

Staff Report on Conditional Waiver of Waste Discharge Requirements for
Agricultural Wastewater Discharges and Discharges of Waste from Drain
Operation and Maintenance Activities
Originating within the Palo Verde Valley and the Palo Verde Mesa
Riverside and Imperial Counties, California



August 2, 2012

California Regional Water Quality Control Board
Colorado River Basin Region
Palm Desert, California

THIS PAGE LEFT BLANK INTENTIONALLY

Table of Contents

LIST OF FIGURES AND TABLES.....	4
LIST OF ABBREVIATIONS.....	5
CONDITIONAL WAIVER DEFINITIONS	7
I. INTRODUCTION.....	11
II. REGULATORY BACKGROUND AND OVERVIEW.....	14
A. Water Quality Laws.....	14
B. Responsible Parties.....	15
C. Beneficial Uses of Waters in the Palo Verde Valley and Palo Verded Mesa.....	16
D. The History of NonPoint Source ollution Regulation.....	18
E. Regulatory Alternatives.....	19
III. PALO VERDE VALLEY AND MESA, IRRIGATION AND DRAINAGE SYSTEMS .	21
A. Project Area	21
B. Irrigation Canals and Drain Maintenance Operations	21
C. Hydrogeologic Conditions	25
IV. AREAL WATER QUALITY.....	27
A. Baseline Water Quality	27
B. Water Quality Impairments	28
V. CONDITIONAL WAIVER.....	30
A. Waiver Overview.....	30
B. Waiver Conditions for Individual Compliance Programs	32
C. Waiver Conditions for the PVID Coalition Group.....	33
D. Waiver Conditions for Other Coalition Groups	35
E. Regional Water Board Compliance Assurance and Enforcement.....	36
VI. ECONOMIC ASSESSMENT	38
B. Task Cost Estimates.....	38

C. Estimated Cost for Compliance Programs 40

D. State Annual Fees for Waivers for Irrigated Lands 41

VII. ATTACHMENTS..... 43

VIII. REFERENCES 44

LIST OF FIGURES AND TABLES

Figure 1 – Palo Verde Valley and Palo Verde Mesa	13
Table 1: Beneficial Uses.....	17
Table 2: PVID Crop Report	23
Table 3: Monthly Rainfall Totals (inches) at Blythe Airport.....	25
Table 4: Numeric Water Quality Objectives for PVID Drains.....	27
Table 5: PVID Sampling Data May 2005.....	28
Table 6: Cost Estimates for the PVID Coalition Group Compliance Program	40
Table 7: Cost Estimates for Individual Responsible Parties	41
Table 8: Cost Estimates for Individual Compliance Programs (i.e., Responsible Parties who choose not to join a group compliance program)	41

LIST OF ABBREVIATIONS

AMR	Annual Monitoring Report
Basin Plan	Water Quality Control Plan, Colorado River Basin – Region 7
40 CFR	Title 40 Code of Federal Regulations
CWA	Federal Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
DDT	Dichloro-Diphenyl-Trichloroethane
DMRP	Drain Monitoring and Reporting Program
DWQP	Drain Water Quality Plan
FRSH	Freshwater Replenishment
Mesa	Palo Verde Mesa
MOS	Margin of Safety
MSL	Mean Sea Level
MP	Management Practice
MPN	Most Probable Number
MRP	Monitoring and Reporting Program
NPS	Nonpoint Source
NPS Program Plan	Nonpoint Source Program Strategy and Implementation Plan, 1998-2013
OAL	Office of Administrative Law
OEHHA	Office of Environmental Health Hazard Assessment
O&M	Operation and Maintenance
NPS Policy	Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program
Porter-Cologne	Porter-Cologne Water Quality Control Act
Program(s)	NonPoint Source Pollution Control Program(s)
PVID	Palo Verde Irrigation District
PVOD	Palo Verde Outfall Drain
Valley	Palo Verde Valley
QAPP	Quality Assurance Project Plan
RARE	Preservation of Rare, Threatened, or Endangered Species
REC I	Water Contact Recreation
REC II	Water Non-Contact Recreation
Regional Water Board	Colorado River Basin Regional Water Quality Control Board
RWQCB	Regional Water Quality Control Board
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency

USGS	United States Geological Survey
WARM	Warm Freshwater Habitat
WILD	Wildlife Habitat
WDRs	Waste Discharge Requirements
WQMP	Water Quality Management Plan
WQs	Water Quality Standards

CONDITIONAL WAIVER DEFINITIONS

Unless otherwise specified below, all terms used in the Conditional Waiver have the same definition as that set forth in Division 7 of the California Water Code.

“Agricultural Wastewater” is a waste and is defined as including: 1) storm water runoff from irrigated lands; and 2) irrigation return water, which includes surface discharges (also known as "tailwater") and subsurface discharges (known as "tile water" in tiled areas, and groundwater or "seepage" in areas not tiled). This waste can contain constituents at concentrations that may adversely impact water quality and the beneficial uses of the waters of the state.

“Agricultural Discharger” means the owner, renter/lessee, and operator/grower of irrigated agricultural land in the Palo Verde Valley and/or Palo Verde Mesa who discharges, has the potential to discharge, or proposes to discharge waste, which could directly or indirectly affect the quality of waters of the state.

“Agricultural and Drain Maintenance Dischargers” are dischargers of waste and thus, are parties responsible for complying with this Conditional Waiver pursuant to the CWC (Responsible Parties).

“Annual Monitoring Report (AMR)” is a monitoring report that is submitted annually by designated management entities of Compliance Programs. The AMR describes the monitoring program, the results of the data collected, and data evaluation of those results. See Attachment B for a description of the required contents of an AMR.

“Annual Report” is a report that is submitted annually by designated management entities of Compliance Programs, which describes the Compliance Program’s progress for the year and includes an updated Group/Individual Water Quality Management Plan (WQMP), technical assistance workshops planned, conducted and/or attended, monitoring results, any proposed changes that need to be made to the Compliance Program Plan, and similar pertinent information.

“Basin Plan” is the Water Quality Control Plan for the Colorado River Region, which has been adopted pursuant to the requirements specified in Article 3, Chapter 4, Division 7 of the Water Code (commencing with Section 13240). Basin plans identify surface water and groundwater bodies within each Regional Water Board’s boundaries and establish, for each region, their respective beneficial uses and water quality objectives.

“Chain of Custody (COC)” is the chronological documentation, and/or paper trail, showing the custody, control, transfer, analysis, and disposition of samples (typically water samples).

“Coalition Group” means any group of dischargers and/or organizations that forms to comply with this Conditional Waiver. Coalition Groups can be, but are not limited to, organizations formed on a geographical or other basis, such as growing similar types of crops.

“Compliance Program” means a nonpoint source pollution control program, as defined in the State Water Resources Control Board’s “State Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program,” which specifies Management Practices and monitoring and reporting requirements to ensure compliance with this Conditional Waiver. A Compliance Program may be a Coalition Group Compliance Program or an Individual Compliance Program. A Coalition Group Compliance Program is one that has been developed by Responsible Parties that have formed their own compliance group for self-management or have joined the compliance group to be organized and managed by Palo Verde Irrigation District. An Individual Compliance Program is one that has been developed by an individual Responsible Party who chooses not to join a Coalition Group.

“Drain Maintenance Discharger” means any individual or entity that conducts drain operation and maintenance activities in the Palo Verde Valley and/or Palo Verde Mesa, which discharges, or has the potential to discharge, wastes that could directly or indirectly affect the quality of waters of the state.

“Drain Monitoring and Reporting Program (Drain MRP)” is a program that specifies monitoring and reporting requirements designed to evaluate the water quality impacts caused by drain cleaning and maintenance operations in the agricultural drains.

“Drain Water Quality Plan” is a self-determined plan to control water quality impacts caused by agricultural drain maintenance operations. See Attachment B for a description of the required contents of a DWQP.

“Impaired Water Bodies” are surface water bodies or segments thereof that have been identified on a list as not meeting current water quality standards. The list of such impaired water bodies is developed and approved by the State Water Resources Control Board and the U.S. Environmental Protection Agency in accordance with the requirements of Section 303(d) of the federal Clean Water Act.

“Irrigated Lands” are farm lands where water is applied to produce crops, including, but not limited to, land planted in row, vineyard, pasture, field and tree crops.

“Leaching requirement” is that portion of the irrigation water applied to a crop which is required to pass through the root zone to control soluble salt levels around the crop’s root zone at a desired level.

“Monitoring and Reporting Program (MRP)” is a program containing monitoring and reporting requirements that is developed pursuant to a Group or Individual Compliance Program. Monitoring requirements of specified constituents of concern are established in a manner that would allow for a determination to be made whether (1) Management Practices are properly designed and implemented, (2) Water Quality Objectives are being met, and (3) Responsible Parties are in compliance with the terms and conditions of the Conditional Waiver. See Attachment B for a description of the required contents of an MRP.

“Pollutant” has the same meaning as defined in the federal Clean Water Act, Section 502(6) (33 U.S.C. § 1362(6)); i.e., dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

“Quality Assurance Project Plan (QAPP)” is a plan that identifies the Quality Assurance (QA) and Quality Control (QC) procedures to be followed to ensure that a Monitoring and Reporting Program meets its stated objectives, including obtaining data of known quality. See Attachment B for a description of the required contents of a QAPP.

“Regional Water Board” is the California Regional Water Quality Control Board, Colorado River Basin.

“State Water Board” is the State Water Resources Control Board.

“Total Maximum Daily Load (TMDL)” is the calculated amount of pollutant a receiving water body can receive from point sources and non-point sources of pollution without causing that water body to exceed applicable Water Quality Standards. Section 303(d)(1) of the Clean Water Act requires each State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are adopted as Basin Plan amendments.

“Waste” is defined as including sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with the human habitation, or of human or animal origin, or from producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal (Wat. Code, § 13050(d)).

“Waste Discharge Requirements (WDRs)” are requirements that are prescribed in a permit, issued pursuant to Water Code Sections 13260 and 13263 for a discharge of waste that could affect the quality of waters of the State. WDRs specify effluent limitations, monitoring and reporting requirements, and other requirements that the discharger must satisfy in order to be permitted to discharge.

“Waters of the state” is defined to mean any surface water or groundwater, including saline waters, within the boundaries of the state. (Wat. Code, §13050(e))

“Water Quality Management Plan (WQMP)” is a self-determined plan for controlling agricultural wastewater discharges. See Attachment B for a description of the required contents of a WQMP.

I. INTRODUCTION

This staff report describes a proposed Conditional Waiver of Waste Discharge Requirements (WDRs). The intent of the Conditional Waiver is to ensure agricultural wastewater discharges and discharges of wastes from drain maintenance in the Palo Verde Valley (Valley) and Palo Verde Mesa (Mesa), occur in a manner that does not adversely affect the beneficial uses defined in the Basin Plan for the Palo Verde Valley Drains, and the Palo Verde Valley Lagoon and Outfall Drain. Accordingly, the proposed Conditional Waiver establishes conditions for agricultural wastewater discharges originating within the Valley and Mesa (hereafter jointly referred to as “area”). The Conditional Waiver also establishes conditions for drain maintenance discharges that occur as a result of drain operation and maintenance (O&M) activities, and it becomes effective and is enforceable after adoption by the Regional Water Board. In accordance with state laws, duly noticed public comment periods and public hearings have been provided by the Regional Water Board.

Background and Context

At its January 20, 2011 meeting, the Regional Water Board approved an amendment to its Basin Plan, which established a Conditional Prohibition to regulate: (1) agricultural wastewater discharges from irrigated agricultural lands in the Palo Verde Valley and Palo Verde Mesa into Palo Verde Irrigation District (PVID) drains; and (2) the potential water quality impacts from O&M of PVID drains to ensure that such discharges and O&M activities do not violate Basin Plan water quality standards for the above-mentioned waters.

Basin Plans and Basin Plan amendments must be approved by the State Water Board before they can become effective (Wat. Code § 13245). Therefore, the Regional Water Board submitted the Conditional Prohibition Basin Plan Amendment (BPA) to the State Water Board for its review and approval. However, at its meeting on January 10, 2012, the State Water Board disapproved the Conditional Prohibition BPA and remanded it to the Regional Water Board (State Water Board Resolution No. 2012-0004). The State Water Board explained that while the proposed regulatory regime for irrigated agricultural discharges in the area would impose requirements comparable to other regional water boards’ conditional waivers for irrigated agriculture, it would result in a disparate fee structure for agricultural discharges from different regions. The State Water Board clarified during the meeting that as a result of state funding source changes, water board programs would need to be self-supporting. In addition, it explained that because statutory authority was provided only for Waste Discharge Requirements (WDRs) and waivers of WDRs, no fees could be assessed from the proposed Conditional Prohibition to support its implementation. Accordingly, the State Water Board directed the Regional Water Board to adopt WDRs or a Waiver of WDRs in lieu of, or in addition to, the proposed Conditional Prohibition for agricultural wastewater discharges. To comply with the State Water Board’s directives, the Regional

Water Board has elected to regulate the agricultural and drain O&M discharges in the area through a Conditional Waiver of WDRs in lieu of the proposed Conditional Prohibition.

Most agricultural wastewater discharges in the area are collected in open drains dug at least one foot below groundwater levels of adjacent fields. These drains are tributary to the Palo Verde Outfall Drain, which discharges into an old channel of the Colorado River. This old channel flows for eight miles before joining the active River channel in the Cibola National Wildlife Refuge, about one mile above Cibola Lake.

Pursuant to the conditions of the proposed Conditional Waiver, Responsible Parties would be required to implement management practices (MPs) that address the potential and actual impacts that their agricultural wastewater and drain maintenance discharges have on water quality. As such, the proposed Conditional Waiver establishes:

- Conditions/requirements for any entity with an existing or potential agricultural wastewater discharge in the area,
- Conditions/requirements for Palo Verde Irrigation District (PVID) and any individual who operates and maintains drains that cause a discharge of wastewater or wastes, or both, and
- Designated requirements for Compliance Programs.

The proposed Conditional Waiver does not prohibit drain O&M activities, does not limit the quantity of agricultural wastewater discharges released into drains (and ultimately into the Colorado River), and does not regulate or restrict the amount of water applied to private lands for agricultural purposes, such as to furrows, beds, and other ancillary structures. This report describes the proposed Conditional Waiver, regulatory framework, hydrogeologic setting, and rationale for the provisions of the Conditional Waiver. Figure 1, below, shows the Palo Verde Valley and Palo Verde Mesa.

II. REGULATORY BACKGROUND AND OVERVIEW

A. WATER QUALITY LAWS

Division 7 of the California Water Code, the Porter-Cologne Water Quality Control Act (Porter-Cologne) (California Water Code (CWC) § 13000 et seq.), is the main law governing water quality in California. The CWC designates the State Water Board and nine regional water boards as the state agencies with the primary responsibility for ground and surface water quality control in California. The regional water boards are responsible for protection of water quality within their statutorily designated jurisdictional boundaries (CWC § 13225(a)). The State Water Board is responsible for statewide water quality control policy (e.g., the Water Quality Enforcement Policy) and oversees all regional water boards. The CWC requires that activities and factors that may affect the quality of the waters of the state be regulated to attain the highest water quality which is reasonable (CWC § 13000).

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), as amended, is the governing law for protecting the quality of surface waters of the United States. The U.S. Environmental Protection Agency (USEPA) has primary responsibility for discharging the provisions of the Federal Water Pollution Control Act (also referred to as the Clean Water Act). Pursuant to authority delegated by the USEPA, however, California implements Clean Water Act (CWA) requirements through the provisions set forth in Porter-Cologne. In addition, California's regulatory authority under Porter-Cologne for protecting waters goes beyond the USEPA's in that it regulates all "waters of the state," which are defined as "any surface water or groundwater, including saline waters, within the boundary of the state" (CWC § 13050(e)). One of the CWA surface water requirements that California implements is CWA Section 303(d)(1)(A). This statutory provision requires each State to:

- Identify those waters within its boundaries that do not comply with water quality standards applicable to such waters after the application of CWA-required technology-based effluent limitations;
- List those impaired water bodies (referred to as the "Section 303(d) List");
- Rank the impaired water bodies, taking into account factors such as the severity of pollution and the uses made of such waters; and
- Establish Total Maximum Daily Loads (TMDLs) for those pollutants causing the impairments to ensure that the impaired waters attain the water quality standards applicable to such waters.

As set forth in the CWA and its implementing regulations in Title 40 Code of Federal Regulations (40 CFR), a Water Quality Standard (WQS) defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the

water and by setting criteria necessary to protect those uses (CWA § 303; 40 CFR 130.3, 131.2, 131.10). The CWA also requires each State to establish and implement an anti-degradation policy (40 CFR 131.12). In the CWA, the terms of “beneficial uses” and “water quality objectives”, are equivalent to the CWA’s terms of “designated uses” and “water quality criteria,” respectively.

The State Water Board also promulgates through rulemaking statewide policies for protecting water quality and for implementing CWA requirements. One of the policies promulgated by the State Water Board that is relevant to this proposed Conditional Waiver is the “Water Quality Control Policy for Developing California’s Clean Water Act Section 303(d) List” (State Water Board, 2004). This policy, which was adopted in September 2004, provides guidance for listing and delisting impaired surface waters throughout the State.

B. RESPONSIBLE PARTIES

For the purposes of the Conditional Waiver, the term “Responsible Parties” means the entities specified below who are responsible for complying with the proposed Conditional Waiver:

- (1) farmland owners, renters/lessees, and operators/growers in the Palo Verde area who discharge or may discharge agricultural wastewater that could affect the quality of waters of the State; and
- (2) the PVID and individuals who conduct drain operation and maintenance (O&M) activities that could affect the quality of waters of the State.

The proposed Conditional Waiver establishes separate and distinct conditions that each of these two types of Responsible Parties must satisfy to be covered by the Conditional Waiver.

Most Responsible Parties regulated by the Conditional Waiver fall under the first category; Farm land Owners, Renters/Lessees, and Growers. Farm land owners have discretionary control of their land, and therefore are responsible for activities occurring on their property that threaten the quality of State waters. Similarly, farm land owners are ultimately responsible for addressing the impacts to water quality caused by renters/lessees of their property. Renters/lessees have day-to-day control of farming operations, and are responsible for pollution control as well.

PVID is the main entity in the second “Responsible Party” category because PVID is the drain management agency for the area. Although a few individuals maintain their own drains, such individual maintenance activities are uncommon. Drain O&M activities (by

PVID and individuals) are being regulated in this proposed Conditional Waiver because these activities may impact drain water quality.

C. BENEFICIAL USES OF WATERS IN THE PALO VERDE VALLEY AND PALO VERDED MESA

Pursuant to CWC Sections 13240 and 13241, Regional Water Boards are required to adopt basin plans and establish water quality objectives to protect beneficial uses designated for waters within each Regional Water Board's jurisdictional boundaries. The State Water Board formulates and adopts statewide policy for water quality control, and reviews decisions made by the Regional Water Boards, either on its own motion or pursuant to administrative appeal procedures set forth in Porter-Cologne (CWC § 13320).

The purpose of the Basin Plan is to provide guidelines and direction on the full scope of Regional Water Board activities that optimize the beneficial uses of state waters by preserving and protecting the quality of these waters. CWC Section 13241 requires each regional water board to establish water quality objectives in its Basin Plan. CWC Section 13050(h) defines "water quality objectives" as follows:

"Water quality objectives" means the 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 specific area.

Past, as well as present, and probable future, beneficial uses are statutorily required to be considered by the Regional Water Board when establishing water quality objectives (CWC § 13241(a)).

CWC Section 13050(f) defines "beneficial uses" as follows:

"Beneficial uses" of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Beneficial uses of Palo Verde Valley Drains, Palo Verde Lagoon and Outfall Drain, as identified in the Basin Plan, are provided in Table 1 below.

Table 1: Beneficial Uses	
Beneficial Use	Description
Water Contact Recreation (REC I)	Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs. However, the only REC I usage known to occur is from fishing activity.
Water Non-Contact Recreation (REC II)	Uses of water for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Warm Freshwater Habitat (WARM)	Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat (WILD)	Uses of water that support terrestrial ecosystems including but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.
Preservation of Rare, Threatened, or Endangered Species (RARE) (Applies to Lagoon and Outfall Drain only)	Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered. (Applies to Lagoon and Outfall Drain only)

Source: California Regional Water Quality Control Plan (Basin Plan) for the Colorado River Basin Region, as amended to date.

(http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basinplan_2006.pdf)

The Palo Verde Valley and Palo Verde Mesa are part of the Colorado Hydrologic Unit. The Basin Plan establishes municipal, agricultural, and industrial supply as the beneficial uses for groundwater in this Unit.

D. THE HISTORY OF NONPOINT SOURCE POLLUTION REGULATION

Historically, agricultural wastewater discharges were unregulated, even though pollutants from agricultural practices are the cause of most impairment to surface waters in the State. (2010 Staff Report for State's 303(d) List, available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml). In 1983, the nine regional water boards began regulating agricultural wastewater discharges along with twelve (12) other types of discharges, by issuing waivers pursuant to their waiver authority under CWC Section 13269. Regional water board practice was to routinely renew these waivers when their terms expired, if the waivers had an expiration date, but most did not have one.

This practice of having waivers without an expiration date and/or routinely renewing waivers that did have an expiration date ended in 1999, when Senate Bill 390 (Alpert) was signed into law. This bill amended CWC Sections 13269 and 13350. The amendment caused all waivers of waste discharge requirements (WDRs) existing on January 1, 2000, to expire on January 1, 2003, unless reviewed and renewed, if appropriate. At that time, the Regional Water Board reviewed its thirteen (13) categories of waivers and determined that it was appropriate to renew waivers for nine (9) categories. The waiver for agricultural discharges was allowed to expire, however, along with three (3) other waivers. Since then, agricultural discharges in the Valley and Mesa, among other areas in the Colorado River Basin Region, have been unregulated, even though CWC Section 13269 requires the Regional Water Board to regulate such discharges.

As amended, CWC Section 13269 authorizes the Regional Water Board to waive WDRs for a specific discharge or specific types of discharges if the following conditions are met: (1) the waiver is in the public interest, (2) the waiver is conditional, (3) waiver conditions include performance of individual, group, or watershed-based monitoring, except for discharges that the Regional Water Board determines do not pose a significant threat to water quality, (4) compliance with waiver conditions is required, and (5) a public hearing has been held. The term of a waiver cannot exceed five years, but the Regional Water Board can renew a waiver after holding a public hearing. The Regional Water Board may terminate a waiver at any time.

Pursuant to the requirements of CWC Section 13369(a)(2), the State Water Board adopted in 2000 a "Nonpoint Source Program Strategy and Implementation Plan, 1998-2013" (NPS Program Plan) to update the previous plan adopted in 1988, and to bring the State into compliance with the requirements of Section 319 of the CWA and Section

6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). This guidance document provides a single, unified, and coordinated approach for managing NPS pollution statewide that is flexible and adaptable over time. In 2004, the State Water Board adopted a “Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program” (NPS Policy). The NPS Policy describes how the NPS Program Plan will be implemented and enforced.

E. REGULATORY ALTERNATIVES

The NPS Policy provides three alternatives to regulate agricultural wastewater discharges: (1) Basin Plan Prohibitions, (2) Conditional Waivers of WDRs, and (3) WDRs. However, the State Water Board is presently revising the NPS Policy to ensure that waivers and/or WDRs are used to regulate irrigated lands. Further, in its remand to the Regional Water Board, the State Water Board made it clear that essentially only Conditional Waivers or WDRs are appropriate to regulate these discharges. The NPS Policy also requires that any Control Program established to comply with WDRs or waivers must address the following five (5) elements:

- Element 1: Statement of Goals/Purpose
- Element 2: Identification of Management Practices (MPs)
- Element 3: Time Schedule for Compliance
- Element 4: Surveillance Program
- Element 5: Consequences for Failure

Compliance Programs may be developed by a regional water board, an individual discharger, or a Coalition Group in cooperation with a third-party representative, organization, or government agency.

Relevant factors in determining whether a waiver is in the public interest include the following: whether the discharge is already regulated by a local governmental entity which must continue to play a major role in regulating that type of discharge; whether the Discharger is observing reasonable practices to minimize the deleterious effects of the discharge; whether a feasible treatment method exists to control the pollutants in the discharge; and whether conditionally waiving submittal of Reports of Waste Discharge (ROWDs) and/or WDRs will adequately protect beneficial uses while allowing the Regional Water Board to utilize more of its resources to conduct field oversight, public outreach and, where necessary, enforcement. Although local government entities do not regulate water quality impacts of agricultural operations in the area, these operations are subject to pesticide regulation and reporting. In addition, various public and private entities provide education and field assistance to growers so they implement management practices to prevent and address water quality impacts. These entities include various Resource Conservation Districts and the University of California Cooperative Extension.

The agricultural wastewater discharges and dredging activities in the Palo Verde Valley and Palo Verde Mesa are not currently regulated by any government agency. The proposed Conditional Waiver is preferred over WDRs because it achieves the necessary level of water quality protection that WDRs would for the waters in the area, but without the full regulatory oversight that WDRs would impose. Given the number of persons who discharge waste from irrigated lands and the magnitude of acreage involved, the Conditional Waiver also allows the Regional Water Board to more efficiently use and target its limited resources on discharges of wastes that pose a significant threat to water quality and/or are causing water quality problems, both of which require a full regulatory approach. This is in the best interests of the state.

The proposed Conditional Waiver requires implementation of management practices (MPs) to minimize water quality impacts. Reasonable management practices exist and are being implemented in Palo Verde Valley and Palo Verde Mesa that would enable Responsible Parties to comply with this Conditional Waiver. These MPs reduce the amount of wastes discharged, minimize runoff, and are more feasible and more effective than treatment methods. Attachment A lists and describes available MPs. This list is neither all inclusive nor prescriptive. Responsible Parties may select from the list or choose a combination of MPs for their farm operations, regardless of whether the MP is listed.

The adoption of the Conditional Waiver is also in the public interest because (1) it includes conditions that are intended to reduce and prevent pollution and nuisance and protect the beneficial uses of the waters of the state, (2) it establishes a comprehensive control program for protection of water quality in the Palo Verde Valley and Palo Verde Mesa, (3) it provides flexibility for the Agricultural Dischargers who seek coverage under the Conditional Waiver by providing them with the option of complying with monitoring requirements through participation in cooperative monitoring programs or individually, (4) requires Responsible Parties to comply with Basin Plan, and (5) promotes statewide consistency in dealing with agricultural runoff.

Water Code Section 13269(a)(4)(A) authorizes the Regional Water Board to include as a condition of a waiver the payment of an annual fee established by the State Water Board. The State Water Board has adopted regulations in Title 23, Division 3, Chapter 9, Article 1 (commencing with section 2200), which establish a fee schedule for agricultural waivers. The proposed Conditional Waiver requires each Agricultural Discharger who participates in a Coalition Group, or the Coalition Group itself on behalf of its participants, to pay an annual fee to the State Water Board in accordance with the fee schedule specified in Title 23, section 2200.6.

III. PALO VERDE VALLEY AND MESA, IRRIGATION AND DRAINAGE SYSTEMS

A. PROJECT AREA

Palo Verde Valley, California, straddles southern Riverside County and northern Imperial County. The Valley is bounded to the north by the Big Maria Mountains, to the west by Palo Verde Mesa, and to the south and east by the Colorado River. The Valley is relatively flat, nine (9) miles wide and thirty (30) miles long, and ranges from 290 feet above mean sea level (MSL) in the north, to 220 feet above MSL in the south. Soils are well-drained, fine-grained sand and loam alluvial deposits from the Colorado River.

The Mesa is divided into the upper and lower terraces that formed by flooding of the Colorado River. Soils comprise older alluvial deposits derived from adjacent mountains (Big Maria, McCoy, Mule, and Palo Verde Mountains), consisting of excessively drained to well-drained fine to gravelly sand, and loam (USDA1974). Aerial photographs (<http://www.flashearth.com>) show farming outside the Valley largely limited to the Mesa's lower terrace.

B. IRRIGATION CANALS AND DRAIN MAINTENANCE OPERATIONS

The Valley and Mesa have a canal delivery system and a drainage system for irrigated land. The systems are managed and administered by PVID. These systems service approximately 189 square miles (roughly 131,000 acres) of irrigated land in Riverside and Imperial Counties. Water from the Colorado River is diverted at Palo Verde Diversion Dam into 244.23 miles of open canals for crop irrigation. Canal operational spills, field runoff, and groundwater collect in 142 miles of open drains dug to a depth at least one (1) foot below the groundwater table, to prevent rising groundwater from interfering with or preventing cultivation. Most drains discharge into the Palo Verde Outfall Drain, which in turn discharges into a historic channel of the Colorado River, at a point two (2) miles south of the northern boundary of the Cibola National Wildlife Refuge, before this historic channel flows for another eight (8) miles to join the present river channel.

About 315 miles (or 72 percent) of privately owned ditches are concrete lined. Farmers in the Valley divert water from a canal through a gate operated by PVID onto fields for mostly gravity flood irrigation. PVID's gates are calibrated using a submerged orifice technique to determine the volume of water delivered at each location. When uniform germination is desired, sprinkler irrigation is used on crops such as lettuce, onions, and garlic, and in the late summer on alfalfa. Drip irrigation is used for citrus plantings in the Mesa area, and for other field crops in the Valley (PVID, 2005). Because water from the Colorado River contains soluble salts, the amount of water applied to fields must be sufficient to flush salts accumulating in the root zone, as well as supply water for crop

growth. This additional water is termed the 'leaching requirement'. Water needed to flush salts varies with soil type and the crop's stage of growth, but generally averages 15% of the amount required for crop evapotranspiration. Leaching salts from the root zone is necessary to maintain soils for cultivation. The excess irrigation water (i.e., 'leaching requirement') carries the soluble salts to groundwater which eventually flows into the drains and/or the Colorado River. As saline soils in the Valley and Mesa are reclaimed through salt leaching, more profitable crops are grown.

Landowners sometimes install field spill pipes into drains adjacent to fields to remove excess irrigation water from crops. Spill pipes are maintained by PVID. To control flow, PVID restricts pipe size to six inches in diameter, and the outfall slope to one foot of drop per 20 lineal feet. Generally, this limits the flow to about 2.3 cubic feet per second. However, in some cases, PVID has approved the installation of eight-inch diameter pipes. PVID requires spill pipes to be spaced at least 0.25 miles apart. Presently, about 300 active field spill pipes covering around 21,682 acres have been installed in the Valley. Not all spill pipes are used year-round. Generally, the only spill pipes used are those located on alfalfa fields to prevent scalding by standing water in the summer. Spill pipes are seldom used on other crop types unless the end of the field becomes submerged due to irrigator error (PVID, 2005).

Canal spillage, and ground and surface water draining from fields after irrigation and storms (i.e., agricultural wastewater discharges) collect into 142 miles of open channels, most of which discharge into the Palo Verde Outfall Drain, ultimately returning to the Colorado River at the lower end of the Valley. Although some drains are privately owned and maintained, most are owned and maintained by PVID. However, PVID does not have ownership of the property on which most of their drains are located. Rather, these drains are operated under a blanket easement, or by prescriptive rights (PVID, 2005).

In essence, methods for maintaining drains have not changed since the 1970's. PVID uses long-reach excavators to remove mud, placing the excavated material on the drain bank behind the excavator as the equipment moves downstream. If the excavator cannot reach the base of the drain, a dragline is used to open the area for flow. PVID's drain maintenance activities are authorized via the "Lower Colorado River Multi-Species Conservation Program" (LCR MSCP) of 2005 and its related environmental documents.

Drain channel maintenance is done on an as-needed basis per the LCR MSCP permit. Tules growing in drains are removed to restore flow, weeds on drain slopes are crushed, and large trees removed. From March 15th to August 1st, the breeding season for the Yuma Clapper Rail, Western Least Bittern, and California Black Rail, drain maintenance activities are suspended or minimized to the extent practicable. For some drains, maintenance is only required once every ten to fifteen years (PVID, 2005) due to landowner maintenance.

The 2004, 2005, and 2006 crop reports prepared by PVID (see Table 2, below) show a net cultivated acreage of 93,505, 93,547, and 93,702 acres respectively. PVID and the Metropolitan Water District of Southern California established an irrigated land Fallowing Program on January 1, 2005. The Program Contract Year extended from August 1st to July 31st. The calendar year average of monthly program values does not reflect if fields remained fallow after August 1st. Due to the year-round growing season and multi-cropping practices (i.e., the same acre of land producing two or more crops in one year), 119,737 acres of crops were grown. Table 2, below, shows crops grown, acreage used, and acreage under the Fallowing Program.

Table 2: PVID Crop Report¹			
	Calendar Year 2006	Calendar Year 2005	Calendar Year 2004
<i>Field Crops</i>			
Alfalfa	52811	47458	50376
Barley	220	27	333
Bermuda Grass	1704	1592	1963
Citrus	2000	2136	2137
Corn	672	429	334
Cotton-Short	13889	15087	22122
Grapes	61	0	0
Kanaf	0	0	10
Klein Grass	3456	2167	2645
Milo	399	0	0
MSCP	23	0	0
Oats	1485	680	1056
Orchard	52	15	15
Palm Trees	94	39	34
Rye	30	433	972
Sudan	2751	1198	3912
Timothy Grass	117	91	719
Wheat	1145	2820	8390
Subtotal	80,909	74,172	95,018
<i>Vegetables</i>			
Broccoli	1833	1143	1274
Cabbage	207	52	186
Cauliflower	0	35	17
Garlic	0	147	140
Lettuce-Spring	451	414	381
Lettuce-Fall	720	872	972

¹ Source: Palo Verde Irrigation District, July 2007.

Table 2: PVID Crop Report¹			
	Calendar Year 2006	Calendar Year 2005	Calendar Year 2004
Mixed Vegetables	7	33	2
Okra	0	8	46
Onions	0	108	188
Onions-Seed	0	10	13
Squash	87	122	169
Subtotal	3,305	2,944	3,388
<i>Melons</i>			
Cantaloupes	1158	1113	2309
Honeydews	439	579	637
Watermelons	271	234	359
Mixed Melons	1687	1186	2096
Subtotal	3,555	3,112	5,401
<i>Other Acreage</i>			
Fish Ponds	79	79	79
Fallow	29870	29208	2676
Idle or Diverted	2019	1869	1883
Subtotal	31,968	31,156	4,638
Gross Acreage	119,737	111,384	108,445
Less Second Crop Acreage			
Alfalfa	12500	6345	8168
Bermuda	159	173	18
Broccoli	1377	944	1274
Cabbage	149	52	103
Cauliflower	0	0	17
Cantaloupes	89	0	289
Corn	179	166	162
Cotton-Short	358	417	843
Fallow	5043	7897	0
Klein	1289	0	0
Milo	365	0	0
MSCP	23	0	0
Oats	1098	87	11
Onions	0	0	118
Rye	5	0	443
Squash	0	0	37
Sudan	2091	640	2232

	Calendar Year 2006	Calendar Year 2005	Calendar Year 2004
Timothy Grass	0	71	18
Lettuce-Fall	720	800	972
Honeydews	141	69	114
Mixed Melons	405	139	35
Wheat	44	37	86
Total Second Crop	26,035	17,837	14,940
Net Acreage	93,702	93,547	93,505
Fallowed	19970	22774	5526

C. HYDROGEOLOGIC CONDITIONS

Mean summer temperatures in the area range from 85° to 110° Fahrenheit. Precipitation typically averages four (4) or less inches per year, and evapotranspiration about 72 inches per year (USDA, 1974). Table 3, below, shows monthly rainfall totals measured at the Blythe Airport from 2000 to 2005, with a six (6) year average of 2.97 inches per year.

MONTH	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005
January	-0	0.81	-	0.11	0.02	1.55
February	0.08	0.67	0	1.08	0.57	2.83
March	0.38	1.55	0.04	0.28	0.81	0.21
April	-0	0.01	-0	0.08	0.06	0
May	-0	-0	-0	0	0	0
June	0.01	-0	-0	0	0	0
July	-0	-0	-0	0.06	0	0
August	1.03	-0	-0	0	0.02	1.35
September	-0	0	0.75	0.07	0.12	0
October	-0	-	0.04	0	1.02	0.85
November	-0	0.11	0.03	0.33	0.31	0
December	-0	0.03	-	0	0.57	0
Total	1.50	3.18	0.86	2.01	3.50	6.79

Data from the California Department of Water Resources indicate that the Palo Verde Valley Groundwater Basin is bounded on the east by the Colorado River, on the north by the Palo Verde Dam and the Big Maria Mountains, on the west by the Palo Verde Mesa, and on the south by the Palo Verde Mountains. The principal water-bearing deposits in this basin are alluvial, the Bouse Formation, and a fanglomerate deposit. The Palo Verde Mesa Groundwater Basin is bounded by nonwater-bearing rocks of the Big Maria and Little Maria Mountains on the north, of the McCoy and Mule Mountains on the west, of the Palo Verde Mesa on the east, and of the Palo Verde Mountains on the south. The northwest boundary and parts of the western boundary are drainage divides. Depth to groundwater in these two Basins varies from 160 to greater than 800 feet below ground surface (DWR, Groundwater Bulletin 118). Soils in the Palo Verde Valley are well-drained, fine-grained sand and loam alluvial deposits from the Colorado River. Soils in the Palo Verde Mesa are comprised older alluvial deposits derived from adjacent mountains (Big Maria, McCoy, Mule, and Palo Verde Mountains), consisting of excessively drained to well-drained fine to gravelly sand, and loam.

In the 1950's, when first-encountered groundwater² elevations were higher, some farmers installed tile systems beneath their fields that discharged into agricultural drains. Most of these systems were abandoned when the drains were deepened to lower the groundwater table; a process that began in 1962, when drain depths were extended at least one (1) foot below the water table to prevent rising groundwater from interfering with farming. As a result, first-encountered groundwater in the Valley currently occurs around 9.5 feet below the ground surface. The only tile systems operative today occur in the extreme southern end of the Valley, south of the town of Palo Verde. Considering depth to the groundwater of the above-mentioned Basins and farming practices in the area, the proposed Conditional Waiver establishes conditions that focus on preventing and addressing water quality impacts on first-encountered groundwater and Palo Verde Drains, the Palo Verde Lagoon, and the Palo Verde Outfall Drain.

² "First-encountered groundwater" is groundwater formed by Colorado River leakage and storm water and irrigation water that percolates the root zone.

IV. AREAL WATER QUALITY

A. BASELINE WATER QUALITY

The Basin Plan identifies the following numeric objectives for the Palo Verde Valley Drains and Palo Verde Outfall Drain:

Table 4: Numeric Water Quality Objectives for PVID Drains	
Constituent	WQO (units)
pH	6.0 - 9.0 (pH units)
Dissolved Oxygen	5.0 (mg/L)
Total Dissolved Solids	2000 annual average, 2500 maximum (mg/L)
E. coli	Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed a log mean of 126 MPN per 100 ml, nor shall any sample exceed 400 MPN per 100 ml.
Enterococci	Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed 33 MPN per 100 ml, nor shall any sample exceed 100 MPN per 100 ml.
fecal coliforms	Based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of the indicated bacterial densities should not exceed 200 MPN per 100 ml, nor shall nor shall any sample exceed 400 MPN per 100 ml.

From 2000 to 2003, the Regional Water Board conducted studies at key locations in the area to determine baseline water quality. The studies indicate turbidity, total suspended solids, pH and specific conductance do not exceed the numeric WQOs shown in Table 4, above. Further, water quality monitoring data collected by PVID in May 2005 at three locations (Attachment I, PVID's MRP Appendix I sites 1, 2, and 3), also show no exceedance in WQOs. Table 5, below, summarizes the PVID data.

Table 5: PVID Sampling Data May 2005			
Locations and Constituent Results	Intake Colorado River/Main Canal Sample #3	Eastside Drain @ Lovekin Blvd. Sample #2	Outfall Drain @ 35th Avenue Sample #1
pH (pH units)	8.0	7.6	7.8
Specific Cond. (umhos/cm)	1000	1600	2000
TSS (mg/L)	6	54	36
Nitrate as N (mg/L)	0.29	0.29	0.25
Nitrite as N (mg/L)	ND	ND	ND
Kjeldahl N (mg/L)	0.19	0.63	0.44
Total N (mg/L)	0.48	0.92	0.69
Ortho Phosphate (mg/L)	ND	0.11	ND
Total P (mg/L)	ND	0.17	0.11

Source: Palo Verde Irrigation District, May 2005

Based on the 2005 pesticide use data report (California Department of Pesticide Regulation, December 19, 2007), the following insecticides are used in the Palo Verde area: Chlorpyrifos, Malathion, Dimethoate, and Endosulfan. Individually or synergistically, these constituents can cause chronic or acute toxicity in aquatic organisms. Data collected under the Surface Water Ambient Monitoring Program for Palo Verde Outfall Drain indicate the presence of other pesticides, including DDE(p,p') Total, Diazinon, Dieldrin, Dimethoate (Total), Dioxathion, and Hydroxyatrazine 2-(Total). The pesticides in use and detected are water quality constituents of concern with the potential to impact receiving waters.

B. WATER QUALITY IMPAIRMENTS

As shown in Table 4, above, the Basin Plan establishes pathogen WQOs for surface waters using three bacteria indicator organisms: fecal coliforms, E. coli, and enterococci. These pathogen WQOs are mainly for the protection of water contact (REC-I) and water non-contact (REC-II) recreation. The Basin Plan also establishes a narrative WQO for chemicals, which states, in relevant part:

“No individual chemical Water Quality Criterion or combination of chemicals shall be present in concentrations that adversely affect beneficial uses....”
(Basin Plan - Colorado River Basin Regional Board, page 3-4, N. Chemical Constituents).

The Palo Verde Outfall Drain is listed as "impaired" on the 2010 CWA Section 303(d) List for the State because pathogen indicator bacteria (enterococci), Dichloro-Diphenyl-

Trichloroethane (DDT), and toxaphene violate WQOs that protect the following beneficial uses:

1. contact and non-contact water recreation (REC I and REC II);
2. warm freshwater habitat (WARM);
3. wildlife habitat (WILD); and
4. preservation of rare, threatened, or endangered species (RARE).

Regional Water Board staff collected water samples at different locations in Palo Verde Outfall Drain from 2000 to 2003 for pathogen indicator bacteria analysis. Data indicated no impairment for *E. coli*, but impairment for enterococci (Regional Water Board, 2005). To comply with Section 303(d) of the Clean Water Act, the Regional Water Board listed the Palo Verde Outfall Drain as “impaired by bacteria” and developed a Draft Total Maximum Daily Load (TMDL) and Implementation Plan to address this impairment.

USEPA guidance indicates that only one bacteria indicator organism (*E. coli*, or enterococci) needs to be designated as a pathogen indicator for fresh water bodies like Palo Verde Outfall Drain (USEPA, 1986). The Regional Water Board’s 2007 Triennial Review (Regional Water Board, 2008), proposed to amend the Basin Plan to reduce pathogen WQOs for surface waters from three indicators to one indicator for fresh waters (*E. coli*), and one indicator for saline waters (enterococci). The Draft TMDL and Implementation Plan for Palo Verde Outfall Drain are suspended until this pathogen Basin Plan amendment is completed. As a result, Palo Verde Outfall Drain remains listed as impaired for pathogens, given the noncompliance with the delisting criteria for fecal coliforms and enterococci.

In regard to the DDT impairment, the California 2010 CWA Section 303(d) List (State Water Board, 2010) indicates seventeen (17) of twenty-five (25) fish tissue samples from the Palo Verde Outfall Drain exceed the California Office of Environmental Health Hazard Assessment (OEHHA) Screening Value for DDT. Based on the 2004 303(d) Listing Policy, (State Water Board, 2004), this exceedance rate is sufficient to list for DDT impairment. Accordingly, the Regional Water Board will develop a TMDL and implementation plan to address DDT impairment in the Palo Verde Outfall Drain.

Similarly, regarding the toxaphene impairment, the California 2010 CWA Section 303(d) List (State Water Board, 2010), indicates that all of the three (3) fish tissue samples from the Palo Verde Outfall Drain exceed the OEHHA Screening Value for toxaphene. Based on the 303(d) Listing Policy, this exceedance rate is sufficient also to list for toxaphene impairment. DDT and toxaphene attach to charged silt particles and are transported into receiving waters mainly by tailwater. The proposed Conditional Waiver requires Responsible Parties to continue to implement management practices that address the DDT and toxaphene impairments.

V. CONDITIONAL WAIVER

A. WAIVER OVERVIEW

The proposed Conditional Waiver conditionally waives the submittal of ROWDs and waives WDRs for Responsible Parties in the Palo Verde Valley and Palo Verde Mesa. To obtain coverage under the Conditional Waiver, Responsible Parties must choose one of the two following options: (1) submit a Notice of Intent (NOI) to develop and implement an Individual Compliance Program to comply with the proposed Conditional Waiver, or (2) participate in a Coalition Group that submits a letter of intent to develop and implement a Coalition Group Compliance Program to comply with the Conditional Waiver. The Conditional Waiver establishes Eligibility Requirements and General Waiver Conditions.

Under option 1, above, the Responsible Parties must also: (a) prepare a Water Quality Management Plan (WQMP) and, if applicable, a Drain Water Quality Improvement Plan (DWQIP) for review and approval by the Regional Water Board, (b) conduct periodic water quality monitoring of the discharge and its receiving water(s), (c) prepare a Quality Assurance Project Plan for the proposed monitoring, and (d) submit annual monitoring reports to the Regional Water Board to ensure they are complying with the Conditional Waiver and ensure water quality is being protected. Regarding option 2, above, and as of the date of this report, only PVID has agreed to organize and manage a Coalition Group and develop and implement a Compliance Program to comply with this Conditional Waiver. PVID is also obtaining approval from the State Water Board to manage fee collection and payment for its Coalition Group.

Regardless of whether the Compliance Program is for an individual or for a Coalition Group, the Compliance Program must address the following five key elements of the NPS Policy:

- Element 1. Statement of Goals/Purposes** — The Compliance Program must specifically address NPS water quality problems and threats in a manner that achieves and maintains compliance with the Basin Plan's water quality objectives and beneficial uses, including the State Water Board's antidegradation requirements.
- Element 2. Identification of Management Practices (MPs)** — The Compliance Program must describe the MPs and other program elements to be implemented to ensure attainment of the implementation program's goals and purposes. The Compliance Program must also describe the processes used to: (1) select or develop MPs, and to (2) ensure and verify proper MP implementation.

Element 3. Time Schedule for Compliance — The Compliance Program must include a specific time schedule and quantifiable milestones to measure progress toward reaching the specified requirements.

Element 4. Surveillance Program — The Compliance Program must include a compliance monitoring and reporting program (MRP) so that the Regional Water Board, Dischargers/Responsible Parties, and the public can determine whether the Compliance Program is achieving its stated goals and purposes, or if additional or different MPs, or other actions, are required. Regional Water Board oversight provided will track and monitor compliance.

Element 5. Consequences for Failure — The Regional Water Board must specify in advance potential consequences for implementing inadequate or ineffective programs that fail to achieve their goals and purposes.

The proposed Conditional Waiver itself must also be and is consistent with the NPS Policy requirements. Its stated objective is to ensure that agricultural wastewater discharges and waste discharges from drain O&M activities do not violate Basin Plan water quality standards established for waters of the state in the area (Element 1). It requires implementation of MPs that effectively manage nutrients and pesticides, and improve irrigation efficiency and sediment control to improve and protect water quality. MPs exist and are already being implemented by Responsible Parties to protect water quality and address water quality impacts in the area. Attachment A lists and describes available MPs. This list is neither all inclusive nor prescriptive. Responsible Parties may select from the list or choose a combination of MPs for their farm operations, regardless of whether the MP is listed (Element 2). The Conditional Waiver establishes time schedules for development and implementation of Individual and Coalition Group Compliance Programs (Element 3). It also establishes monitoring and reporting requirements to determine compliance with the Conditional Waiver and ensure water quality is protected (Element 4). It also specifies consequences for failure, which are also described in detail in Section E of this report (“Regional Water Board Compliance Assurance and Enforcement”) and may include revising the program, or taking enforcement action (Element 5).

Individual and Coalition Group Compliance Programs must include the following components to satisfy the five elements of the NPS Policy:

- Water Quality Management Plans (WQMPs),
- Monitoring and Reporting Programs (MRPs),
- Drain Water Quality Plans (DWQPs), if applicable,
- Drain Monitoring and Reporting Programs (DMRPs), if applicable,
- Compliance with Designated Management Requirements, and

- Compliance assurance and enforcement policies specified by the Regional Water Board.

The following paragraphs describe the specific conditions that Individual, the PVID Coalition Group, and other Coalition Groups must satisfy to comply with the Conditional Waiver.

B. WAIVER CONDITIONS FOR INDIVIDUAL COMPLIANCE PROGRAMS

The proposed Conditional Waiver requires that any Agricultural Discharger who elects to develop an Individual Compliance Program must comply with the following:

1. **Within 30 days** following adoption of the Conditional Waiver, file with the Regional Water Board a complete NOI using Attachment C. Following review of the NOI, if the Executive Officer determines that coverage under this Conditional Waiver is appropriate for the Agricultural Discharger, the Executive Officer shall issue a Notice of Applicability (NOA) to the Agricultural Discharger. If coverage is not appropriate, the Executive Officer must inform the Agricultural Discharger in writing that coverage is not appropriate and request instead that the Agricultural Discharger file a ROWD for the proposed or actual discharge of waste.
2. **Within 120 days** following adoption of the Conditional Waiver, submit to the Regional Water Board the proposed:
 - a. Individual Water Quality Management Plan (WQMP) and Monitoring and Reporting Program (MRP). In this case, the MRP shall also include proposed monitoring to determine the quality and quantity of the wastes discharged; and, if applicable--
 - b. Individual Drain Water Quality Plan (DWQP) and Drain Monitoring and Reporting Program (DMRP).

Following approval, these documents become components of the Individual Compliance Program.

3. **Within 60 days** following approval of the Individual Compliance Program Plan(s), prepare and submit a Quality Assurance Project Plan (QAPP).
4. **Within 30 days** following QAPP approval, begin implementing the MRP and, if applicable, the DMRP.

5. **By March 1st of every year**, submit to the Regional Water Board an Annual Report. The Annual Report is for the previous calendar year (January 1 through December 31).

C. WAIVER CONDITIONS FOR THE PVID COALITION GROUP

PVID has committed to manage a Coalition Group Compliance Program. The scope of this management includes: developing program elements; outreach programs, and mechanisms to encourage and foster an effective self-determined approach to attain water quality objectives. To implement this program, PVID also has committed to provide every Farmer and Drain Maintenance Entity in its service area with information necessary to comply with the Conditional Waiver. Specific goals of the Group Compliance Program to be managed by PVID include:

- Coordinating an educational program to educate farmers on how to reduce pollutants leaving their fields,
- Coordinating workshops with local technical assistance agencies, and
- Cooperating with Regional Water Board staff to track and report MP effectiveness.

Further, PVID and Regional Water Board staff developed an MRP titled “Palo Verde Water Quality Monitoring Plan; August 2005” to assist farmers and the Regional Water Board to implement the now defunct Conditional Prohibition. The MRP is contained in Attachment I and is presently being revised by PVID to ensure it satisfies this Conditional Waiver. Notwithstanding PVID’s pending revision, the MRP addresses the first four (4) of the five (5) NPS Policy Elements previously described. Advantages for enrolling into PVID’s Group Compliance Program include: group monitoring and reporting, and the opportunity to participate in outreach and education events sponsored by PVID. In order for PVID to manage its Group Compliance Program in full compliance with the NPS Policy, the Conditional Waiver requires that PVID complete the following:

1. **Within 30 days** of adoption of the Conditional Waiver, file with the Regional Water Board a letter of intent to develop and implement a complete Coalition Group Compliance Program and obtain coverage under this Conditional Waiver for its group’s Agricultural Dischargers, their drain O&M activities (if any), and for PVID’s drain O&M activities.
2. **Within 30 days** of adoption of the Conditional Waiver, begin implementing the DWQP and DMRP that PVID prepared for its drain operation and maintenance activities and submitted to the Regional Water Board as an addendum to the its updated MRP.

3. **Within 60 days** of adoption of the Conditional Waiver, submit to the Regional Water Board a list with the names, address, and contact information for all PVID current customers who receive water for irrigated land; and the location and Assessor's Parcel Number (APN) of the irrigated land. To the extent that a particular customer has multiple water accounts with PVID for parcels with unique APNs, the list shall reflect that fact. The list shall be submitted in electronic format.
4. **Within 120 days** following adoption of the Conditional Waiver, file with the Regional Water Board the Coalition Group's proposed Compliance Program. The Compliance Program shall include, but needs not be limited to:
 - a) suggested format(s) to prepare Individual WQMPs and DWQPs, including deadlines for submittal;
 - b) a proposal to establish and maintain membership requirements, including forms and requirements to enroll group member applicants into the Program; and
 - c) outreach and education activities, and scheduled workshops to coordinate with technical assistance agencies; and
 - d) a map (scale 1" = 1000' or better) showing the Coalition Group's boundaries, PVID's main irrigation canals, and PVID's main drains.

Once approved, these documents and PVID's DWQP and DMRP become components of the PVID Coalition Group Compliance Program.

5. **Within 30 days** following approval of the Coalition Group's Compliance Program, begin implementing the approved Compliance Program and issue letters to all potential group members within the Coalition Group's boundaries within the Palo Verde Valley and Palo Verde Mesa that provide instructions on how to enroll into the PVID approved Compliance Program.
6. **Within 60 days** following approval of the Coalition Group's Compliance Program, submit: (a) a letter to the Regional Water Board certifying the Coalition Group has begun implementing the approved Compliance Program, and (b) a QAPP for approval.
7. **Within 30 days** following approval of the QAPP, begin implementing the rest of the Coalition Group's MRP, and submit to the Regional Water Board monitoring results within fourteen (14) days of receipt from the laboratory.
8. **Within 270 days** following approval of the Coalition Group's Compliance Program, submit to the Regional Water Board the Coalition Group's WQMP/DWQP in electronic and tabular format. The submittal must also include copies of all individual WQMPs/DWQPs.

9. **By March 1st of every year**, submit to the Regional Water Board an Annual Report for the Coalition Group. The annual report is for the previous calendar year (January 1 through December 31).

D. WAIVER CONDITIONS FOR OTHER COALITION GROUPS

The Conditional Waiver also establishes the following conditions for Dischargers of waste electing to either form and/or join other Coalition Groups:

1. **Within 30 days** following adoption of the Conditional Waiver, file with the Regional Water Board a complete NOI using Attachment D to obtain coverage under this Conditional Waiver for the Coalition Group's Agricultural and Drain Maintenance Dischargers.
2. **120 days** following adoption of the Conditional Waiver, submit the proposed Coalition Group's Compliance Program. The Compliance program must include:
 - a) name of the Coalition Group Compliance Program;
 - b) names and business addresses of the Coalition Group participants;
 - c) names, addresses, and phone numbers of group's primary contact(s) or representative(s);
 - d) suggested format(s) to prepare Individual WQMPs and DWQPs, including deadlines for submittal (if deadlines not prescribed by this Order);
 - e) a proposal to establish and maintain group membership requirements, including protocols to enlist;
 - f) outreach and education activities;
 - g) scheduled workshops to coordinate with technical assistance agencies; and
 - h) the Coalition Group's proposed MRP (including DMRP if applicable).

Once approved, these documents become components of the Coalition Group's Compliance Program.

3. **Within 30 days** following approval of the Coalition Group's Compliance Program, begin implementing the approved Compliance Program and submit a letter to the Regional Water Board certifying that it began implementing the program.
4. **Within 60 days** following approval of the Compliance Program, prepare and submit to the regional Water Board a QAPP.

5. **Within 30 days** following approval of the QAPP, begin implementing the Coalition Group's MRP, and submit and submit all monitoring results to the Regional Water Board within fourteen (14) days of receipt from the laboratory.
6. **Within 180 days** following approval of the Compliance Program, submit to the Regional Board the Coalition Group's WQMP/DWQP in electronic and tabular format. The submittal shall also include copies of all Individual WQMPs/DWQPs.
7. **By March 1st of every year**, submit to the Regional Water Board, an Annual Report. The Annual Report is for the previous calendar year (January 1 through December 31).

E. REGIONAL WATER BOARD COMPLIANCE ASSURANCE AND ENFORCEMENT

A regulatory system of checks and balances is necessary to ensure all Responsible Parties comply with the conditions of the waiver. Additionally, it is the intent of the Regional Water Board to hold public hearings at least once every two years to review the effectiveness of the Conditional Waiver, Coalition Groups and Individual Compliance Programs, and MPs; and evaluate compliance with applicable water quality objectives. The first public hearing is tentatively scheduled to be held within three (3) years from the date of adoption of the Conditional Waiver and will address the following:

- Monitoring results;
- Progress attaining milestones;
- Trends in implementation of MPs
- Modification/addition of MPs to control constituents of concern and baseline constituents;
- Possible development of site-specific water quality objectives and/or subcategories of water quality standards provided that Responsible Parties demonstrate full implementation of Compliance Programs and document MPs are properly implemented and maintained, and that additional controls will result in substantial and widespread economic harm or detrimental social impacts; and
- Enforcement actions taken or proposed to ensure compliance with the Conditional Waiver.

The consequences of noncompliance for Responsible Parties with approved Compliance Programs (other than PVID or other designated management entities) will be predictable and may be significant. Initially, staff enforcement efforts will focus on Responsible Parties who fail to enroll in a program, or fail to make an adequate attempt to meet their Compliance Plan development and reporting responsibilities, even though informed of the Conditional Waiver.

Enforcement options available to the Regional Water Board are clearly defined in the State Water Board's Water Quality Enforcement Policy. The Conditional Waiver provides for the Executive Officer to use any combination of the following actions to ensure water quality impacts identified by Compliance Programs or Regional Water Board staff are promptly and effectively corrected:

- a) Terminate coverage under the Conditional Waiver to any Individual or Coalition Group. Coverage termination shall be in writing, specify the effective date of coverage termination, describe the reason(s) for the termination, and specify additional potential enforcement actions that the Regional Water Board may take once coverage termination becomes effective.
- b) Require technical reports to correct violations or for additional water quality investigations pursuant to CWC Section 13267;
- c) Require submission of a ROWD pursuant to CWC Section 13260, so that the Regional Water Board may consider prescribing Waste Discharge Requirements, pursuant to CWC Section 13263, to Responsible Parties failing to comply with the requirements of an Individual or Coalition Group Compliance Program;
- d) Issue Administrative Civil Liability Complaints (ACLs), pursuant to CWC Sections 13226 against violators of CWC Sections 13261, 13264, or 13267; or violators of other Board directives.
- e) Issue cleanup and abatement enforcement orders pursuant to CWC Section 13304 to Responsible Parties who threaten or are causing water quality pollution or nuisance conditions;
- f) Refer recalcitrant violators of this Order to the District Attorney or Attorney General for criminal prosecution or civil enforcement.

Similar enforcement options are available to the Regional Water Board for PVID and other management entities failing to comply with the proposed Conditional Waiver. For example, grounds for formal enforcement action may include the management entity's failure to submit and implement a report addressing potential impacts from maintenance operations, or failing to achieve the goals and milestones specified in approved Compliance Programs.

VI. ECONOMIC ASSESSMENT

Even though it is not a statutory requirement for Conditional Waivers, this section provides cost estimates to comply with the Conditional Waiver. More specifically, this Economic Assessment describes the cost estimates for tasks associated with the generic key elements of Compliance Programs. The estimates also include the State annual fees for Conditional Waivers for irrigated lands. Significant uncertainties in several key areas of the program prevent the precise estimation of program costs, including: the number of discharger groups formed, the total number of monitoring sites required to evaluate exceedances of water quality objectives, the nature and extent of MPs required to address those exceedances, and the availability of federal, state, and local funding to offset monitoring and MP implementation costs.

B. TASK COST ESTIMATES

The following estimates apply to key tasks and activities of Individual and Coalition Group Compliance Programs.

1. Program Management:

Regional Water Board staff estimates that program management will require 200 person-hours per year at \$75 per hour. Therefore, the total annual cost for program management is \$15,000.

2. Write and develop a Coalition Group Compliance Program:

Regional Water Board staff estimates that development of a Coalition Group Compliance Program will require 80 person-hours at \$75 per hour. Each Coalition Group will be required to submit one Compliance Program. Therefore, the total cost for the writing and developing the Compliance Program is \$6,000.

3. Conduct Outreach and Education:

Regional Water Board staff estimates the outreach and education components of a Compliance Program will require 80 person-hours at \$75 per hour per year. Therefore, the total annual cost for the outreach and education tasks is \$6,000.

4. Write and develop a Drain Water Quality Plan (DWQP):

Regional Water Board staff estimates that each Individual DWQP will require 30 person-hours at \$75 per hour for the first year for a total of \$2,250. Annual revisions will require 10 person-hours at \$75 per hour for a total of \$750 per year after the first year.

- 5. Write and develop a Water Quality Management Plan (WQMP):**
Regional Water Board staff estimates that each Individual WQMP will require 30 person-hours at \$75 per hour for the first year for a total of \$2,250. Annual revisions will require 10 person-hours at \$75 per hour at \$750 per year after the first year.
- 6. Submit a Coalition Group WQMP and DWQP:**
Regional Water Board staff estimates that each Group WQMP/DWQP will require 20 person-hours at \$75 per hour for the first year for a total of \$1500. Annual revisions will require 15 person hours at \$75 per hour for a total of \$1,125 per year after the first year.
- 7. Submit an Annual Report:**
Regional Water Board staff estimates that each Annual Report will require 40 person-hours at \$75 per hour. Each Coalition Group and Individual Compliance Program will be required to submit one report annually. Therefore, the total annual cost for the Annual Report is \$3,000.
- 8. Write and develop a Monitoring and Reporting Program (MRP):**
Regional Water Board staff estimates that each MRP Plan will require 80 person-hours at \$75 per hour. Each Coalition Group and Individual Compliance Program will be required to submit one MRP Plan. Therefore, the total program cost for the MRP Plan is \$6,000.
- 9. Write and develop a Drain Monitoring and Reporting Program (DMRP):**
Regional Water Board staff estimates that each DMRP Plan will require 40 person-hours at \$75 per hour. Each Coalition Group and Individual Compliance Program will be required to submit one MRP Plan. Therefore, the total program cost for the MRP Plan is \$3,000.
- 10. Write and develop a Quality Assurance Program Plan (QAPP):**
Regional Water Board staff estimates that each QAPP will require 80 person-hours at \$75 per hour. Each Coalition Group and Individual Compliance Program will be required to submit one QAPP. Therefore, the total program cost for the QAPP is \$6,000.
- 11. Sampling:**
Regional Water Board staff estimates monthly and quarterly sampling costs at 12 person-hours per sampling event, and \$25 per person per hour. Therefore, the estimated staff cost per sampling event is \$300. Regional Water Board staff estimates mileage for field sampling and delivery to the lab to be 430 miles at \$0.55 per mile. Therefore, the estimated mileage cost per sampling event is \$236.50 and the total cost for both mileage and staff is \$536.50 per sampling event. The total annual sampling cost for twelve (12) required sampling events is \$6,438.00

12. Lab Analyses:

The cost estimate for analytical testing is based on information from commercial laboratory rates for testing constituents of concern included in PVID’s MRP. Regional Water Board staff estimates the cost of analysis per monthly sampling event at \$1,420 and quarterly sampling event at \$2,520.00. The total annual analysis cost for required sampling is \$21,440.00

13. Submit an Annual Monitoring Report (AMR):

Regional Water Board staff estimates that each AMR will require 40 person-hours at \$75 per hour. Each Group and Individual Compliance Program is required to submit one AMR annually. Therefore, the total annual cost for the AMR is \$3,000.

C. ESTIMATED COST FOR COMPLIANCE PROGRAMS

Regional Water Board staff analyzed costs for Compliance Program requirements for agricultural wastewater discharges and discharges of wastes from drain O&M activities for both Individual and Coalition Group Compliance Programs. The following tables summarize the estimated costs.

Table 6: Cost Estimates for the PVID Coalition Group Compliance Program³		
PVID Task	Estimated Annual Costs	
	First Year	Subsequent Years
Program Management	\$15,000	\$15,000
Write and develop a Group Compliance Program Plan	\$6,000	N/A
Conduct outreach and education	\$6,000	\$6,000
Write and develop a DWQP	\$2,250	\$750
Write and develop a DMRP as an addendum to the MRP titled “Palo Verde Water Quality Monitoring Plan”	\$3,000	N/A
Write and develop a QAPP	\$6,000	N/A
Conduct monthly and quarterly monitoring	\$27,878	\$27,878
Submit a group WQMP and DWQP	\$1,500	\$1,125
Submit an Annual Report	\$3,000	\$3,000
Submit an AMR	\$3,000	\$3,000
Total Estimated Costs	\$73,628.00	\$35,003.00

³ The cost estimates for any other Coalition Group are expected to be similar to the costs for the PVID Coalition Group.

Table 7: Cost Estimates for Individual Responsible Parties		
Individual Responsible Party Task	Estimated Annual Costs	
	First Year	Subsequent Years
Write and develop a WQMP	\$2,250	\$750
*Write and develop a DWQP	\$2,250	\$750
*Write and develop a DMRP	\$3,000	N/A
Total estimated costs	\$7,500.00	\$1,500.00

*These costs apply only to Responsible Parties that maintain their own private drains, and are in the PVID Coalition Group Compliance Program or a similar Coalition Group.

Table 8: Cost Estimates for Individual Compliance Programs (i.e., Responsible Parties who choose not to join a group compliance program)		
Individual Responsible Party Task	Estimated Annual Cost	
	First Year	Subsequent Years
Program Management	\$15,000	\$15,000
Write and develop a WQMP	\$2,250	\$750
*Write and develop and a DWQP	\$2,250	\$750
Write and develop a MRP	\$6,000	N/A
Write and develop a QAPP	\$6,000	N/A
Conduct monthly and quarterly monitoring	\$27,878	\$27,878
Submit an Annual Report	\$3,000	\$3,000
Submit an AMR	\$3,000	\$3,000
Total cost estimate	\$65,378.00	\$33,878.00

*These costs apply only to Responsible Parties that maintain their own private drains, and choose not to join a Group Compliance Program.

D. STATE ANNUAL FEES FOR WAIVERS FOR IRRIGATED LANDS

The State Water Board has adopted regulations in Title 23, Division 3, Chapter 9, Article 1 (commencing with Section 2200), which establish a tiered fee schedule for agricultural

waivers. The proposed Conditional Waiver requires each Agricultural Discharger who participates in a Coalition Group, or the Coalition Group itself on behalf of its participants, to pay an annual fee to the State Water Board in accordance with the fee schedule specified in Title 23, Section 2200.6. As of the date of this report, the above-mentioned fees are as follows:

Tier I: Dischargers who are members of an approved Coalition Group, which also has state approval to collect fees. The annual fee for the Coalition Group is \$100 plus \$0.56/acre surcharge. These fees would apply to the PVID Coalition Group.

Tier II: Dischargers who are members of an approved Coalition Group, but the Coalition Group does not have State Water Board approval to collect the fees. The annual fee for the Coalition Group is \$100/farm plus \$0.94/acre surcharge.

Tier III: Dischargers who are not members of an approved Coalition Group and instead file for coverage under the waiver as Individuals. The following annual fees apply to each of these Dischargers:

Acreage	Fee Rate	Minimum Fee	Maximum Fee
0 - 10	\$300 + \$10/Acre	\$300	\$400
11 - 100	\$750 + \$5/Acre	\$805	\$1,250
101 - 500	\$2,000 + \$2.5/Acre	\$2,253	\$3,250
501 or more	\$4,000 + \$2/Acre	\$5,002	\$6,500

VII. ATTACHMENTS

Attachment A: Available Management Practices

Attachment B: Document Contents

Attachment C: Notice of Intent for Individual Compliance Program

Attachment D: Notice of Intent to Obtain Coverage as a Member of a Coalition Group
Compliance Program

Attachment I: PVID's MRP

VIII. REFERENCES

Basin Plan. Water Quality Control Plan, Colorado River Basin – Region 7 (June 2006)
Colorado River Basin Regional Water Quality Control Board. Palm Desert, CA.
http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basin_plan_2006.pdf

California Regional Water Quality Control Board, Colorado River Basin Region, 2005.
Bacterial Indicators Total Maximum Daily Load and Implementation Plan for Palo Verde
Outfall Drain Riverside and Imperial Counties, California. California Regional Water
Quality Control Board, Colorado River Basin Region. Palm Desert, CA

California Department of Pesticide Regulation Report December 19, 2007. California
Pesticide Information Portal:
<http://calpip.cdpr.ca.gov/cfdocs/calpip/prod/main.cfm>

California Regional Water Quality Control Board, Colorado River Basin Region, 2008.
Final Draft 2007 Triennial Review List. California Regional Water Quality Control Board,
Colorado River Basin Region. Palm Desert, CA.
http://www.waterboards.ca.gov/coloradoriver/board_decisions/adopted_orders/resolutions/2008/res0013.pdf,

Palo Verde Irrigation District, July 7, 2005 Letter from Roger Henning to Sheila Ault.

Palo Verde Irrigation District, May 18, 2005 Memo from Roger Henning to Sheila Ault
with attached monitoring results.

Crop Report, Palo Verde Irrigation District, July 2007.
<http://www.pvid.org/CropReport/tabid/55/Default.aspx>

State Water Resources Control Board, 2000. Nonpoint Source Program Strategy and
Implementation Plan, 1998-2013 (Prosip). State Water Resources Control Board,
California Environmental Protection Agency. January 2000.
<http://www.waterboards.ca.gov/nps/5yrplan.html>

State Water Resources Control Board, 2004. Policy for Implementation and
Enforcement of the Nonpoint Source Pollution Control Program. State Water Resources
Control Board, California Environmental Protection Agency. May 20, 2004.
http://www.waterboards.ca.gov/water_issues/programs/nps/docs/oalfinalcopy052604.doc

State Water Resources Control Board, 2004. Water Quality Control Policy for Developing California's Clean Water Act Section 303(D) List. State Water Resources Control Board, California Environmental Protection Agency. September 2004.

State Water Resources Control Board, 2010 California Clean Water Act Section 303(d) List of Water Quality Limited Segments. State Water Resources Control Board, California Environmental Protection Agency. August 3, 2010.
http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml

USDA, 1974. Soil Survey of Palo Verde Area, California. United States Department of Agriculture, Soil Conservation Service. September 1974

USEPA, January 1986. Ambient Water Quality Criteria for Bacteria. EPA 440/5-84-002. USEPA, Washington, D.C.