irrigation water.
3. Tailwater – The runoff of irrigation water from the lower end of an irrigated field.
4. Operational spill – Irrigation water that is diverted from a source such as a river, but is discharged without being delivered to or used on an individual field.
5. Stormwater runoff – The runoff of precipitation from an irrigated field.

6. Subsurface drainage – Water generated by installing drainage systems to lower the water table below irrigated lands. This drainage can be generated by subsurface drainage systems, deep open drainage ditches or drainage wells.
7. Waters of the state – As defined in California Water Code section 13050. Any surface water or groundwater, including saline waters, within the boundaries of the state. This Resolution and Waiver regulate discharges from irrigated lands to surface waters.
8. Receiving waters - Surface waters that received discharges from irrigated lands.
9. Discharger - The owner and/or operator of irrigated lands that discharges irrigation tailwater, wastewater and/or stormwater to waters of the state.
10. Coalition Group - Any group of Dischargers and/or organizations that form to comply with this Waiver. Coalition Groups can be organized on a geographic basis or can be groups with other factors in common such as commodity groups.
11. Requirement of applicable water quality control plans - Water quality objective, prohibition, TMDL implementation plan, or other requirement contained in water quality control plans adopted by the Regional Board and approved according to applicable law. **Attachment A** may be revised periodically.
12. Monitoring - All types of monitoring undertaken in connection with determining water quality conditions and factors that may affect water quality conditions, including but not limited to, in-stream water quality monitoring undertaken in connection with agricultural activities, monitoring to identify short and long-term trends in water quality, active inspections of operations, management practice implementation and effectiveness monitoring.
13. Waste – As defined in California Water Code §13050. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers or whatever nature prior to, and for the purposes of, disposal. Waste specifically regulated by the Waiver includes: earthen materials, including soil, silt, sand, clay, rock; inorganic materials (such as metals, salts, boron, selenium, potassium, nitrogen, etc.); organic materials, such as pesticides that enter or threaten to enter into waters of the state. Examples of waste not specifically regulated under this Waiver include hazardous and human wastes.
14. All other terms shall have the same definitions as prescribed by the Porter-Cologne Water Quality Control Act (California Water Code Division 7), unless specified otherwise.

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