

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION**

**ATTACHMENT E TO ORDER R5-2013-XXXX  
DEFINITIONS, ACRONYMS & ABBREVIATIONS**

**WASTE DISCHARGE REQUIREMENTS GENERAL ORDER  
FOR  
DISCHARGES FROM IRRIGATED LANDS WITHIN THE CENTRAL VALLEY REGION  
FOR DISCHARGERS NOT PARTICIPATING IN A THIRD-PARTY GROUP**

The following definitions, acronyms and abbreviations apply to this Order as related to discharges of waste from irrigated lands. 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.

1. Antidegradation Policy—State Water Board Resolution 68-16, "*Statement of Policy with Respect to Maintaining High Quality Waters in California*," requires existing high quality water to be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of water, and will not result in water quality less than that prescribed in the Basin Plans. The Central Valley Water Board must require that discharges to high quality waters be subject to best practicable treatment or control of the discharge necessary to avoid pollution or nuisance and to maintain the highest water quality consistent with maximum benefit to the people of the state. Resolution 68-16 has been approved by the USEPA to be consistent with the federal anti-degradation policy.
2. Aquifer – A geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs (40 CFR Part 257.3-4).
3. Back flow prevention devices— Back flow prevention devices are installed at the well or pump to prevent contamination of groundwater or surface water when fertilizers, pesticides, fumigants, or other chemicals are applied through an irrigation system. Back flow prevention devices used to comply with this Order must be those approved by USEPA, DPR, DPH, or the local public health or water agency.<sup>1</sup>
4. Basin Plan – Central Valley Regional Water Quality Control Plan for the Sacramento River and San Joaquin River Basins or the Water Quality Control Plan for the Tulare Lake Basin depending on the location of the parcel(s) enrolled under this Order. The Basin Plan describes how the quality of the surface and groundwater in the Central Valley Region should be managed to ensure reasonable protection of beneficial uses. The Basin Plan includes beneficial uses, water quality objectives, and a program of implementation.

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<sup>1</sup> California Department of Public Health, Approved Backflow Prevention Devices List at <http://www.cdph.ca.gov/certlic/drinkingwater/pages/publications.aspx>. Requirements for backflow prevention for pesticide application are located in 6 CCR §6610.

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5. Certified Nitrogen Management Specialist – Certified nitrogen management plan specialists include Professional Soil Scientists, Professional Agronomists, Crop Advisors<sup>2</sup> certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS); or other specialist approved by the Executive Officer.
6. Degradation – Any measurable adverse change in water quality.
7. Exceedance – For the purposes of this Order, an exceedance is a reading using a field instrument or detection by a California state-certified analytical laboratory where the detected result indicates an impact to the beneficial use of the receiving water when compared to a water quality objective for the parameter or constituent. Exceedances will be determined based on available data and application of the appropriate averaging period. The appropriate averaging period may be defined in the Basin Plan, as part of the water quality criteria established by the USEPA, or as part of the water quality criteria being used to interpret a narrative water quality objective. If averaging periods are not defined as part of the water quality objective or the water quality criteria being used, then the Central Valley Water Board Executive Officer may use its best professional judgment to determine an appropriate period.
8. Farming Operation – A distinct farming business, organized as a sole proprietorship, partnership, corporation, limited liability company, cooperative, or other business entity that owns or operates irrigated lands.
9. Farm Operator – The person or entity, including, but not limited to a farm/ranch manager, lessee or sub-lessee, responsible for or otherwise directing farming operations in decisions that may result in a discharge of waste to surface water or groundwater. If a person or entity rents land to others or has land worked on shares by others, the person or entity is considered the operator only of the land which is retained for their own operation.
10. Fertigation – The process of applying fertilizer through an irrigation system by injecting the fertilizer into the irrigation water.
11. Groundwater – Water in the ground that is in the zone of saturation. The upper surface of the saturated zone is called the water table.
12. High Vulnerability Groundwater Area – The High Vulnerability Groundwater Area is comprised of the Department of Pesticide Regulation’s Groundwater Protection Areas; State Water Resources Control Board’s Hydrogeologically Vulnerable Areas; or an approved Groundwater Assessment Report prepared pursuant to a Central Valley Water Board third-party administered ILRP order.
13. Impaired water body – A surface water body that is not attaining water quality standards and is identified on the State Water Board’s Clean Water Act section 303(d) list.

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<sup>2</sup> Should the California Department of Food and Agriculture and the California Certified Crop Adviser’s establish a specific nitrogen management certification, any Certified Crop Adviser who certifies a nitrogen management plan must have a nitrogen management certification.

14. Irrigated lands – Land irrigated to produce crops or pasture for commercial purposes;<sup>3</sup> nurseries; and privately and publicly managed wetlands.
15. Irrigation return flow/runoff – Surface and subsurface water which leaves the field following application of irrigation water.
16. Management practices – A practice or combination of practices that is the most effective and practicable (including technological, economic, and institutional considerations) means of controlling nonpoint pollutant sources at levels protective of water quality.
17. Monitoring – Monitoring undertaken in connection with assessing water quality conditions, and factors that may affect water quality conditions. Monitoring includes, but is not limited to, water quality monitoring undertaken in connection with agricultural activities, monitoring to identify short and long-term trends in water quality, nutrient monitoring, active inspections of operations, and management practice implementation and effectiveness monitoring. The purposes of monitoring include, but are not limited to, verifying the adequacy and effectiveness of the Order’s requirements, and evaluating each Discharger’s compliance with the requirements of the Order.
18. Nonpoint source waste discharge– The Sacramento and San Joaquin River Basin Plan and the Tulare Lake Basin Plan state that “A nonpoint source discharge usually refers to waste emanating from diffused locations.” Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. The term "nonpoint source" is defined to mean any source of water pollution that does not meet the legal definition of "point source" in section 502(14) of the Clean Water Act. The Clean Water Act (CWA) defines a point source as a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel. Irrigated agricultural return flows and agricultural storm water runoff are excluded from the CWA’s definition of point source.
19. Nuisance – “Nuisance” is defined at section 13050 of the Water Code as “...*anything which meets all of the following requirements:*
  - (1) *Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.*
  - (2) *Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.*
  - (3) *Occur during, or as a result of, the treatment or disposal of wastes.*”

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<sup>3</sup> For the purposes of this Order, commercial irrigated lands are irrigated lands that have one or more of the following characteristics:

- The landowner or operator holds a current Operator Identification Number/ Permit Number for pesticide use reporting;
- The crop is sold to a third party including, but not limited to, (1) an industry cooperative, (2) harvest crew/company, or (3) a direct marketing location, such as farmers’ markets;
- The landowner or operator files federal taxes using federal Department of Treasury Internal Revenue Service Form 1040, Schedule F *Profit or Loss from Farming*.

20. Nutrient – Any element taken in by an organism which is essential to its growth and which is used by the organism in elaboration of its food and tissue.
21. Nutrient consumption – A total quantity of a nutrient taken up by crop plants. Expressed as nutrient mass per land area, i.e., pounds/acre, nutrient consumption is typically described on an annual or crop cycle basis. Nutrients are contributed and lost from cropland through various human and natural processes.<sup>4</sup> Considering nitrogen as an example, sources of nitrogen available for plant consumption include applied fertilizers (including compost and animal manures), nitrogen fixed from the atmosphere in the roots of leguminous plants, nitrogen released through the decomposition of soil organic matter and crop residues, and nitrogen applied in irrigation water. Nitrogen can be removed from the field in harvested material, returned to the soil through crop residue incorporation, incorporated into permanent structures of perennial crops, leached beyond the root zone in irrigation or storm water, released to the atmosphere through denitrification, volatilization or crop residue burning.
22. Off-property discharge – The discharge or release of waste beyond the boundaries of the agricultural operation or to water bodies that run through the agricultural operation.
23. Operation – see *Farming Operation*.
24. Operator – see *Farm Operator*.
25. Perched groundwater – Groundwater separated from an underlying body of groundwater by an unsaturated zone.
26. Pollution – Defined in Section 13050(l)(1) of the Porter-Cologne Water Quality Control Act as “...an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (A) The waters for beneficial uses. (B) Facilities which serve these beneficial uses.”
27. Receiving waters – Surface water or groundwater that receives or has the potential to receive discharges of waste from irrigated lands.
28. Requirements of applicable water quality control plans – Water quality objectives, prohibitions, total maximum daily load implementation plans, or other requirements contained in water quality control plans adopted by the Central Valley Water Board and approved according to applicable law.
29. Storm season (wet season) – The portion of the year in which the majority of precipitation falls. Within the Central Valley, the storm season is the period of time between 1 October and 30 April each year, with the peak storm season typically occurring February through March.
30. Stormwater runoff – The runoff of precipitation from irrigated lands.

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<sup>4</sup> Descriptions of sources and losses of plant nutrients are available through UC Davis and UC Cooperative Extension. For example see Peacock, B. Pub. NG2-96, UCCE Tulare County <http://cetulare.ucanr.edu/files/82026.pdf>

31. Subsurface drainage – Water generated by installing and operating drainage systems to lower the water table below irrigated lands. Subsurface drainage systems, deep open drainage ditches, or drainage wells can generate this drainage.
32. Surface water – Water pooled or collected at or above ground level. Surface waters include, but are not limited to, natural streams, lakes, wetlands, creeks, constructed agricultural drains, agricultural dominated waterways, irrigation and flood control channels, or other non-stream tributaries. Surface waters include all waters of the United States and their tributaries, interstate waters and their tributaries, intrastate waters, and all impoundments of these waters. For the purposes of this Order, surface waters do not include water in agricultural fields.
33. Tailwater – The runoff of irrigation water from an irrigated field.
34. Total Maximum Daily Load (TMDL) - From the Code of Federal Regulations (CFR), 40 CFR 130.2(i), a TMDL is: “*The sum of the individual WLAs [wasteload allocations] for point sources and LAs [load allocations] for nonpoint sources and natural background. ... TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. ...*”.
35. Toxicity – Refers to the toxic effect to aquatic organisms from waste contained in an ambient water quality sample.
36. Unsaturated Zone – The unsaturated zone is characterized by pore spaces that are incompletely filled with water. The amount of water present in an unsaturated zone varies widely and is highly sensitive to climatic factors.
37. Vadose Zone – See unsaturated zone.
38. Waste – 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 of whatever nature prior to, and for purposes of, disposal as defined in California Water Code section 13050(d). Wastes from irrigated lands that conform to this definition include, but are not limited to, earthen materials (such as soil, silt, sand, clay, rock), inorganic materials (such as metals, salts, boron, selenium, potassium, nitrogen, phosphorus), organic materials such as pesticides, and biological materials, such as pathogenic organisms. Such wastes may directly impact beneficial uses (e.g., toxicity of metals to aquatic life) or may impact water temperature, pH, and dissolved oxygen.
39. Waste discharges from irrigated lands – The discharge or release of waste to surface water or groundwater. Waste discharges to surface water include, but are not limited to, irrigation return flows, tailwater, drainage water, subsurface (tile) drains, stormwater runoff flowing from irrigated lands, aerial drift, and overspraying of pesticides. Waste can be discharged to groundwater through pathways including, but not limited to, percolation of irrigation or storm water through the subsurface, backflow of waste into wells (e.g., backflow during chemigation), discharges into unprotected wells and dry wells, and leaching of waste from tailwater ponds or sedimentation basins to groundwater.

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A discharge of waste subject to the Order is one that could directly or indirectly reach waters of the state, which includes both surface waters and groundwaters. Direct discharges may include, for example, discharges directly from piping, tile drains, wells, ditches or sheet flow to waters of the state, or percolation of wastes through the soil to groundwater. Indirect discharges may include aerial drift or discharges from one parcel to another parcel and then to waters of the state. See also the definition for “waste”.

40. Waters of the State – Is defined in Water Code section 13050 as “*any surface water or groundwater, including saline waters, within the boundaries of the State.*”
41. Water Quality Criteria – Levels of water quality required under Section 303(c) of the Clean Water Act that are expected to render a body of water suitable for its designated uses. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes. The *California Toxics Rule* adopted by USEPA in April 2000 sets numeric water quality criteria for non-ocean waters of California for a number of toxic pollutants.
42. Water Quality Objectives – Defined in Water Code section 13050 as “limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specified area.” Water quality objectives may be either numerical or narrative and serve as water quality criteria for purposes of section 303 of the Clean Water Act.
43. Water Quality Standards – Provision of State or Federal law that consist of the designated beneficial uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the uses of that particular waterbody, and an anti-degradation statement. Water quality standards include water quality objectives in the Central Valley Water Board’s two Basin Plans, water quality criteria in the California Toxics Rule and National Toxics Rule adopted by USEPA, and/or water quality objectives in other applicable State Water Board plans and policies. Under Section 303 of the Clean Water Act, each state is required to adopt water quality standards.

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**Acronyms and Abbreviations**

2012 Farm Bill	Food, Conservation, and Energy Act of 2012
AMR	annual monitoring report
Basin Plan	<i>Water Quality Control Plan for the Sacramento and San Joaquin River Basins (4<sup>th</sup> Ed.)</i> and Water Quality Control Plan for the Tulare Lake Basin
BPTC	best practicable treatment or control
CAC	county agricultural commissioner
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CEDEN	California Environmental Data Exchange Network
Central Valley Water Board	California Regional Water Quality Control Board, Central Valley Region
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
COC	constituent of concern
CRHR	California Register of Historic Resources
CTR	California Toxics Rule
CV RDC	Central Valley Regional Data Center
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
CWC	California Water Code
DO	dissolved oxygen
DPH	California Department of Public Health
DPM	diesel particulate matter
DPR	California Department of Pesticide Regulation
DWR	California Department of Water Resources
EC	electrical conductivity
ECR	Existing Conditions Report
EDD	electronic data deliverable
EIR	environmental impact report
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
ESA	federal Endangered Species Act
ESI	Electronic Submittal of Information (Geotracker ESI)
FREP	Fertilizer Research and Education Program
FWQP	farm water quality plan
GeoTracker ESI	GeoTracker Electronic Submittal of Information Online System
GIS	Geographic Information System
GMAW	Groundwater Monitoring Advisory Workgroup
GPS	Global Positioning System
GWAP	groundwater action plan
GWPA	groundwater protection area
HAPs	hazardous air pollutants
ILRP	Long-Term Irrigated Lands Regulatory Program

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MDL	method detection limit
mg/L	milligrams per liter
MLD	most likely descendant
MMRP	mitigation monitoring and reporting program
MPEP	Management Practices Evaluation Workplan
MPN	most probable number
MRP	monitoring and reporting program
MWICR	Monitoring Well Installation Completion Report
MWISP	Monitoring Well Installation and Sampling Plan
NAD83	North American Datum 1983
NAHC	Native American Heritage Commission
NAVD88	North American Vertical Datum 1988
NMFS	National Marine Fisheries Service
NMP	Nitrogen Management Plan
NOA	Notice of Applicability
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NPS	nonpoint source
NPS Policy	State Water Board's Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
PAMs	polyacrylamides
PCPA	Pesticide Contamination and Prevention Act
PEIR	Long-Term Irrigated Lands Regulatory Program Final Program EIR (Final and Draft) (Certified by Resolution R5-2011-0017)
PRC	California Public Resources Code
PUR	Pesticide Use Report, CA DPR
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance and quality control
RL	reporting limit
RWD	report of waste discharge
SB	Senate Bill
SIP	<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of CA</i> (State Implementation Plan)
SM	Standard Methods
State Water Board	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
SWAP	surface water action plan
TAC	toxic air contaminant
TDS	total dissolved solids
TMDL	total maximum daily load

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TOC	total organic carbon
TST	Test of Significant Toxicity (USEPA method)
µS/cm	microsiemens per centimeter
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WDRs	waste discharge requirements

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