CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

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waterboards.ca.gov/coloradoriver/

ORDER R7-2020-0026-04

Order Information

Dischargers:	Irrigated Agricultural Lands Dischargers in Coachella Valley
Coalition Group:	Coachella Valley Irrigated Lands Coalition
County:	Riverside County
Prior Order(s):	R7-2014-0046, R7-2019-0049

I, PAULA RASMUSSEN, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on November 12, 2020.

Originally signed by
PAULA RASMUSSEN
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER R7-2020-0026

GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF WASTE FROM IRRIGATED AGRICULTURAL LANDS
FOR DISCHARGERS THAT ARE MEMBERS OF A COALITION GROUP
IN THE COACHELLA VALLEY
RIVERSIDE COUNTY

The California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) hereby makes the following Findings:

1. Discharges from irrigated agricultural lands, including leaching or runoff of irrigation water and/or stormwater, may carry wastes, including but not limited to salts, nutrients, pathogens, sediments, and pesticides that can affect the quality of waters of the state.

2. The Coachella Valley, located in Riverside County, has approximately 54,000 acres of irrigated agricultural lands. Additionally, Coachella Valley contains approximately 21 miles of open agricultural drains. The Coachella Valley agricultural area is depicted in **Figures 1 and 2**.

3. Waters of the state are or may be affected by waste discharges from irrigated agricultural lands in the Coachella Valley including the following surface waters: the Coachella Valley Drains, the Coachella Storm Water Channel, and the Salton Sea. Additionally, groundwaters are or may be affected by these waste discharges, specifically the Whitewater Hydrologic Unit.

4. Water Code section 13260, subdivision (a)(1), requires that any person discharging wastes or proposing to discharge wastes (other than into a community sewer system), which could affect the quality of the waters of the state, must file a report of waste discharge (ROWD). The appropriate regional water board then prescribes requirements for the discharge or proposed discharge of wastes pursuant to Water Code section 13263. General waste discharge requirements may be prescribed for discharges produced by the same or similar operations, involving the same or similar types of wastes, and requiring the same or similar treatment standards. (Wat. Code, § 13263, subd. (i).)

5. This Order consists of general waste discharge requirements (General WDRs) regulating discharges of wastes from commercial irrigated agricultural lands in the Coachella Valley to prevent and address water quality impacts to waters of the state. These General WDRs regulate owners/operators of irrigated agricultural lands (collectively, Dischargers) with the potential to discharge waste

that may impact the quality of the waters of the state. This Order also establishes substantive and procedural requirements for third-party representatives formed to assist Dischargers to comply with this Order (Coalition Groups) and only regulates Dischargers who are also members of a Coalition Group.

6. Dischargers were previously regulated under Order R7-2014-0046, *Conditional Waiver of Waste Discharge Requirements for Agricultural Wastewater Discharges and Discharges of Waste from Drain Operation and Maintenance Activities Originating Within the Coachella Valley* (2014 Conditional Waiver). The 2014 Conditional Waiver was set to expire in 2019, but was renewed by Order R7-2019-0049 until June 26, 2020, and was further renewed by Order R7-2020-0020 until December 26, 2020. This Order supersedes the 2014 Conditional Waiver, except for enforcement purposes.

Scope and Applicability

7. This Order regulates discharges, potential discharges, or proposed discharges of waste from "Irrigated Agricultural Lands," which means lands irrigated to produce crops or pasture for commercial purposes, and includes but is not limited to, lands planted for row, vineyard, pasture, field and tree crops, and nurseries. This includes land for which any of the following are true:

    a. The landowner or operator holds a current Operator Identification Number/Permit Number for pesticide use reporting;

    b. The landowner or operator files federal taxes using federal Department of Treasury Internal Revenue Service Form 1040, Schedule F "Profit or Loss from Farming"; or

    c. The crop is sold, including but not limited to (1) an industry cooperative, (2) harvest crew/company, or (3) a direct marketing location, such as Certified Farmers Markets.

8. This Order only regulates discharges from Irrigated Agricultural Lands in the Coachella Valley, as depicted in Figure 1 of this Order.

9. Discharges regulated under this Order include surface water discharges (e.g., stormwater runoff, irrigation return water, tailwater) and subsurface discharges (e.g., tile water and groundwater seepage).

10. This Order only regulates landowners or operators[1] who are members of a Coalition Group. In order to be covered by this Order, the landowners or

[1] Because this Order regulates both landowners and operators, but does not require enrollment of both parties, the provisions of this Order require that the Coalition Group member provide notification to the non-member responsible party of enrollment under this Order.

operators must be members of a Coalition Group. Dischargers not represented by a Coalition Group must submit an ROWD to the Colorado River Basin Water Board and obtain individual WDRs from the Colorado River Basin Water Board.

11. This Order does not apply to the following:

    a. Discharges from Irrigated Agricultural Lands that are adequately regulated under other Colorado River Basin Water Board regulatory programs/permits, including but not limited to concentrated animal feeding operations (CAFOs), cannabis cultivation, parks, golf courses, and cemeteries.

    b. Discharges from agricultural activities not engaged in for profit, such as hobby growing or gardening.

    c. Discharges from Irrigated Agricultural Lands where all growing operations are conducted within buildings or in completely enclosed areas with no potential to discharge waste to waters of the state.

    d. Discharges regulated under National Pollutant Discharge Elimination System (NPDES) permits, pursuant to Clean Water Act section 402.

    e. Discharges of dredged or fill material regulated under Clean Water Act sections 401 and 404.

Definitions

12. “Irrigated Agricultural Lands” has the meaning set forth in Finding 7.

13. “Waste” means 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, subd. (d).)

14. “Waters of the state” means any surface water or groundwater, including saline waters, within the boundaries of the state. (Wat. Code, § 13050, subd. (e).)

15. “Discharger(s)” means the owner(s) or operator(s) of Irrigated Agricultural Lands who discharge, have the potential to discharge, or propose to discharge waste, which could directly or indirectly affect the quality of waters of the state.

16. “Coalition Group” means any third-party entity (e.g., group of Dischargers, nonprofit organization, government agency, etc.) that is formed to assist Dischargers to comply with this Order. Coalition Groups can be formed based on

a defined geographical area, watershed, or other appropriate grouping, such as growing similar types of crops.

17. "Compliance Program" means a nonpoint source pollution control program that requires the implementation of management practices and specifies the monitoring and reporting activities that will be performed to demonstrate compliance with this Order.

18. Unless otherwise specified, all terms used in this Order shall have the same definition as those set forth in division 7 of the Water Code.

Program Background

19. On January 20, 2011, the Colorado River Basin Water Board adopted Resolution R7-2011-0014 to amend the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan). The proposed amendment would have established a conditional discharge prohibition regulating agricultural discharges in the Palo Verde Valley and Palo Verde Mesa. Basin Plan amendments must be approved by the State Water Resources Control Board (State Water Board) before they become effective.

20. On January 10, 2012, the State Water Board disapproved the proposed Basin Plan amendment, in part because there were no fees associated with the discharge prohibition and the amendment would have resulted in a disparate fee structure for discharges from irrigated agricultural lands across the state. This action resulted in the Colorado River Basin Water Board's subsequent adoption of a waiver of waste discharge requirements for agricultural discharges in the Palo Verde Valley and Palo Verde Mesa, and directed the Board's approach to regulating the Irrigated Agricultural Lands program in the Colorado River Basin Region.

21. On June 26, 2014, the Colorado River Basin Water Board adopted the 2014 Conditional Waiver, which regulated discharges from irrigated agricultural lands in the Coachella Valley and included a requirement to pay state fees.

22. The Coachella Valley Irrigated Lands Coalition (CVIL Coalition) is a third-party group that was formed to assist dischargers who became members of the CVIL Coalition to comply with the 2014 Conditional Waiver. The CVIL Coalition obtained approval from the State Water Board to manage fee collection and payment on behalf of CVIL Coalition members. All dischargers that enrolled under the 2014 Conditional Waiver enrolled as members of the CVIL Coalition.

23. To comply with the 2014 Conditional Waiver and ensure attainment of water quality objectives, the CVIL Coalition developed a compliance program in which members were required to:

    a. Complete an individual Water Quality Management Plan (Farm Plan);

b. If applicable, complete an individual Drain Water Quality Management Plan (Drain Plan);

c. Install, implement, and maintain management practices that protect water quality from agricultural activities on every enrolled parcel;

d. Update parcel information as often as necessary (i.e., when leases or crops change, management practices are changed, etc.). At a minimum, parcel information was required to be reviewed and updated annually;

e. Attend outreach and education trainings organized by the CVIL Coalition; and

f. Pay dues to the CVIL Coalition to cover state fees.

24. The CVIL Coalition also developed a Monitoring and Reporting Program and a Quality Assurance Project Plan, both of which were approved by the Colorado River Basin Water Board's Executive Officer, and pursuant to which the CVIL Coalition monitored water quality and reported on behalf of the members of the CVIL Coalition.

25. On June 13, 2019, the Colorado River Basin Water Board adopted Order R7-2019-0049, *Short-term Renewal of Order R7-2014-0046*, which renewed the 2014 Conditional Waiver through June 26, 2020. No other terms of the 2014 Conditional Waiver were changed.

26. On June 24, 2020, the Colorado River Basin Water Board adopted Order R7-2020-0020, *Short-term Renewal of Order R7-2014-0046*, which further renewed the 2014 Conditional Waiver through December 26, 2020. No other terms of the 2014 Conditional Waiver were changed.

27. On February 7, 2018, following a lengthy public hearing, the State Water Board adopted revisions to the Central Valley Regional Water Quality Control Board's (Central Valley Water Board) *Waste Discharge Requirements General Order for Growers Within the Eastern San Joaquin River Watershed that are Members of the Third-Party Group* in Order WQ 2018-0002 (Eastern San Joaquin Order). The State Water Board's order establishes a model for all regional water boards to follow in their subsequent orders to reduce pollutants from irrigated agriculture around the state. The Eastern San Joaquin Order directs all regional water boards to revise the permits in their irrigated lands regulatory programs within the next five years to be consistent with the precedential requirements in the State Water Board order. This Order complies with the State Water Board's directive.

28. Upon adoption of these General WDRs, the CVIL Coalition has agreed to develop and implement a Compliance Program that meets the requirements of this Order.

Hydrological Setting

29. Irrigated Agricultural Lands in the Coachella Valley are located within the southern portion of the Coachella Hydrologic Planning Area in the Whitewater Hydrologic Unit. The Coachella Valley Planning Area identified in the Basin Plan comprises the Whitewater Hydrologic Unit and the East Salton Sea Hydrologic Unit. The Coachella Valley Planning Area lies almost entirely in Riverside County and covers 1,920 square miles in the west central portion of the Colorado River Basin Region. The San Bernardino Mountains and the Little San Bernardino Mountains form the northern boundary. The San Jacinto and Santa Rosa Mountains and the Salton Sea shoreline form the western and southern boundaries, respectively. Elevations range from over 10,000 feet in the San Bernardino and San Jacinto Mountains to 230 feet below sea level at the Salton Sea shoreline.

30. The higher elevations of the San Bernardino and San Jacinto Mountains have evergreen forests with perennial streams. A contrasting scene is presented on the Coachella Valley floor where the land contains desert vegetation, except where the land has been irrigated with pumped groundwater or with imported Colorado River water.

31. Average annual precipitation ranges from less than three inches in the valleys to 40 inches in the San Bernardino Mountains. Seasonal snows fall on the higher elevations in the San Bernardino and San Jacinto Mountains. In the valleys, precipitation from summer thunderstorms often exceeds rainfall in winter.

32. Runoff resulting from rains and snowmelt at the higher elevations is a major source of ground water replenishment. Perennial streams include the upper reaches of the San Gorgonio and Whitewater Rivers, and Palm Canyon, Tahquitz, Snow, Canyon, Chino, and Andreas creeks.

33. The Whitewater River is the major drainage course in the Coachella Valley Planning Area. There is perennial flow in the mountains, but because of diversions and percolation into the basin, the Whitewater River becomes dry further downstream. The constructed downstream extension of the Whitewater River channel, known as the Coachella Valley Storm Water Channel (Storm Water Channel), serves as a drainage way for irrigation return flows, treated community wastewater, flows from rising groundwater and stormwater runoff.

34. There is one relatively large, man-made surface water body: Lake Cahuilla, located at the terminus of the Coachella Canal, which serves as a storage reservoir to regulate irrigation water demands and is also used for recreational purposes.

35. In addition to the natural hydrological setting in the Coachella Valley Planning Area, the Thomas E. Levy Groundwater Replenishment Facility began

percolating imported Colorado River water into eastern subbasin of the Coachella Valley's aquifer in June 2009. The replenishment facility is designed to add approximately 40,000 acre-feet of water per year into the groundwater aquifer.

36. Recent surface water quality data for the Coachella Valley agricultural area is detailed in the Information Sheet, **Attachment A**.

37. Groundwater is stored principally in the unconsolidated Pleistocene sediments. Wells yield up to 4,000 gallons per minute. Maximum thickness of the water-bearing sediments is not known; however, it exceeds 1,000 feet in the Coachella valley.

38. Groundwater is generally unconfined except in the lower areas of the Coachella Valley. A clay aquitard, a result of past sedimentation in the old lakebed of Ancient Lake Cahuilla, extends from the Salton Sea to some distance west of the City of Indio, overlying the domestic-use aquifers. The clay layer underlies lenses of permeable sediments and perched groundwaters, which are replenished by percolating irrigation water and rising artesian groundwater.

39. The Coachella Valley Planning Area is faulted extensively, altering groundwater movement. The Mission Creek, Banning, and San Andreas faults form effective barriers to groundwater movement. The Indio Hills, Garnet Hills, and Mecca faults form partial barriers.

40. The Indio and Mecca Hills faults have been uplifted along the northwest-trending San Andreas Fault system. The alignment of oases on the flanks of those hills results from faults that impede the movement of groundwater. The most prominent of these oases is the Thousand Palms Oasis on the Mission Creek Fault.

41. A groundwater quality study of wells sampled in the Coachella Valley Groundwater Basin by the U.S. Geological Survey (Goldwrath, Wright, and Belitz, 2007[2]) indicates that most constituents detected were below the Primary and Secondary Maximum Contaminant Levels (MCLs) found in California Code of Regulations, title 22, section 64449 et seq. The constituents chloride, fluoride, sulfate, manganese, and total dissolved solids were measured above the "recommended" level of the Secondary MCLs in at least one sample. The predominant cations present in groundwater were calcium and sodium, and the predominant anions were chloride and sulfate. TDS concentrations in the area of agricultural activity ranged between 155 and 3,480 milligrams per liter (mg/L).

[2] Goldrath, Dara A., Wright, Michael T., and Belitz, Kenneth, 2009, Ground-water quality data in the Coachella Valley study unit, 2007: Results from the California GAMA Program: U.S. Geological Survey Data Series 373, 70 p.

Some of the available groundwater quality data for the area is detailed in the Information Sheet, **Attachment A**.

42. Drinking water in the Coachella Valley agricultural area is sourced from groundwater. Based on the locations of groundwater wells reported in the Groundwater Ambient Monitoring and Assessment (GAMA) information system, created by the State Water Board and the U.S. Geological Survey, there are approximately 14 domestic wells, 88 municipal wells, and 8 irrigation/industrial wells that might provide drinking water in Coachella Valley agricultural area. The depths of these wells vary from 200 to 800 feet below ground surface and are generally below the aquitard.

Coachella Valley Irrigation and Drainage Systems

43. The Coachella Valley Water District (District) provides irrigation and drainage services to land located within the area designated Improvement District 1 (ID1). The total gross acreage within ID1 is estimated to be 137,416 acres. Approximately 77,000 acres within ID1 have access to irrigation water provided by the District. The District reports that the total irrigated acreage ranges from about 65,000 to 70,000 acres per year including double cropping and acres irrigated but not harvested.

44. The District's irrigation distribution system consists of the 122-mile long Coachella Canal and a 500-mile underground lateral pipe network. Flows of up to 1,300 cubic feet per second travel by gravity from the Colorado River, through the Coachella Canal, into the underground pipe network and onto irrigated lands. The underground piping network delivers irrigation water to the highest point of every 40-acre parcel of eligible land in ID1.

45. The water service agreement between the District and the farm property owner requires that all delivered water is used beneficially on their property, which prohibits the discharge of irrigation water directly into the drains. Water that percolates through the ground to leach salts from the soil is considered by the District to be used beneficially.

46. Some agricultural operations in the Coachella Valley extract groundwater from private wells for irrigation. These operations are not covered by the District's service agreement. The Desert Water Agency (DWA) and the District are authorized to collect replenishment assessments from groundwater users and require metering of all groundwater wells belonging to producers that extract more than 10 acre-feet per year for DWA and 25 acre-feet per year for the District.

47. The Indio Subbasin Annual Report for Water 2017-2018, submitted in accordance with the Sustainable Groundwater Management Act (SGMA), reports

that 51,012 acre-feet of groundwater was extracted for agricultural use during the 2017-2018 water year.

48. On-farm subsurface drains are needed to intercept and remove rising groundwater and leaching water from some Coachella Valley irrigated lands. On-farm subsurface drainage systems are owned, operated, and maintained by each farm property owner and consist of 4 to 8-inch diameter perforated pipe buried 4 to 7 feet below ground surface. These pipes intercept and collect groundwater that is either percolating down from the surface or rising up from below, and convey it to the District's drainage system.

49. Construction of the Coachella Valley subsurface drainage system to reclaim land that was too saline to use beneficially began in 1950 and took 28 years to complete. The District owns, operates, and maintains the drainage system which consists of about 166 miles of subsurface drainage collectors and about 21 miles of open-channel drains. The subsurface collectors are typically composed of concrete, clay or polyethylene pipe segments ranging from 8 to 30 inches in diameter. The pipe segments are butted together at from 7 to 15 feet below the ground surface. The unsealed gap between the pipe segments allows groundwater to flow in and out as needed in response to changes in groundwater elevation.

50. The District's subsurface drainage collectors are designed to connect to the low point of each on-farm subsurface drainage system for every 80-acre parcel. The District subsurface drainage system is not designed to receive any surface flows and landowners are prohibited from allowing surface water to enter the subsurface drainage system.

51. The District's drainage system collects on-farm subsurface drainage from approximately 37,425 acres of land in the Coachella Valley. About 28,440 acres (76 percent) of that land drains to the Coachella Valley Stormwater Channel with the remaining acreage discharging into open drains that flow into the Coachella Valley Stormwater Channel or directly to the Salton Sea.

52. The Storm Water Channel serves as a drainage channel for irrigation return flows (from subsurface collectors), treated community wastewater and other permitted flows, flows from rising groundwater, and stormwater runoff. Lands west and south of the Storm Water Channel drain from west to east into the Storm Water Channel, whereas lands north and east of the Storm Water Channel drain from east to west into the Storm Water Channel.

Coachella Valley Agriculture

53. The Coachella Valley is an arid region with little rainfall and high evaporation rates. The District was formed in 1918 to protect and prioritize the use of limited water supplies in the midst of growing demand. During its 100-year history, the

District has steadily promoted water conservation through capital improvement projects, public education, and usage restrictions.

54. Coachella Valley farmers have been implementing and refining water conservation practices over time in response to growing demand and limited supply. The use of drip and sprinkler irrigation is widespread and accounts for around 85 percent of irrigated acreage in Coachella Valley. According to District's annual crop reports,[3] average crop acreages by irrigation method for the five-year period from January 2013 to December 2017 are as follows:

Table 1. Irrigation Methods in Coachella Valley

Irrigation Type	Acreage	Percent of Total Irrigation
Drip Irrigation	36,309	55%
Sprinkler Irrigation	19,840	30%
Flood Irrigation	9,885	15%

55. A wide variety of crops are grown in Coachella Valley, including fruits, vegetables, forage grasses, and turf grass. The District's 2017 annual crop report shows that dates, grapes, golf course turf, carrots, bell peppers, lemons/limes and lettuce were the top seven crops by acreage grown in 2017 and accounted for 59.5 percent of irrigated acres that year.

56. The District's annual crop reports indicate that the average gross annual value of all crops grown in Coachella Valley for the period from January 2013 to December 2017 is $717,780,473 per year. Crop values in 2016 ranged from $42,548 per acre for strawberries to $1100 per acre for sudangrass. The average value per acre for crops grown in Coachella for the period from January 2013 to December 2017 is $10,370 per acre.

Discharge Characteristics

57. Surface water discharges from irrigated lands (tailwater) served by the District are prohibited by the water use agreement between the District and its agricultural account holders. Irrigation return flows must infiltrate the soil and either be collected in subsurface drains or migrate to the water table. Flows that are collected in subsurface drains are deposited directly into agricultural drains or the Coachella Valley Stormwater Channel.

[3] Available on the Coachella Valley Water District's website at <https://www.cvwd.org/166/Agricultural-Irrigation-Drainage>, as of November 5, 2020.

58. Coachella Valley irrigated lands served by the District are carefully graded to maximize water conservation and avoid violating the tailwater prohibition. For that reason, and because of the limited amount of rainfall in the region, stormwater runoff from irrigated lands is minimal with most precipitation infiltrating the soil.

59. Discharges from Irrigated Agricultural Lands in Coachella Valley may contain high levels of salts, nutrients, pathogens, sediments, and pesticides that can adversely impact receiving water beneficial uses.

Basin Plan and Related Regulatory Requirements

60. The Basin Plan, which was adopted on November 17, 1993 and last amended on January 8, 2019, designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Pursuant to Water Code section 13263, subdivision (a), waste discharge requirements must implement the Basin Plan and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241.

61. The Basin Plan specifies the following beneficial uses for the Coachella Valley Stormwater Channel[4] and Coachella Valley Drains:

    a. Fresh Water Replenishment (FRSH),

    b. Water Contact Recreation (REC I),

    c. Water Non-Contact Recreation (REC II),

    d. Warm Freshwater Habitat (WARM),

    e. Wildlife Habitat (WILD), and

    f. Preservation of Rare, Threatened, or Endangered Species (RARE).

62. The Basin Plan's water quality objectives for the Coachella Valley Stormwater Channel and Coachella Valley Drains are summarized in **Attachment A** – Information Sheet.

63. The Basin Plan specifies the following beneficial uses for the Salton Sea:

    a. Aquaculture (AQUA),

[4] Section of perennial flow from approximately Indio to the Salton Sea.

b. Industrial Service Supply (IND),

c. REC I,

d. REC II,

e. WARM,

f. WILD,

g. RARE.

64. The Basin Plan's water quality objectives for the Salton Sea are summarized in **Attachment A** – Information Sheet.

65. Irrigated Agricultural Lands in the Coachella Valley are located in the eastern portion of the Coachella Hydrologic Planning Area within the Whitewater Hydrologic Unit. The Basin Plan designates the following beneficial uses for groundwater in the Whitewater Hydrologic Unit:

a. Municipal and Domestic Supply (MUN),

b. Agriculture Supply (AGR), and

c. IND.

66. The Basin Plan's water quality objectives for groundwater in the Coachella Valley are summarized in **Attachment A** – Information Sheet.

67. This Order establishes WDRs pursuant to division 7, chapter 4, article 4 of the Water Code for discharges that are not subject to regulation under Clean Water Act section 402 (33 U.S.C. § 1342). These General WDRs implement narrative and numeric water quality objectives for groundwater and surface waters established by the Basin Plan and other applicable state and federal laws and policies.

68. These General WDRs constitute a Nonpoint Source Implementation Program consistent with the requirements of State Water Board's *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (State NPS Policy). The State NPS Policy recognizes that nonpoint source pollution typically occurs from diffuse sources such as runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification, and that prevention and minimization of pollution from these sources is the most successful form of control. The purpose of these General WDRs is to minimize or eliminate waste discharges from Irrigated Agricultural Lands to waters of the state that may be causing or contributing to exceedances of applicable federal or state water quality objectives.

69. Consistent with the State NPS Policy, Dischargers comply with these General WDRs by implementing and improving management practices and complying with the other conditions, including monitoring and reporting requirements. This Order requires Dischargers to address impacts to water quality by evaluating the effectiveness of management practices (e.g., waste discharge treatment and control measures) and take action to improve management practices to reduce discharges. However, implementation of management practices is not a substitute for meeting water quality objectives. If a Discharger fails to address impacts to water quality by taking the actions required by this Order, including evaluating the effectiveness of their management practices and improving as needed, the Discharger may then be subject to progressive enforcement and possible monetary liability. Consistent with the State NPS Policy, the Colorado River Basin Water Board finds that there is a high likelihood that the General WDRs will attain their ultimate purpose of attaining water quality objectives and protecting beneficial uses.

70. The Colorado River Basin Water Board has considered the factors found in Water Code section 13241 in issuing these General WDRs, including:

    a. Past, present, and probable future beneficial uses of water;

    b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;

    c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;

    d. Economic considerations;

    e. The need for developing housing within the region; and

    f. The need to develop and use recycled water.

71. The estimated annual costs to comply with this Order were considered in an economic analysis which is included in **Attachment A** – Information Sheet. One-time costs were annualized over a five-year period. All recurring annual costs were included in the annual estimate despite what year they begin occurring. The annual costs for compliance with this Order are estimated to range from $11 to $18 per acre per year. Significant uncertainties prevent the precise estimation of program costs, including: the total number of monitoring sites required to evaluate water quality conditions, the nature and extent of management practices required to address exceedances of water quality objectives, labor rates, contracting fees, and efficiencies as the program matures.

72. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption,

cooking, and sanitary purposes. This Order requires Dischargers to implement management practices to meet water quality objectives intended to protect water for municipal and domestic uses and to monitor and report on the effectiveness of the management practices.

73. Water Code section 13267 authorizes the Colorado River Basin Water Board to require technical and monitoring reports. Regional Water Board staff have developed the Monitoring and Reporting Program (MRP), **Attachment B**, for the CVIL Coalition and its members. The technical reports required by the MRP are necessary to evaluate compliance with the terms and conditions of this Order and to ensure protection of waters of the state. The burden, including costs, of this MRP bears a reasonable relationship to the need for that information and the benefits to be obtained from that information.

74. Pursuant to Water Code section 13263, subdivision (g), the discharge of waste is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

303(d) Listed Impairments

75. Section 303(d) of the federal Clean Water Act requires states to identify waterbodies that do not meet water quality objectives. Each state must submit an updated list of impaired waterbodies every two years to the U.S. Environmental Protection Agency (USEPA) (303(d) List), as well as establish priority rankings for waters on the list and develop Total Maximum Daily Loads (TMDLs) for these waters. A TMDL is a pollutant and surface waterbody specific control plan that must account for all sources of the pollutant that caused the waterbody to be listed.

76. In some cases, alternative pollution control requirements can be used to address waterbody impairments in lieu of a formal TMDL. Regional water boards have wide latitude in determining how to address impaired waters, within certain legal parameters. Impaired waters may be addressed through existing regulatory tools and mechanisms, known as “TMDL alternatives,” such as individual or general WDRs, enforcement actions, and interagency agreements. Federal regulations specifically recognize that “other required control measures” may obviate the need for a TMDL when such requirements are expected to result in the attainment of the applicable water quality standard in a reasonable period of time. (40 C.F.R. § 130.7, subd. (b)(1)(iii).) USEPA often refers to such a TMDL alternative as a “4b alternative.” (*USEPA Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act*, dated July 29, 2005, at pp. 53-56.)

77. On July 30, 2015, USEPA gave final approval to California’s 2012 303(d) List. The 303(d) List does not identify any impairments for the Coachella Valley Drains, but does classify the Coachella Valley Stormwater Channel (to which the

majority of drains are tributary) as impaired by legacy organochlorine pesticides dichloro-diphenyl-trichloroethane (DDT), dieldrin, and toxaphene, indicator bacteria, ammonia, and toxicity. The Colorado River Basin Water Board has also proposed adding impairments for disulfoton and dissolved oxygen to the 2018 303(d) List for the Coachella Valley Stormwater Channel.

78. To address the 303(d) List impairments of the Coachella Valley Stormwater Channel, this Order will serve as either the first phase of data collection for future TMDLs or as an alternative, non-TMDL solution, as described below:

    a. **DDT, Dieldrin, and Toxaphene.** Data and information reviewed by Regional Water Board staff indicate that agricultural activities related to the disturbance of sediment in the watershed of the Coachella Valley Stormwater Channel are the source for these impairments. These chemicals are no longer directly used by irrigated agriculture. This Order incorporates impairment control requirements for DDT, dieldrin, and toxaphene, and Regional Water Board staff estimates that the water quality objectives for DDT, dieldrin, and toxaphene will be attained earlier than natural attenuation through the implementation of the management practices required by this Order. Fish tissue samples will be collected and analyzed for DDT, dieldrin, and toxaphene once per year to evaluate the effectiveness of impairment control requirements and monitor the progress towards attainment goals.

    b. **PCBs.** Data and information reviewed by Regional Water Board staff indicate that runoff from surfaces in the watershed of Coachella Valley Stormwater Channel are the source for this impairment. The same management practices put in place to control the organochlorine pesticides will also control the amount of PCBs entering the channel. Regional Water Board staff estimates that the water quality objectives for PCBs will be attained earlier than natural attenuation through the implementation of the established management practices required by this Order. Fish tissue samples will be collected and analyzed for PCBs once per year to evaluate the effectiveness of impairment control requirements and monitor the progress towards attainment goals.

    c. **Indicator Bacteria.** The Colorado River Basin Water Board adopted a Total Maximum Daily Load (TMDL) for indicator bacteria in 2012 to address this impairment in the Coachella Valley Stormwater Channel. The initial TMDL source analysis indicated that urban and stormwater runoff, agricultural runoff, natural background sources, bacteria regrowth, and septic system discharges are potential sources of this impairment; subsequent source analysis determined that subsurface drain collectors serving irrigated agricultural lands have only *de minimis* effect on the bacterial indicator impairment in the Coachella Valley Stormwater

Channel. The load allocation established in the TMDL for agricultural runoff is equal to the water quality objective for the receiving water—namely, the log mean (Geomean) of samples collected shall not exceed 126 MPN/100 mL (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100 mL for a single sample. This Order complies with the TMDL load allocation by requiring compliance with receiving water quality objectives.

d. **Ammonia and Toxicity.** Data and information reviewed by Regional Water Board staff do not indicate a known source for this impairment. A TMDL to address ammonia and toxicity is currently being developed. The TMDL will determine possible sources for this impairment and assign waste load allocations for point sources and load allocations for nonpoint sources and natural background.

79. The Coachella Valley Stormwater Channel is a tributary to the Salton Sea, and as such, impacts the water quality of the sea. Agricultural drains that discharge directly to the Salton Sea also impact the water quality of the sea. The Salton Sea is listed as impaired on the 2012 303(d) List for ammonia, arsenic, chloride, chlorpyrifos, DDT, enterococcus, low dissolved oxygen, nutrients, salinity, and toxicity, because water quality in the Salton Sea does not support the following beneficial uses: (a) aquaculture (AQUA); (b) contact and non-contact water recreation (REC I and REC II); and (c) Warm freshwater habitat (WARM).

Antidegradation Analysis

80. State Water Board Resolution 68-16, entitled *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Resolution 68-16), generally prohibits the Colorado River Basin Water Board from authorizing discharges that will result in the degradation of high quality waters, unless it is demonstrated that any change in water quality will (a) be consistent with maximum benefit to the people of the state, (b) not unreasonably affect beneficial uses, and (c) not result in water quality less than that prescribed in state and regional policies (e.g., the violation of one or more water quality objectives). Further, any activities that result in discharges to such high quality waters are required to use the best practicable treatment or control (BPTC) of the discharge necessary to avoid a pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the state.

81. High quality waters are surface waters or areas of groundwater that have a baseline water quality better than required by water quality control plans and policies. The baseline for this determination is generally 1968, the date of adoption of Resolution 68-16. In the context of a nonpoint source control program for agricultural discharges, a water body by water body and pollutant by pollutant determination of the quality as of the baseline of 1968 is impractical and not required by applicable law. “Instead, regional water boards must conduct a

general assessment of the existing water quality data that is reasonably available." (Eastern San Joaquin Order, p. 78.) The Colorado River Basin Water Board has limited historic water quality data for Coachella Valley. The Colorado River Basin Water Board has reviewed available data and determined that some water bodies in the region are high quality for constituents expected to be found in agricultural discharges. (See Section II of Attachment A – Information Sheet.) Additional data will become available as the monitoring and reporting requirements of these General WDRs are implemented.

82. These General WDRs include conditions and performance standards that will minimize any degradation to waters of the state. Some limited degradation to high quality waters may occur as a result of discharges from Irrigated Agricultural Lands subject to this permit. Such limited degradation is:

a. *Consistent with maximum benefit to the people of the state.* Agriculture is a significant generator of economic activity and employment in the area and provides food for the region and beyond. (See Findings 55-56, Section III of Attachment A – Information Sheet.) Limited degradation of high quality waters to accommodate agricultural activity is therefore consistent with the maximum benefit of the people of the state. However, there are significant societal costs associated with agricultural activity where water bodies have been allowed to degrade below water quality objectives through historic practices. These costs include the burdens associated with nitrate contamination of drinking water. Existing data on exceedances of nitrate objectives in the groundwater in the area covered by Irrigated Agricultural Lands in the Coachella Valley are inconclusive but suggest that widespread nitrate contamination of groundwater from Irrigated Agricultural Lands found in other parts of the state is not necessarily present.[5] (See Section II.B of Attachment A – Information Sheet.) With regard to surface water, although the affected water bodies in the Coachella Valley are not sources of drinking water, they have been placed on the 303(d) list for several constituents, as described in Findings 75-79. This Order addresses environmental and societal costs associated with exceedances of water quality objectives, as discussed in subsection (b) below.

b. *Will not unreasonably affect beneficial uses and will not result in water quality less than that prescribed in state and regional policies.* These General WDRs address the health, environmental, and social costs associated with agricultural discharges by prohibiting discharges that will cause or contribute to exceedances of water quality objectives,

[5] Instead, naturally occurring arsenic is known to pose a threat to drinking water in some areas of the eastern Coachella Valley; several small private water systems in mobile home parks in eastern Coachella Valley have data that shows groundwater quality exceeds the MCL for arsenic.

unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance. To detect exceedances and ensure that appropriate management practices are implemented to address exceedances, the General WDRs require extensive monitoring and reporting as stated in Finding 84 below. The fact that exceedances and degradation may continue for a finite period of time consistent with a compliance schedule while the dischargers implement the requirements of the General WDRs, including the requirements of water quality restoration plans, is consistent with Water Code section 13263's allowance for a time schedule for dischargers to achieve water quality objectives and is not a violation of Resolution 68-16. The General WDRs also require sampling of on-farm drinking water wells to ensure that users of the wells are not drinking water exceeding nitrate contamination health levels.

83. The BPTC requirements of Resolution 68-16 are met through a combination of upfront planning and implementation at the farm level; regional monitoring and assessments to determine whether trends in degradation are occurring; and regional planning and on-farm implementation when trends in degradation are identified. Initially, Dischargers need to conduct an on-farm evaluation to determine whether their management practices are protective of water quality. Dischargers must also prepare and implement a farm-specific irrigation and nitrogen management plan. Through the process of learning about effective management practices, evaluating their own practices, and implementing improved practices, Dischargers are expected to achieve BPTC, where applicable. The State Water Board determined in the Eastern San Joaquin Order that the types of requirements that have been incorporated into this Order constitute BPTC.

84. This Order also requires Dischargers to implement monitoring and assessment programs for both surface water and groundwater. These monitoring and assessment programs are required to determine compliance with water quality objectives and whether any trends in water quality improvement or degradation are occurring. If trends in such degradation are identified that could result in impacts to beneficial uses, a water quality restoration plan must be prepared by the Coalition Group(s). The plan must identify management practices that will be implemented to address exceedances of water quality objectives or trends in degradation and include an evaluation of the effectiveness of those practices in addressing the degradation. Failure to implement practices or address the exceedances or degradation in accordance with the schedule proposed in the approved plan may result in further direct regulation by the Colorado River Basin Water Board, including, but not limited to, regulating the individual Discharger directly through WDRs for individual discharges or taking other progressive enforcement actions.

California Environmental Quality Act

85. Adoption of these General WDRs constitutes a "project" pursuant to the California Environmental Quality Act (CEQA), Public Resources Code, section 21000 et seq. The Colorado River Basin Water Board is the lead agency for this project under CEQA.

86. On June 26, 2014, the Colorado River Basin Water Board adopted the 2014 Conditional Waiver, waiving WDRs for discharges of waste from Irrigated Agricultural Lands in the Coachella Valley and adopted a programmatic Negative Declaration under CEQA (2014 Negative Declaration) under Resolution R7-2014-0045.

87. The 2014 Negative Declaration describes the potential environmental impacts associated with implementation of water quality management practices, construction of monitoring wells, and impacts to agricultural resources (e.g., loss of production of prime farmland). This Order is substantially similar to the 2014 Conditional Waiver and continues the program, with the only difference being the addition of new or revised monitoring and reporting requirements.

88. An addendum to the 2014 Negative Declaration (2020 Addendum) was prepared to address any potential environmental impacts that could result from the new or revised program requirements. The 2020 Addendum concluded that the new or revised requirements will neither result in any new significant environmental impacts nor substantially increase the severity of previously-disclosed impacts. Nor are there substantial changes in the surrounding circumstances which would require major revisions to the 2014 Negative Declaration or significant new information, as that term is used in CEQA. Therefore, the 2014 Negative Declaration for the 2014 Conditional Waiver constitutes the environmental analysis under CEQA for this Order and no subsequent environmental document is required pursuant to California Code of Regulations, title 14, section 15162.

Public Participation

89. On July 9, 2020, the Colorado River Basin Water Board conducted a public workshop on these General WDRs.

90. The Colorado River Basin Water Board has notified interested agencies and persons of its intent to adopt this Order and provided them with an opportunity for a public hearing and to submit comments.

91. On November 12, 2020, the Colorado River Basin Water Board, in a public meeting, heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED, pursuant to section 13263 and 13267 of the Water Code, that Orders R7-2014-0046, R7-2019-0049, and R7-2020-0020 are rescinded upon

adoption of this Order, except for enforcement purposes, and in order to meet the provisions contained in division 7 of the Water Code and regulations adopted thereunder, Dischargers and Coalition Group(s) shall comply with the following:

A. Coverage Requirements

1. **Obtaining Coverage Under the Order.** These General WDRs apply to discharges or potential discharges of waste from Irrigated Agricultural Lands as described in Findings 7 through 11. Dischargers who are already members of a Coalition Group are automatically covered under this Order. The Coalition Group must obtain a Notice of Confirmation from its members regarding regulatory coverage under this Order within one year from the effective date of this Order, and the Coalition Group shall report receipt of the Notice of Confirmation with its first annual membership report due no later than October 31, 2021. Dischargers who are not members of a Coalition Group must submit an ROWD and apply for individual WDRs.

2. **Requirement for Coverage.** A Discharger obtains coverage under this Order as a member of an approved Coalition Group. By joining a Coalition Group, the Discharger agrees to be represented by the Coalition Group. Any Order requirements not fulfilled by the Coalition Group are the responsibility of the member.

3. **Electronic Notice of Intent.** To complete coverage under these General WDRs, an electronic Notice of Intent (eNOI) must be completed on GeoTracker. Completion of eNOIs shall occur as follows:

    a. The Colorado River Basin Water Board will create eNOIs for members of the CVIL Coalition from a membership list provided to the Colorado River Basin Water Board from the CVIL Coalition that includes all of the necessary information.

    b. Existing Dischargers who are not members of the CVIL Coalition at the time that the CVIL Coalition membership list is provided to the Colorado River Basin Water Board must complete and submit an eNOI directly to GeoTracker, or work with the Colorado River Basin Water Board and/or the CVIL Coalition to complete and submit an e-NOI **within 1 year** of adoption of this Order. A Notice of Confirmation must also be signed by the member and received by the CVIL Coalition **within 1 year** of adoption of this Order.

    c. New dischargers shall submit a completed eNOI within at least 30 days before the discharge is to commence, unless permission for a later date has been granted by the Colorado River Basin Water Board's Executive Officer. A Notice of Confirmation must be signed by the member and received by the Coalition Group prior to any discharge of waste.

d. eNOIs shall be updated at least once a year if there is a change in property ownership, grower contact information, email contact information, or if the parcels farmed by a Coalition Group member change.

4. **Transferability.** Coverage under this Order is not transferable to any person except after the completion of a new eNOI and submittal to the Colorado River Basin Water Board, and written approval by the Colorado River Basin Water Board's Executive Officer. Submittal of an eNOI does not alone constitute coverage under this Order. Dischargers will only be covered under this Order if they are also members of an approved Coalition Group.

5. **Notice of Confirmation.** The Coalition Group shall obtain a Notice of Confirmation from each member that has met the requirements for Coalition Group membership and coverage under this Order. The Notice of Confirmation shall include a statement certifying that the member is aware of the requirements of this Order and of the member's responsibility to comply and shall be signed by the member. The Coalition Group shall maintain a copy of each signed Notice of Confirmation and make it available to the Colorado River Basin Water Board upon request. The Coalition Group shall report whether it has received a Notice of Confirmation from each new or existing member in the annual membership report. If the Colorado River Basin Water Board determines that coverage under this Order is not appropriate for any Discharger, the Executive Officer will inform the Discharger in writing and may request that the Discharger submit an ROWD to obtain an individual permit for the discharge of waste.

6. **Notice to Non-Member Landowner/Operator.** Dischargers must provide written notice of the Order and its requirements to any landowner whose parcel is covered by this Order through the Discharger's membership in a Coalition Group or to an operator who farms a parcel that is covered by a landowner's membership in a Coalition Group. Confirmation that the Discharger provided this notice must be submitted to the Coalition Group.

7. **Confirmation of Membership.** Coverage under this Order is automatically terminated if confirmation of membership in the Coalition Group is not received from the Coalition Group during the annual membership update required by Section E.3 below.

8. **Termination of Coverage.** Dischargers may terminate coverage under this Order by providing a 30-day written notice to the Colorado River Basin Water Board's Executive Officer and, if applicable, notice to the Coalition Group. At a minimum, the written notice must include the reason for terminating coverage (e.g., transfer of ownership, Discharger applied for and obtained individual WDRs, discharge was discontinued, etc.). The Discharger shall continue to comply with this Order until the Colorado River Basin Water Board notifies the Discharger in writing that coverage has been terminated.

B. Prohibitions

1. The discharge of waste to waters of the state, other than from Irrigated Agricultural Lands as defined in Findings 7 through 11 of this Order, is prohibited.

2. The discharge of hazardous waste, as defined in California Code of Regulations, title 23 section 2521, subdivision (a), is prohibited.

3. The discharge of waste (e.g., fertilizers, fumigants, pesticides) into groundwater via backflow through a water supply well is prohibited.

4. The discharge of waste (e.g., fertilizers, fumigants, pesticides) down a groundwater well casing is prohibited.

C. Receiving Water Limitations[6]

1. Surface Receiving Water Limitations

a. Wastes discharged from Irrigated Agricultural Lands in Coachella Valley shall not cause or contribute to an exceedance of applicable water quality objectives for surface waters, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.

2. Groundwater Receiving Water Limitations

a. Wastes discharged from Irrigated Agricultural Lands in the Coachella Valley shall not cause or contribute to an exceedance of applicable water quality objectives in the underlying groundwater, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance.

D. Requirements – Members of a Coalition Group

This subdivision applies to Dischargers who are members of an approved Coalition Group (Members), who shall comply with the following:

1. Management Practices

a. Members must (1) implement management practices that prevent or control discharges of waste that are causing or contributing to exceedances of water quality objectives; and (2) when effectiveness evaluation or reporting, monitoring data, or inspections indicate that the implemented management practices have not been effective in preventing the discharges from causing

[6] These limitations are effective immediately except where Coalition Group members are implementing an approved Water Quality Restoration Plan (WQRP) for a specified waste parameter in accordance with an approved time schedule authorized pursuant to Section E.11 of this Order.

or contributing to exceedances of water quality objectives, Members must implement improved management practices. Where applicable, the implementation of such practices must be in accordance with any Water Quality Restoration Plans, and time schedules contained therein, as approved by the Colorado River Basin Water Board's Executive Officer.

b. Pursuant to Water Code section 13360, this Order does not specify the design, location, type of construction, or particular manner of management practices compliance, and Members can use any appropriate management practice to comply with the requirements of this Order. Members are encouraged to consult the State Water Board's Nonpoint Source Management Measures Encyclopedia and the Management Practices Miner Tool for information about management practices.

2. Water Quality Management Plan (Farm Plan)

a. Members shall develop and implement an individual Water Quality Management Plan (Farm Plan) to identify the type and location of management practices currently used on their Irrigated Agricultural Lands and additional management practices based on current conditions needed to minimize or prevent the discharge of waste to waters of the state through irrigation water runoff and infiltration, non-stormwater runoff, and stormwater runoff.

b. Members with the potential to cause erosion and discharge sediment that may degrade surface waters shall implement sediment and erosion control practices. Members must indicate whether they are implementing sediment and erosion control practices in their Farm Plan.

c. Members must use the Farm Plan Template approved by the Colorado River Basin Water Board's Executive Officer. At a minimum, the Farm Plan Template will include the following:

    i. The name, business address, mailing address, email address, phone number of the farmland owner;
    ii. The name, business address, mailing address, email address, phone number of the farm grower/operator (if different from above);
    iii. Information regarding the location of farm, including: (1) the address, (2) the Assessor Parcel Numbers (APNs) and the county in which each parcel is located, (3) the San Bernardino Baseline and Meridian System coordinates, and (4) applicable canal and gate number(s);
    iv. The number of drinking water supply wells associated with each enrolled APN;
    v. The total acreage under cultivation;

vi. A list of crop(s) grown and the acres dedicated for each type of crop, or explanation of crop rotations and decisions that will determine which crop or crops may be grown in any given year;
vii. A description of the irrigation methods used for each crop;
viii. A list of agricultural chemicals typically applied to crops at the operation, including but not limited to, fertilizers and organic amendments, pesticides, and fumigants;
ix. A list of the management practices used on each crop for the annual cycle and an indication whether sediment and erosion control practices are being implemented;
x. A description of any subsurface drainage collection system;
xi. The location of discharge point(s) and type of discharge(s) (surface and/or subsurface discharges); and
xii. The name of the receiving surface waters (if known) to which irrigation runoff, stormwater runoff, and non-stormwater runoff from the operation is discharged.

d. Members shall submit the individual Farm Plan to the Coalition Group. An updated Farm Plan must be prepared and submitted to the Coalition Group by **March 1, 2023** and by **March 1** annually thereafter.

e. The Colorado River Basin Water Board's Executive Officer may require less frequent submission of the Farm Plan to the Coalition Group for any Member or group of Members if a determination is made that the change in frequency is warranted.

f. A copy of the Farm Plan shall be maintained at the Member's farming headquarters or primary place of business.

g. Members shall ensure that all management practices identified in the Farm Plan are properly operated and maintained. Members shall periodically evaluate the effectiveness of the management practices and shall make modifications to the Farm Plan as necessary when visual observation monitoring indicates waste discharges have not been adequately addressed in the Farm Plan.

3. Irrigation and Nitrogen Management Plan (INMP) and Summary Report

a. Members shall implement management practices that minimize excess nitrogen application relative to crop need. Proper nutrient management will work to reduce excess plant nutrients, such as nitrogen, from reaching state waters. Nitrogen management must take site-specific conditions into consideration in identifying steps that will be taken and practices that will be implemented to minimize nitrate movement through surface runoff and leaching past the root zone.

b. Members must prepare and implement an Irrigation and Nitrogen Management Plan (INMP) for each field[7,8] and submit the INMP Summary Report to the Coalition Group for the previous crop year.[9]

c. Members must use the INMP Template approved by the Colorado River Basin Water Board's Executive Officer. The Executive Officer may approve the use of multi-year INMPs for categories of crops that have consistent irrigation and nitrogen planning from year to year. Multi-year plans cannot exceed three years in length, and if the Member decides to vary from the plan during its implementation period, a new INMP must be prepared and implemented. Members using multi-year INMPs must submit INMP Summary Reports annually to the Coalition Group.

d. The INMP must include the information identified in the MRP, Attachment B for use by the Coalition Group in calculating an Applied/Removed (A/R) ratio for nitrogen, and an Applied-Removed (AR) difference for nitrogen, as defined in the equations below. The A/R ratio is the ratio of total Nitrogen Applied (from sources including, but not limited to, organic amendments, synthetic fertilizers, manure, and irrigation water) to the total Nitrogen Removed (including all harvested materials and nitrogen annually sequestered in permanent wood for perennial crops). The A-R difference is the difference of total Nitrogen Applied and the total Nitrogen Removed.

[7] Where this Order requires reporting by field, Members may report data for a portion of a field or for multiple fields provided that the reported area has (1) the same crop type, (2) the same fertilizer inputs, (3) the same irrigation management, and (4) the same management practices. In no case should a reported area exceed a total size of 640 acres, and different crop types must always be reported separately even if they are within the same reporting area.

[8] The Colorado River Basin Water Board's Executive Officer may also approve alternative reporting areas for Dischargers in areas with highly intensive cropping practices, including multiple rotations of different crops in the same location within a single year, unpredictable crop types and harvesting based on rapidly-shifting market demand, and variable management practices adjusting to weather and field conditions. The alternative reporting area must provide meaningful data and balance the level of detail with the reporting burden similar to the field approach. In no case should a reported area exceed a total size of 640 acres, and different crop types must always be reported separately, even if they are within the same reporting area, to allow for evaluation of the effectiveness of management practices with regard to each individual crop type grown.

[9] Pursuant to the Eastern San Joaquin Order, this requirement does not apply to Members where applied nitrogen is not expected to seep below the root zone in amounts that could impact groundwater and is further not expected to discharge to surface water. Any category of Members (such as growers of a particular crop or growers in a particular area) must receive approval of the Executive Officer for this exception to apply.

A/R Ratio = Nitrogen Applied (from any source, including fertilizers, irrigation) / Nitrogen Removed (via harvest, etc.)
A-R Difference = Nitrogen Applied – Nitrogen Removed

Total Nitrogen Removed shall be determined, in part, by multiplying a Member's crop yield by a crop-specific nitrogen coefficient, C_N, provided by the Coalition Group, which represents the amount of nitrogen in the harvested crop. For some crops, the data needed to develop the C_N coefficient may not yet be available. The Coalition Group is directed in Section VI.D of the MRP, **Attachment B** to determine, through nitrogen removed testing and research, the most appropriate C_N coefficients for converting crop yield to nitrogen removed.

Nitrogen Removed (lbs / acre) = Crop Yield (units / acres) x C_N (lbs / unit)

e. Notwithstanding the provisions above, with the approval of the Executive Officer, the following Members may initially report the A value only in the INMP:

   i. Growers that operate in areas with (1) evidence of no or very limited nitrogen impacts to surface or groundwater, (2) have minimal nitrogen inputs, and (3) have difficulty measuring yield. (E.g., irrigated pastures.)

   ii. Diversified socially disadvantaged growers, as defined by the Farmer Equity Act of 2017[10] with (1) a maximum total acreage of 45 acres, (2) gross annual sales of less than $350,000, and (3) a crop diversity greater than 0.5 crops per acre (one crop for every two acres).

   iii. Growers with (1) a maximum total acreage of 20 acres, and (2) a crop diversity greater than 0.5 crops per acre (one crop for every two acres). (E.g., small growers with multiple crops that sell at farmers' markets.)

f. The Colorado River Basin Water Board is not requiring that each Discharger's INMP be certified at this time. However, Dischargers identified as outliers by the Coalition Group, as described in Section E.5.c.ii, must work with an irrigation and nitrogen management planning specialist for certification of the next INMP prepared following notification. On their next INMP summary report, these Members must also report that they were notified as outliers for reported AR data and reflect additional or improved

[10] Food & Agr. Code, § 512, subd. (b).

management practices implemented to address potential over-application of nitrogen.

g. Members shall prepare an INMP by **March 1, 2023** and by **March 1** annually thereafter, unless using a multi-year INMP. Starting on **March 1, 2024**, all Members must submit INMP Summary Reports to the Coalition Group for the prior year by **March 1** annually. As provided in the MRP, **Attachment B**, the Coalition Group will provide certain INMP Summary Report data to the Executive Officer.

h. A copy of the INMP shall be maintained at the Member's farming operations headquarters or primary place of business.

i. Members must use the IMNP Summary Report Template approved by the Colorado River Basin Water Board's Executive Officer. At a minimum, the INMP Summary Report Template will collect the following information:

    i. Crop Year;
    ii. Owner/Manager name;
    iii. Assessor Parcel Number (APN);
    iv. Field identifier;
    v. Acreage for each field identified;
    vi. Crop type;
    vii. Crop age (permanent crops);
    viii. Irrigation method;
    ix. Irrigation management practices implemented;
    x. Nitrogen management practices implemented;
    xi. Total Acreage;
    xii. Nitrogen Applied (lbs/acre); and
        1. Irrigation Water
        2. Synthetic Fertilizers
        3. Organic Amendments
    xiii. Crop Yield (units specified by Coalition Group).

4. Education

a. Members shall participate in Coalition Group outreach and education events, at least once annually. Members shall review outreach materials to become informed of any water quality problems to address and the management practices that are available to address those problems.

b. Members shall provide confirmation to the Coalition Group that the Member has attended and participated in an outreach and education event activity during the previous year and reviewed the applicable event materials.

5. On-Farm Drinking Water Well Testing

a. Due to the potential severity and urgency of health issues associated with drinking groundwater with high concentrations of nitrates, Members shall conduct testing and monitoring of all drinking water supply wells present on the Members' property[11] in accordance with the schedule in the MRP, **Attachment B**.

b. The Coalition Group, on behalf of its Members, may conduct testing and monitoring of all drinking water supply wells present on the Members' property. If a well is identified as exceeding the MCL for nitrate, the Member must notify the Colorado River Basin Water Board and users of the well in a timely fashion in accordance with the procedures described in MRP.

c. Members must use the Drinking Water Notification Template approved by the Colorado River Basin Water Board's Executive Officer. At a minimum, the template will contain the following:

   i. A statement notifying users of the exceedance;
   ii. Material regarding the potential health risks associated with consuming nitrate-contaminated drinking water and steps that should be taken for protection; and
   iii. A signature block, to be signed by the Member or landowner, certifying that a copy of the Drinking Water Notification Template has been provided to affected users.

   The template will be made available in an appropriate set of languages and designed to be understood by low-literacy populations.

6. Fees

a. Members shall pay an annual fee to the State Water Board in compliance with the WDRs fee schedule set forth in California Code of Regulations, title 23, section 2200.6. The Coalition Group is responsible for collecting these fees from Members and submitting them to the State Water Board on behalf of Members.

[11] Where a portion of the parcel is leased to a party other than a Member and the terms of the lease give the Member no control over the drinking water supply wells on that parcel, the owner of the parcel is responsible for sampling of those drinking water supply wells.

E. Requirements – Coalition Groups

This subdivision applies to Coalition Groups that serve as third-party representatives of Members for purposes of this Order. In order to remain eligible to represent Members, Coalition Groups, shall comply with the following:

1. Authorization

a. The CVIL Coalition is currently the only approved Coalition Group in Coachella Valley and is automatically authorized to represent Members under this Order. Other potential Coalition Groups wishing to act as third-party representatives must follow the procedures outlined below in Section E.11.

b. A Coalition Group that is approved to represent Members under this Order is responsible for managing fee collection and payment, managing communications between Members and the Colorado River Basin Water Board, and for fulfilling monitoring and reporting requirements on behalf of its Members, including but not limited to, conducting surface water and groundwater monitoring, conducting regional monitoring, and preparing and implementing Water Quality Restoration Plans (required in Section E.6).

2. Organizational Reporting

a. Within **90 days** of approval of this Order, the Coalition Group shall provide the Colorado River Basin Water Board documentation of its organizational or management structure. The documentation shall identify persons responsible for ensuring that program requirements are fulfilled and shall be made readily available to Members.

b. The Coalition Group shall prepare annual summaries of expenditures of fees and revenue used to comply with this Order. The summaries shall be provided to or made readily available to Members.

3. Membership Reporting

a. By **October 30, 2021** and by **July 1** annually thereafter, the Coalition Group shall submit to the Colorado River Basin Water Board a list of all its current Members. The list shall specifically identify any new Members or any Members terminated since the last reporting period.

b. As part of the annual membership list submittal, the Coalition Group shall identify Members who have failed to fulfil the following requirements of this Order as they become applicable:

    i. Implement water quality management practices (Section D.1);

ii. Submit a complete Farm Plan (Section D.2);

iii. Submit a complete annual INMP Summary Report (Section D.3);

iv. Provide confirmation of participation in at least one outreach activity (Section D.4);

v. Pay the required fees (Section D.6); or

vi. Respond to an information request associated with any applicable provisions of this Order.

4. Templates for Members

a. The Colorado River Basin Water Board intends to develop templates in coordination with the Coalition Group and agricultural groups/experts to all Members that must be used to comply with the requirements of this Order.

b. The Coalition Group may work with Colorado River Basin Water Board staff in the development of the templates below, and shall make those templates available to its Members within **60 days** of receiving final approval of the templates from the Colorado River Basin Water Board's Executive Officer:

i. **Farm Plan Template**. Requirements for the Farm Plan Template are described above in Section D.2.

ii. **INMP and INMP Summary Report Templates**. Requirements for the INMP and INMP Summary Report Templates are described above in Section D.3.

iii. **Drinking Water Notification Template**. Requirements for the Drinking Water Notification Template are described above in Section D.5.

If desirable, differing templates may be created for different agricultural commodity groups.

5. Monitoring and Reporting Program

a. The Coalition Group shall conduct required water quality monitoring and assessments in conformance with quality assurance/quality control requirements in this Order and the MRP, **Attachment B**, and provide timely and complete submittal of any reports required.

b. Surface and Groundwater Monitoring Program Plans

i. Within **180 days** of adoption of this Order, the Coalition Group shall submit for review and approval to the Colorado River Basin Water Board's Executive Officer a Surface Monitoring Program Plan, as described in Section V of the MRP, **Attachment B**.

ii. Within **one year** of adoption of this Order, the Coalition Group shall submit for review and approval to the Colorado River Basin Water Board's Executive Officer a Groundwater Trend Monitoring Program Plan. Annual groundwater monitoring at representative locations is required in the Groundwater Trend Monitoring Plan. The goal is to determine current water quality conditions of groundwater relevant to irrigated agriculture and develop long-term groundwater quality information that can be used to evaluate the regional effects of Irrigated Agricultural Lands practices.

iii. Quality Assurance Project Plan (QAPP)

1. As part of the Surface Water Monitoring Program Plan and the Groundwater Trend Monitoring Program Plan, the Coalition Group shall submit a Quality Assurance Project Plan (QAPP) to the Colorado River Basin Water Board's Executive Officer for review and approval that meets in the requirements in the MRP, **Attachment B**.

c. Compliance Program Reporting

i. The Coalition Group shall submit its Members' INMP summary data and Farm Plan data anonymously to the Colorado River Basin Water Board in compliance with the schedule in Section VI.C of the MRP, **Attachment B**.

ii. Outliers

1. Within **three years** after the nitrogen removal coefficients C_N have been approved by the Colorado River Basin Water Board's Executive Officer, those Members who are outliers in nitrogen application shall be identified by the Coalition Group annually based on the last three years of data submitted in the INMP Summary Report.

2. The Coalition Group shall propose an approach, to be approved by the Colorado River Basin Water Board's Executive Officer after public notice and comment, that defines a set of outlier Members with whom the Coalition Group will follow up. The Coalition Group may choose to apply that approach annually for a period of years to

determine outliers, or the Coalition Group may propose and seek approval of a different approach each year.

iii. Township-Level Nitrogen Targets

1. The Colorado River Basin Water Board will not be requiring the development of township-level targets for nitrogen loading at this time, because the Colorado River Basin Water Board does not have sufficient data and information at this time to indicate “high priority areas” where irrigated agriculture may be causing or contributing to exceedances of water quality objectives and/or trends of degradation that may threaten applicable Basin Plan beneficial uses.

2. As more data becomes available through monitoring and reporting under these General WDRs, the Colorado River Basin Water Board’s Executive Officer may later identify “high priority areas” where discharges from Irrigated Agricultural Lands may be causing or contributing to exceedances of water quality objectives, or a trend of degradation of groundwater that may threaten applicable basin plan beneficial uses.

3. The Executive Officer shall evaluate new data by December 31, 2025 to determine if any geographic areas qualify as “high priority areas” for the development of groundwater protection formulas, values, and targets. The Executive Officer shall require development of township-level nitrogen targets for any identified “high priority areas.” The methodology for determining the targets shall be subject to public review and comment.

iv. Confidentiality

1. The Coalition Group shall develop: (1) anonymous Member identification numbers and (2) anonymous Assessor’s Parcel Number (APN) identification numbers for the reporting of Members’ data. The Coalition Group shall maintain and track the IDs from year to year.

2. The Coalition Group shall submit Farm Plan data by anonymous Member ID.

3. The Coalition Group shall submit INMP Summary Report data by anonymous Member ID, anonymous APN ID, and by township.

4. The Colorado River Basin Water Board's Executive Officer may require that the Coalition Group directly provide data for individual Dischargers (without anonymous identifiers) in connection with the implementation of a Water Quality Restoration Plan, as described in Section E.6 below, particularly where the data suggests that the Discharger(s) are not improving their management practices.

v. On-Farm Drinking Water Monitoring

1. The Coalition Group, on behalf of Members, may conduct testing and monitoring of drinking water supply wells present on Members' property in compliance with the requirements in Section D.5 and the MRP, **Attachment B**.

6. Water Quality Restoration Plan (WQRP)

a. The Coalition Group shall provide surface water and groundwater exceedance reports if monitoring results show exceedances of applicable numeric water quality objectives or water quality benchmarks, as specified in the MRP, **Attachment B**.

b. The Colorado River Basin Water Board shall require Coalition Groups to prepare a Water Quality Restoration Plan (WQRP) if (a) there is a water quality exceedance or (b) a trend of degradation of water quality is identified that threatens a beneficial use in receiving waters affected by its Members' activities on Irrigated Agricultural Lands.

i. For purposes of this Section (§ E.6), a "Water Quality Triggering Event" occurs when (a) a sampling result for a parameter at a single surface water monitoring location exceeds a water quality objective or benchmark limit specified in the MRP, **Attachment B** three or more times for the same constituent during a rolling period of four regular monitoring events, or (b) a single groundwater sampling result exceeds a water quality objective.

ii. With regard to surface water exceedances, additional monitoring activities that are subsequently conducted within the same prescribed monitoring period as an exceedance will not be considered "regular monitoring events" and therefore shall not be considered as part of the rolling period.

iii. Notwithstanding any contrary provision in the operative MRP, an Exceedance Report Submitted per the MRP shall indicate (a) the number of surface water exceedances within the previous four

regular monitoring events, and (b) whether the current exceedance constitutes a Water Quality Triggering Event.

c. The WQRP shall contain the following information:

i. For each constituent that indicates an exceedance or a trend of water quality degradation that threatens a beneficial use, the WQRP shall include a graph showing the concentrations over time (from available data) and a trend analysis for the constituent.

ii. The WQRP shall include a description of the actual or suspected waste sources that may be causing or contributing to the exceedance or trend of water quality degradation that threatens a beneficial use(s). The WQRP shall also include a list and map location of Members in the geographic area addressed in the WQRP, and other potential sources as applicable.

iii. If the WQRP finds that the actual or suspected waste sources are from irrigated agriculture subject to this Order, the WQRP shall identify management practices currently being implemented and additional or improved management practices that will be implemented by designated Members to prevent or minimize the discharge of any waste subject to this Order that is causing or contributing to the exceedance or trend of water quality degradation. The WQRP shall also include a brief justification for selecting specific management practices.

iv. The WQRP shall include a schedule for the implementation and completion of all tasks described in the WQRP. The schedule shall reflect the shortest practicable time required to perform each task, given the type of management practices planned or program being implemented, and the experience of commercial agriculture with the time required to implement similar management practices or programs. The schedule may not be longer than that which is reasonably necessary to achieve the receiving water limitations in Section C of these General WDRs. If the schedule exceeds one year, the schedule must include quantifiable, interim milestones that demonstrate progress towards completion of the WQRP tasks and compliance with the applicable receiving water limitations of these General WDRs.

v. The WQRP shall include a monitoring and reporting plan to provide feedback on WQRP progress and its effectiveness in achieving compliance with the applicable receiving water limitations of these General WDRs.

d. The WQRP must be approved by the Colorado River Basin Water Board's Executive Offer prior to implementation. The Coalition Group may propose changes and revisions to the WQRP as necessary, subject to approval by the Executive Offer prior to implementation.

e. The Coalition Group shall work cooperatively with the Colorado River Basin Water Board to ensure all Members are taking necessary steps to address exceedances or degradation identified by the Coalition Group or the Colorado River Basin Water Board.

7. Education and Outreach

a. The Coalition Group shall conduct education and outreach activities to inform Members of program requirements and water quality problems identified by the Coalition Group or Colorado River Basin Water Board. A record of all members who attend shall be kept and used to fulfill the reporting requirements of Section E.3.b.iv.

b. Outreach events and materials shall, at a minimum, include some information on nitrogen application practices and the potential impact of nitrates on groundwater and, as appropriate depending on the anticipated Discharger audience, and shall be provided in multiple languages. The Coalition Group shall:

    i. Provide Members with information on water quality management practices that will address water quality problems and minimize the discharge of wastes from Irrigated Agricultural Lands, and provide informational materials on potential environmental impacts of water quality management practices.

    ii. Provide an **annual** summary of education and outreach activities to the Colorado River Basin Water Board. The annual summary shall include copies of the educational and management practices information provided to the growers. The annual summary must report the total number of growers who attended the outreach events and describe how growers could obtain copies of the materials presented at these events.

c. The Coalition Group must inform Members who are outliers for reported AR data that they are potentially over-applying nitrogen to their fields and must follow up with Members and provide them training, as appropriate.

8. Notice of Violation (NOV) Reporting

a. If the Coalition Group receives a Notice of Violation (NOV) from the Colorado River Basin Water Board, the Coalition Group must provide a

copy of the NOV to Members in the area addressed by the NOV and appropriate information regarding the reason(s) for the violation. The notification must be provided **within 30 days** of receiving the NOV from the Colorado River Basin Water Board. The Coalition Group must provide confirmation to the Colorado River Basin Water Board of the notification.

b. A summary of all notices of violation received by the Coalition Group must be provided to all Members **annually**.

9. Fees

a. The Coalition Group shall collect the fees from Members required by the State Water Board pursuant to the fee schedule contained in California Code of Regulations, title 23, section 2200.6. The Coalition Group is responsible for submitting all fees collected directly to the State Water Board on behalf of its Members.

10. Termination of Representation

a. If a Coalition Group wishes to terminate its role as a third-party representative, the Coalition Group shall submit a notice of termination letter to the Colorado River Basin Water Board and all of the Coalition Group's Members. Termination of the Coalition Group will occur no earlier than **30 days** from submittal of the notice of termination letter.

b. The notice of termination shall inform Members of their obligation to find a new, approved Coalition Group representative or obtain coverage under individual WDRs for their discharges. At a minimum, the written notice must include:

i. The proposed termination date;

ii. The reason for termination (e.g. dissolution, merger, etc.);

iii. Evidence that written notice was provided to all Members of the Coalition Group of the proposed termination; and

iv. Any successor and assign(s) seeking to assume responsibility under this Order.

c. The Coalition Group shall continue to comply with this Order until the Colorado River Basin Water Board notifies it in writing that its representation has been terminated.

11. New Coalition Groups

a. New Coalition Group(s) shall obtain written approval from the Colorado River Basin Water Board's Executive Officer prior to assisting Dischargers with compliance with this Order.

b. In evaluating whether to approve a new Coalition Group, the Executive Officer will consider the following factors:

   i. The ability of the third party to carry out the identified Coalition Group responsibilities.

   ii. Whether the third party is a legally defined entity (i.e., non-profit corporation; local or state government; Joint Powers Authority) or has a binding agreement among multiple entities that clearly describes the mechanisms in place to ensure accountability to its members.

   iii. Whether the third party has binding agreements with any subsidiary group (e.g., subwatershed group) to ensure any third-party responsibilities carried out by the subsidiary group, including the collection of fees, are done transparently and with accountability to the third party.

   iv. Whether the third party has a governance structure that includes a governing board of directors composed in whole or in part of Members, or otherwise provides Members with a mechanism to direct or influence the governance of the third party through appropriate by-laws.

c. If the Executive Officer determines that the Coalition Group applicant has the capacity to satisfactorily carry out the Coalition Group responsibilities, the Colorado River Basin Water Board's Executive Officer will issue an NOA and, if appropriate, a Monitoring and Reporting Program specific to the new Coalition Group and its members. The new Coalition Group shall comply with the relevant terms and conditions of this Order and any applicable MRP upon receipt of the NOA.

F. General Provisions

1. **Noncompliance.** Dischargers shall comply with all of the conditions of this Order. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et seq.) and grounds for: (1) an enforcement action; (2) termination, revocation and reissuance, or modification of these waste discharge requirements; or (3) denial of an Order renewal application, or a combination thereof. Coalition Group(s) shall also comply with all relevant conditions of this Order.

2. **Enforcement – Members.** Under these General WDRs, Coalition Group(s) are tasked with assisting Members in carrying out certain terms and conditions of this Order. However, Members, and any non-Member owner or operator, continue to bear ultimate responsibility for complying with these General WDRs. The Colorado River Basin Water Board reserves the right to take any enforcement action authorized by law. Accordingly, failure to timely comply with any provisions of this Order may subject Dischargers to enforcement action. Such actions include, but are not limited to, the assessment of administrative civil liability pursuant to Water Code sections 13323, 13268, and 13350, a Time Schedule Order (TSO) issued pursuant to Water Code section 13308, or referral to the California Attorney General for recovery of judicial civil liability.

3. **Enforcement – Coalition Group(s).** Failure to comply with the applicable terms and conditions of this Order may result in revocation of approval to act as a Coalition Group or any other remedy provided by law. Affected Dischargers would be required to join an approved Coalition Group or obtain coverage under other applicable general or individual WDRs.

4. **Reporting of Noncompliance.** Dischargers shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the Colorado River Basin Water Board office and the Office of Emergency Services within twenty-four (24) hours of when the Discharger becomes aware of the incident. If noncompliance occurs outside of business hours, the Discharger shall leave a message on the Colorado River Basin Water Board's office voicemail. A written report shall also be provided within five (5) business days of the time that the Discharger becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

5. **Duty to Mitigate.** Dischargers shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

6. **Inspection and Entry.** Consistent with Water Code section 13267, subdivision (c), Dischargers and Coalition Group(s) shall allow the Colorado River Basin Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

    a. Enter the premises regulated by this Order, or the place where records are kept under the conditions of this Order;

    b. Have access to and copy, at reasonable times, records kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purpose of ensuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at this location.

7. **Records Retention.** Dischargers and Coalition Group(s), as appropriate, shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of ten years from the date of the sample, measurement, report, or application. Records may be maintained electronically, and the Coalition Group must store back up files in a secure, offsite location managed by an independent entity. This period may be extended during the course of any unresolved litigation or when requested by the Colorado River Basin Water Board's Executive Officer.

8. **Electronic Reporting.** Dischargers and Coalition Group(s), as appropriate, shall submit reports and information required under this Order in an electronic format specified by the Colorado River Basin Water Board's Executive Officer via email to RB7-coloradoriver@waterboards.ca.gov.

9. **Claims for Exemption from Public Disclosure.** If the Coalition Group and/or a Discharger asserts that all or a portion of a report submitted pursuant to this Order is subject to an exemption from public disclosure (e.g., due to proprietary or trade secret information), the Coalition Group and/or Discharger must provide an explanation of how those portions of the reports are exempt from public disclosure. The Coalition Group and/or Discharger must clearly indicate on the cover of the report (typically an electronic submittal) that all or a portion of the report is exempt from public disclosure, submit a complete report with those portions that are asserted to be exempt in redacted form, submit separately (in a separate electronic file) unredacted pages (to be maintained separately by staff). Regional Water Board staff will determine whether any such report or portion of a report qualifies for an exemption from public disclosure. If staff disagrees with the asserted exemption from public disclosure, staff will notify the Discharger prior to making such report or portions of such report available for public inspection.

10. **Signature and Certification.** All documents and reports requested herein shall be signed and dated by a duly-authorized representative and shall contain a statement by the Discharger, or as appropriate by an authorized representative of the Discharger (e.g., Coalition Group representative), certifying under penalty of perjury under the laws of the State of California, that the report is true, complete, and accurate. The document and/or report shall be submitted under the title: "General Order for Coachella Valley Ag Dischargers."

11. **Violation of Law.** This Order does not authorize violation of any federal, state, or local laws or regulations.

12. **Property Rights.** This Order does not convey property rights of any sort, or exclusive privileges, nor does it authorize injury to private property or invasion of personal rights.

13. **Modification, Revocation, Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by a Discharger for an Order modification, rescission, or reissuance, or a Discharger's notification of planned changes or anticipated noncompliance, does not stay any Order condition. Causes for modification include, but are not limited to, the violation of any term or condition contained in this Order, a material change in the character, location, or volume of discharge, a change in land application plans, or the adoption of new regulations by the State Water Board, Colorado River Basin Water Board (including revisions to the Basin Plan), or federal government.

Any person aggrieved by this Colorado River Basin Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the statutes and regulations applicable to filing petitions are available on the State Water Board's website and can be provided upon request.

Order Attachments
Attachment A—Information Sheet
Attachment B—Monitoring and Reporting Program

FIGURE 1—COACHELLA VALLEY IRRIGATED AGRICULTURAL LANDS DIAGRAM

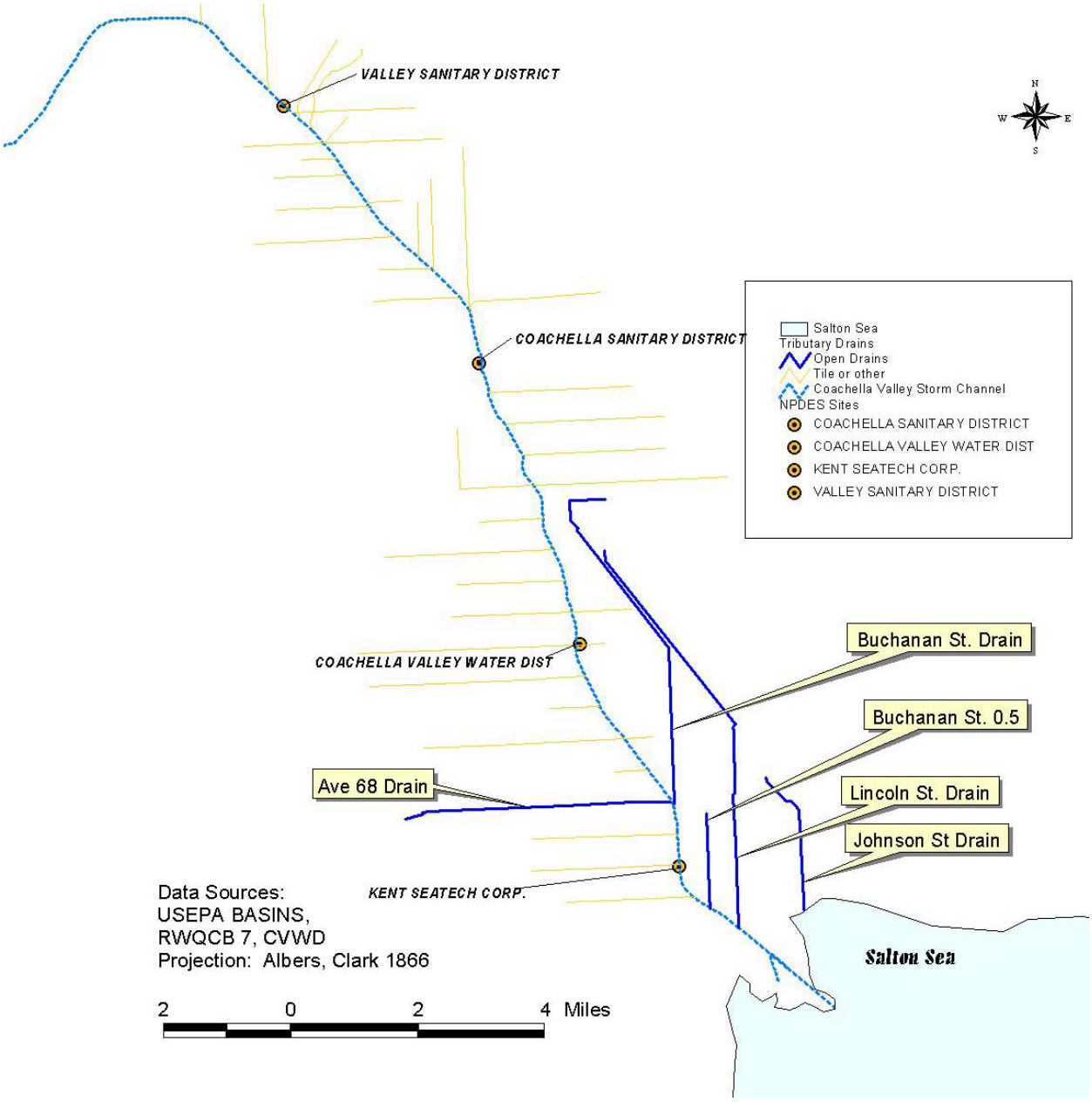
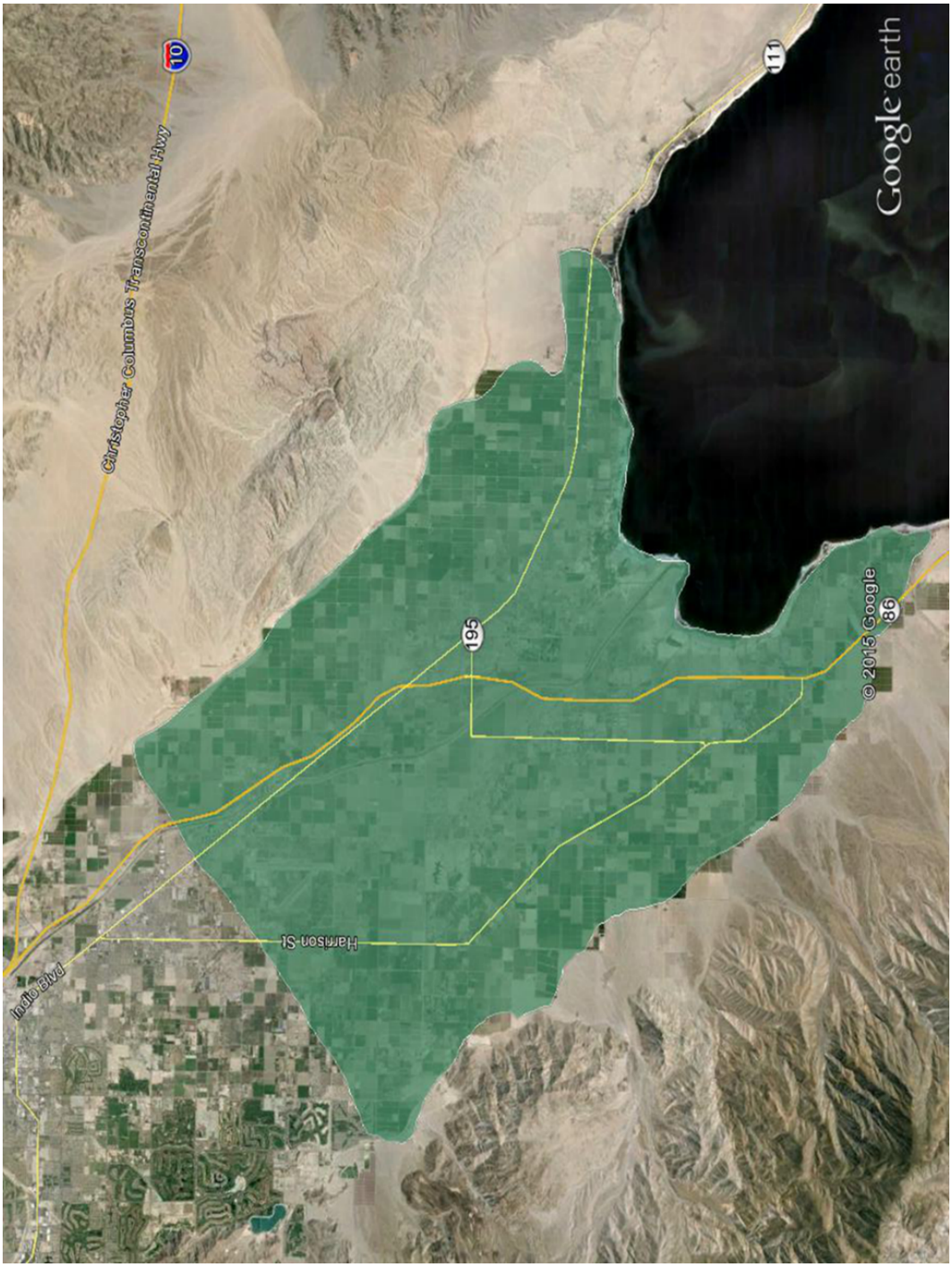


FIGURE 2—COACHELLA VALLEY IRRIGATED AGRICULTURAL LANDS AERIAL PHOTOGRAPH



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN

ATTACHMENT A – INFORMATION SHEET
TO ORDER R7-2020-0026
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF WASTE FROM IRRIGATED AGRICULTURAL LANDS
FOR DISCHARGERS THAT ARE MEMBERS OF A COALITION GROUP
IN THE COACHELLA VALLEY
RIVERSIDE COUNTY

I. COACHELLA VALLEY WATER QUALITY OBJECTIVES

Surface water and groundwater receiving water limitations in Section C of the Order specify that waste discharges from Irrigated Agricultural Lands may not cause or contribute to an exceedance of water quality objectives in surface water or underlying groundwater, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

Water quality objectives that apply to surface water are described in the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan), as well as in other applicable state and federal laws and policies. The Basin Plan contains numeric water quality objectives that apply to specifically identified water bodies as well as narrative objectives. Federal water quality criteria that apply to surface water are contained in federal regulations referred to as the California Toxics Rule and the National Toxics Rule. (See 40 C.F.R. §§ 131.36, 131.38.)

A. Surface Water Quality Objectives

Discharges of wastes from Irrigated Agricultural Lands to the Coachella Valley Drains, or to the Coachella Valley Storm Water Channel (which are tributary to the Salton Sea), shall not violate the water quality objectives for surface waters summarized in the following list:

1. Result in the presence of oil, grease, floating material (liquids, solids, foam and scum) or suspended material in amounts that create a nuisance or produce objectionable color, odor, taste, or turbidity, or otherwise adversely affect beneficial uses.

2. Result in unnatural materials, which individually or in combination, produce undesirable flavors in edible portions of aquatic organisms.

3. Alter the suspended sediment load and suspended sediment discharge rate to receiving waters in a manner that causes nuisance or adversely affects beneficial uses.

4. Result in an increase of turbidity and/or total suspended solids (TSS) that adversely affects beneficial uses.

5. Result in the dissolved oxygen concentration to decrease below 5.0 mg/l at any time.

6. For the section of the Coachella Valley Stormwater Channel where perennial flow exists (from Valley Sanitary District Wastewater Treatment Plant to the Salton Sea), result in the log mean (geomean) of *E. coli* samples collected exceeding 126 MPN/100 mL (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100 mL for a single sample.

7. For surface waters outside the section of the Coachella Valley Stormwater Channel where perennial flow exists, result in a violation of the following:

    a. For all waters where the salinity is equal to or less than 1 part per thousand (ppth) 95 percent or more of the time during the calendar year, the bacteria objective is a six-week rolling geometric mean of *E. coli* not to exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

    b. For all waters where the salinity is greater than 1 ppth more than 5 percent of the time during the calendar year, the bacteria objective is a six-week rolling geometric mean of *enterococci* not to exceed 30 cfu/100 mL calculated weekly, with an STV of 110 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

8. Result in the normal ambient pH of the receiving water to fall below 6.0 or exceed 9.0 units.

9. Result in the discharge of biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

10. Result in an increase of total dissolved solids (TDS) that adversely affects beneficial uses of any receiving water.

11. Result in an alteration in the natural receiving water temperature that adversely affects beneficial uses.

12. Result in the discharge of an individual chemical or combination of chemicals in concentrations that adversely affect beneficial uses, nor result in an increase in hazardous chemical concentrations in bottom sediments or aquatic life.

13. Result in toxic pollutants present in the water column, sediments or biota in concentrations that adversely affect beneficial uses, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective shall be determined by the use of indicator organisms, analyses of species diversity, population density, growth anomalies, or toxicity tests of appropriate duration or other appropriate methods as specified by the Colorado River Basin Water Board.

14. Result in a violation of any applicable water quality standard for receiving waters adopted by the Colorado River Basin Water Board or the State Water Board as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Clean Water Act section 303 or amendments thereto, the Colorado River Basin Water Board will revise and modify this Order in accordance with the more stringent standard.

B. Groundwater Quality Objectives

Water quality objectives that apply to groundwater are also described in the Basin Plan, as well as in other applicable state laws and policies. The Basin Plan contains numeric as well as narrative water quality objectives for groundwater. The groundwater quality objectives for the Coachella Valley from the Basin Plan are listed below:

1. **Taste and Odors:** Groundwaters for use as domestic or municipal supply shall not contain taste or odor-producing substances in concentrations that adversely affect beneficial uses as a result of human activity.

2. **Bacteriological Quality:** In groundwaters designated for use as domestic or municipal supply (MUN), the concentration of coliform organisms shall not exceed the limits specified in section 64426.1 of title 22 of the California Code of Regulations.

3. **Chemical and Physical Quality:** Groundwaters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of title 22 of the California Code of Regulations, which are incorporated by reference into the Basin Plan: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), and Table 64678-A of section 64678 (Determination of Exceedances of Lead and Copper Action Levels).

To protect all beneficial uses, the Colorado River Basin Water Board may apply limits more stringent than MCLs.

4. **Brines:** Discharges of water softener regeneration brines, other mineralized wastes, and toxic wastes to disposal facilities which ultimately discharge in areas where such wastes can percolate to groundwaters usable for domestic and municipal purposes are prohibited.

5. **Radioactivity:** Groundwaters designated for use as domestic or municipal supply (MUN) shall not contain radioactive material in excess of the maximum contaminant levels (MCLs) specified in Tables 64442 and 64443 of sections 64442 and 64443, respectively, of title 22 of the California Code of Regulations, which are incorporated by reference into the Basin Plan. This incorporation by reference is prospective, including future revisions to the incorporated provisions as the revisions take effect.

Pursuant to Footnote 34 of Table 2-5 of the Basin Plan, the water quality objectives for groundwater designated for municipal or domestic supply (MUN) are also informed by the State Water Resources Control Board's (State Water Board) *Policy Entitled "Sources of Drinking Water"* adopted on May 19, 1988 (Resolution No. 88-63). In relevant part, Resolution 88-63 provides that all surface waters and groundwaters of the state are considered to be suitable, or potentially suitable, for municipal or domestic water supply with the exception of where:

1. The total dissolved solids (TDS) exceed 3,000 mg/l (5,000 us/cm, electrical conductivity), and it is not reasonably expected by the Colorado River Basin Water Board to supply a public water system, or

2. There is contamination, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for domestic use using either management practices or best economically achievable treatment practices, or

3. The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

II. AVAILABLE WATER QUALITY DATA

A. Available Coachella Valley Surface Water Quality Data

The Coachella Valley Irrigated Lands Coalition (CVIL Coalition) has been collecting surface water data in accordance with the Monitoring and Reporting Program of the 2014 Conditional Waiver. A summary of the range and average concentrations of monthly and quarterly surface water monitoring results collected by the CVIL Coalition is shown in Table A-1. The results are from samples collected at five sampling locations

from January 2016 to December 2017. Three of the sampling locations are from subsurface agricultural drains and two are from the Coachella Valley Stormwater Channel, which is a surface water body. The Valley Sanitary District (VSD) RSW-002 monitoring site is located upstream of agricultural discharges.

Table A-1 – Coachella Valley Surface Water Quality Data

Constituent	Units	Ave 56 Drain (Subsurf.)	Johnson St Drain (Subsurf.)	Ave 76 Drain (Subsurf.)	CVSC [8] at Lincoln St	VSD [9] RSW-002
Total Phosphorus	mg/L [1]	ND [2]-0.94 [3] (0.12) [4]	.04-0.90 (0.16)	ND-0.59 (0.43)	0.2-2.1 (1.3)	2.8-6.2 (4.0)
Ammonia	mg/L	ND-0.19 (<0.05)	ND-0.27 (0.02)	ND-0.10 (<0.05)	0.4-2.9 (1.3)	21-40 (29)
Nitrate (as N)	mg/L	ND-67 (26)	21-39 (28)	9.8-15 (13)	8-14 (11)	ND-6.1 (2.4)
Total Nitrogen	mg/L	1-68 (35)	21-39 (28)	10-16 (14)	11-18 (14)	21-48 (35)
Specific Conductance	µmhos/ cm [5]	1200-6200 (3346)	2200-2600 (2396)	2700-3600 (3147)	1300-1900 (1558)	910-1300 (992)
Field Temperature	?C [6]	16.4-31.5 (24.4)	20.0-33.0 (25.6)	21.7-32.7 (27.2)	15.3-30.2 (23.0)	20.0-39.0 (27.4)
Field pH	pH units	7.0-8.3 (7.8)	6.9-7.9 (7.5)	7.1-8.0 (7.6)	7.2-8.3 (7.8)	7.1-7.9 (7.6)
Field Dissolved Oxygen	mg/L	6.8-9.9 (8.1)	5.5-8.06 (7.1)	5.49-8.29 (7.2)	4.83-7.7 (5.78)	3.6-6.1 (5.1)
Esfenvalerate	µg/L [7]	ND (<0.85)	ND (<0.85)	ND (<0.85)	ND (<0.85)	ND (<0.85)
Atrazine	µg/L	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)	ND (<0.05)
Chlorpyrifos	µg/L	ND (<0.019)	ND (<0.019)	ND (<0.019)	ND-0.0013 (<0.019)	ND - 0.026 (<0.019)
Diazinon	µg/L	ND (<0.025)	ND (<0.025)	ND (<0.025)	ND (<0.025)	ND (<0.025)
Malathion	µg/L	ND (<0.025)	ND (<0.025)	ND (<0.025)	ND (<0.025)	ND (<0.025)

[1] mg/L – milligrams per liter
[2] ND – non-detect or below the Method Detection Limit
[3] Range of analytical results during the period from Jan 2016 – Dec 2017
[4] Average of analytical results from Jan 2016 – Dec 2017
[5] µmhos/cm – micro-mhos per centimeter
[6] ?C – degrees Celsius
[7] µg/L – micrograms per liter
[8] CVSC – Coachella Valley Stormwater Channel
[9] VSD RSW – Valley Sanitary District receiving water station

B. Available Coachella Valley Groundwater Quality Data

The United States Geological Study (USGS), in cooperation with the State Water Resources Control Board (State Water Board), conducted a Groundwater Ambient Monitoring and Assessment (GAMA) program study in the Coachella Valley and compiled the results in a document entitled, "Ground-Water Quality Data in the Coachella Valley Study Unit, 2007: Results from the California GAMA Program." The Coachella Valley GAMA study is available on the State Water Board's website.

Some of the pertinent results of the GAMA study from wells in the eastern part of the Coachella Valley, where Irrigated Agricultural Lands are located, are summarized in Table A-2 below. The locations of the GAMA wells are shown in Figure 1 below.

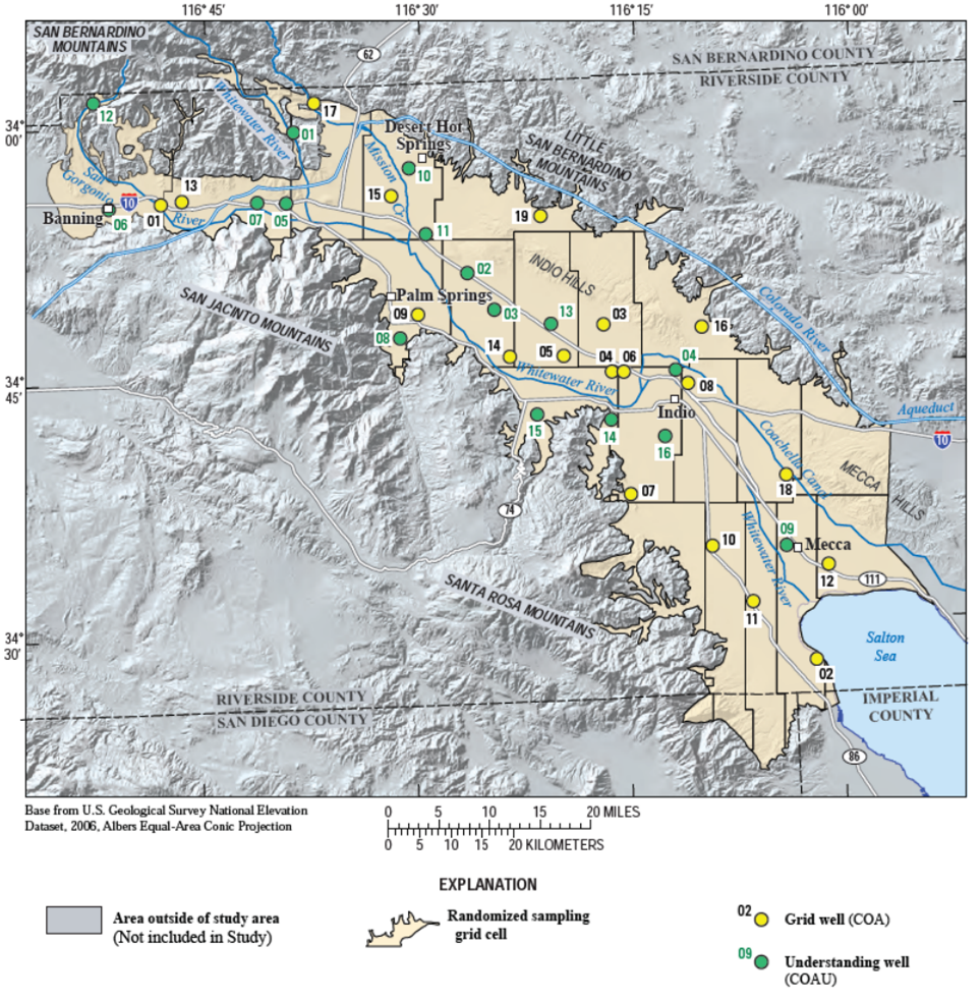
Table A-2 – Coachella Valley Groundwater Quality Data

GAMA Well Identification Number	Well Depth	Field Specific Conductance	Total Dissolved Solids (TDS)	Nitrite plus Nitrate, as Nitrogen	Sulfate
Threshold type	None	SMCL-CA[1]	SMCL-CA	MCL-US[2]	SMCL-CA
Threshold level	None	900 (1,600)[3]	500 (1,000)[3]	10	250 (500)[3]
Units	Feet above NAVD 88	µS/cm [4]	mg/L [5]	mg/L	mg/L
COA -02	-691	5580	3480	.012	901
COA -07	-238	1760	1220	7.12	498
COA -08	-358	703	448	0.61	181
COA -10	Not available	232	155	0.23	29.3
COA -11	Not available	733	422	1.36	143
COA -12	-698	710	509	ND [6]	174
COA -18	-747	1490	909	2.93	287
COAU -04	-398	1550	936	1.18	408
COAU -09	Not available	229	156	0.04	28.6
COAU -14	-488	780	490	14.3	490

GAMA Well Identification Number	Well Depth	Field Specific Conductance	Total Dissolved Solids (TDS)	Nitrite plus Nitrate, as Nitrogen	Sulfate
COAU -16	Not available	372	220	0.82	220

[1] SMCL-CA – Secondary Maximum Contaminant Level under California law (Cal. Code Regs., tit. 22, § 64449)
[2] MCL-US – United States Environmental Protection Agency's Maximum Contaminant Level.
[3] The Secondary MCLs for specific conductance, total dissolved solids, and sulfate have recommended and upper threshold values. The upper value is shown in parentheses.
[4] µS/cm – microsiemens per centimeter
[5] mg/L – milligrams per liter
[6] ND – not detected

Figure 1 - Coachella Valley Study Unit GAMA Program Well Locations



The 2007 GAMA study described above is meant to provide background information and an overview of known groundwater conditions in the area addressed by these General WDRs. The results of the 2007 GAMA study do not provide a sound basis from which to draw conclusions about possible impacts of irrigated agriculture on groundwater in the Coachella Valley. A more complete assessment of the current state of the groundwater quality in Coachella Valley is needed and one of the reasons groundwater trend monitoring is now required by these General WDRs.

III. ECONOMIC CONSIDERATIONS

Under Water Code sections 13263 and 13241, "economic considerations" is one of the factors a regional water board must take into account in issuing waste discharge requirements.

The Coachella Valley's farmland is among the largest crop-growing regions in the state, renowned for its dates, citrus, grapes, and bell peppers. Coachella Valley's agricultural industry is the second largest contributor to the local economy and employs approximately 12,000 people.[12] It supplies over 50% of the Riverside County's fruits and vegetables and produces 95% of the dates in the United States. Overall crop production exceeds half billion dollars in agricultural products each year.[13]

The following section explores the potential costs associated with complying with the Order and identifies potential sources of financial assistance for Dischargers. 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 management practices required to address those exceedances, and the availability of federal, state, and local funding to offset monitoring and management practices implementation costs.

One-time costs will be estimated separately from the recurring annual costs of the Order. For the purposes of this cost analysis, the one-time costs of compliance are expected to occur within and throughout a five-year implementation period. All one-time compliance costs, despite what year they will be expended, will be totaled and annualized over the first five years of compliance into an annual per acre per year cost.

Costs will be assessed on a per acre, per member, or per farm basis. All costs will be converted into per acre costs using the descriptions provided below:

Costs Per Farm – The District reports that there are 3,643 parcels that are assigned unique APNs and that they provide irrigation water to 1,132 meters that deliver water.

[12] Growing Coachella Valley, available at <growingcoachellavalley.org/> (as of November 5, 2020).

[13] CVWD 2018 Annual Crop Report, available at <http://cvwd.org/ArchiveCenter/ViewFile/Item/779> (as of November 5, 2020).

Since several APNs can comprise one farm, it is assumed that the number of District water meters is a reasonable estimate of how many farms could be enrolled in a Coalition Group. For the purposes of the economic analysis, the number of District meters, or 1132, will be used to estimate the costs that are associated with each farm.

Costs Per Member – There are currently 152 CVIL Coalition Members. This cost analysis considers that membership could increase as much as 25 percent under full compliance with the Order. For the purposes of the economic analysis, the total number of possible member entities will be 125 percent of the current membership. The number of members that will be used to determine costs that are associated with each member will be 190.

Costs Per Acre – The District reports that there are about 65,000 acres of irrigable land in the Coachella Valley. The total estimated number of irrigable acres will be uses to determine costs that are associated with every acre and to develop an overall per-acre cost associated with the Order.

A. Cost Estimates for Members of a Coalition Group

Members of a Coalition Group are required to perform the following activities to comply with the Order. A discussion of the expected effort and the costs associated with each required activity are discussed below.

1. Submit Electronic Notice of Intent (one-time cost)

The information required by Electronic Notice of Intent (eNOI) could be compiled by anyone with knowledge of farm characteristics and operations ranging from administrative to professional level employees or Members themselves. Obtaining a Geotracker ID number and completing and submitting the eNOI is expected to take from two (2) to three (3) hours per member. Cost estimates for labor to complete the eNOI range from $60 to $120 per hour. The cost estimate for submitting a completed eNOI are estimated to range from $120 to $360 per member. The estimated total cost for completing 190 member eNOIs ranges from 22,800 to $68,400 or, as a one-time cost annualized over the first five years, from **$4,560 to $13,680 per year**.

2. Implement Management Practices

Implementing management practices that prevent typical agricultural pollutants from entering groundwater and surface waters is the main requirement of the Order. Because of powerful incentives to conserve water in the arid Coachella Valley, management practices for optimizing the uptake of irrigation water by crops, and the nutrients and pesticides that are applied with it, are already being used in the Coachella Valley. The costs of these management practices can be offset by increased crop yields and reduced water and chemical costs. The cost

of implementing additional management practices could be a component of the overall costs of complying with the Order but is not considered in the scope of this Cost Analysis.

3. Prepare and submit annual Farm Plans

The information required by the Farm Plan Template could be compiled by anyone with knowledge of farm characteristics and operations ranging from administrative to professional level employees or Members themselves. Completing and submitting the template is expected to take from one (1) to two (2) hours per parcel per year. Cost estimates for labor to compete the Farm Plan range from $60 to $120 per hour. The cost estimate for submitting a completed Farm Plan are estimated to range from $60 to $240 per farm per year or for 1132 farms, **$67,920 to $271,680 per year**.

4. Prepare Annual INMP and Submit INMP Summary Report

The information required by the INMP and INMP Summary will require decisions from Members themselves or professional-level employees or consultants. Completing and submitting the INMP and INMP Summary template is expected to take from two (2) to three (3) hours per parcel per year. Cost estimates for owner/operators range from $100 to $120 per hour. The cost estimate for submitting a completed INMP and INMP Summary are estimated to range from $200 to $360 per parcel per year or for 1132 farms, **$226,400 to $407,520 per year**.

Certification of the INMP is required for farms determined to be A/R outliers. The criteria for identifying outliers is not yet known but, for the purpose of this cost analysis, it is estimated that 3.0 percent of farms (34 farms per year) will be A/R outliers. Certification of an INMP is estimated to require 4 hours of professional level employee or consultant time ranging from $100 to $120 per hour. Annual costs for certifying outlier farms is estimated to range from **$13,600 to $16,320 per year.**

5. Education and Outreach

Each Member of a Coalition Group is required to attend at least one education and outreach activity per year. It is estimated that Member will spend eight (8) hours (including planning and travel time) attending each activity. The cost estimate for Members is $120 per hour. The cost estimate for education and outreach is $920 per Member per year or for 190 members, **$182,400 per year**.

6. Drinking Water Well Monitoring

Potable water is distributed throughout Improvement District No. 1 and is readily available to most residents. It is not expected that many of the farms in Coachella Valley will report having on-farm wells that are used for drinking water. When on-farm well monitoring is required, it is expected to require one (1) hour of professional time and one (1) lab analysis per well. Cost estimates for professional time ranges from $100 to $120 per hour. The cost estimate for lab analysis for Nitrates is estimated to range from $60 to $80. The cost for drinking well monitoring is estimated to range from $160 to $200 per well per year.

For the purposes of this economic analysis it is estimated that from three to five percent (3% - 5%) of farms that are eligible for coverage under the Order will require drinking water well monitoring. The cost for on-farm well monitoring throughout the Coachella Valley is estimated to range from **$5,434 to $11,320 per year**.

7. Payment of State Irrigated Agricultural Discharge Fees

The state fees for Irrigated Agricultural Lands that are enrolled in a Coalition Group that collects fees for fiscal year 2019/2020 is either $0.87 or $1.08 per acre per year. The cost for state fees for 65,000 acres is estimated to range from **$56,550 to $70,200 per year**.

B. Cost Estimates for Coalition Groups, Including the CVIL Coalition

The Coalition Group(s) are required to perform the following activities to comply with the Order. A discussion of the expected effort and the costs associated with each required activity are discussed below.

1. Record Keeping and Reporting

General record keeping and administration – Colorado River Basin Water Board staff estimates that general administration of the compliance program will require 400 person-hours per year at $100 per hour for a cost of $40,000 per year.

Farm Plans – Colorado River Basin Water Board staff estimates that to review, compile, and submit the Farm Plan data from Dischargers, the Coalition Group will require 40 person-hours at $100 per hour for a cost of $4,000 per year.

Irrigation and Nitrogen Management Plan (INMP) and Summary Report – Regional Water Board staff estimates that to review, compile, and submit the INMP Summary Report data from Agricultural Dischargers, the Coalition Group will require 120 person-hours at $100 per hour for $12,000 per year.

Annual (AMR) and Quarterly Monitoring Reports – Regional Water Board staff estimates that the AMR and monthly surface water reports will require 160 person-hours at $100 per hour. The Coalition Group is required to submit one AMR and four quarterly surface water reports per year. The total cost is an estimated $16,000 per year.

The total annual cost for record keeping and reporting is estimated to be **$72,000 per year**.

2. Information Technology and Data Management

One-time costs for information technology (IT) include creating a method of making templates available to Members, develop a system of assigning anonymous identifiers for Members and parcels, developing a database that can harvest and store template data, assign anonymous identifiers, and be queried to create reports, and updating or developing a website for interaction with members. It is estimated that 160 professional hours at $120 per hour will be required for a total of $19,200 or, as a one-time cost annualized over the first five years, $3,840 per year.

Ongoing annual costs for IT include maintaining the template information system, maintaining a Coalition Group off-site data repository, and maintaining a website with current content. It is estimated that 100 professional hours at $120 will be required for a total of $12,000 per year.

Website hosting and data repository fees are estimated to $600 per year.

The total cost for IT is estimated to be $**16,440 per year**.

3. Surface Water Monitoring

Revise the surface monitoring plan and QAPP (one-time cost) – Cost estimates include 100 professional hours at $120 per hour or $12,000 total or, as a one-time cost annualized over the first five years, $2,400 per year.

Sample collection – The MRP requires the sampling of five surface water sites four times a year. Because the sites are all located within a 25-mile radius, it is expected that all 5 sites can be collected in one 8-hour day. Cost estimates for technical staff range from $60 to $80 per hour. The cost estimate for two people to perform four sampling events per year ranges from $3,840 to $5,120 per year.

Lab analysis – The MRP requires monitoring parameters that are estimated to cost $1,493 per site per sampling event. The estimated annual costs for analyzing all 5 sites 4 times a year is $29,860 per year.

Miscellaneous sampling/analytical costs – Sampling supplies, shipping costs, vehicle mileage, and other incidental costs associated with surface water monitoring is estimated to be $1,000 per year.

The total annual cost for surface water sampling to comply with the requirements of the Order are estimated to range from **$37,100 to $38,380 per year**.

4. Groundwater Trend Monitoring

Groundwater trend monitoring workplan (one-time cost) – Cost estimates include 160 professional hours at $120 per hour or $ $19,200 total or, as a one-time cost annualized over the first five years, $3,840 per year.

Groundwater monitoring wells – It is not expected that additional groundwater monitoring wells will be needed since there are many existing supply and monitoring wells in the area.

Sample collection – Trend monitoring wells will be sampled once per year. Because the sites are all located within a 25-mile radius, it is expected that all trend monitoring sites can be collected in one 8-hour day. Cost estimates for technical staff range from $60 to $80 per hour. The cost estimate for two people to perform one sampling event per year ranges from $960 to $1280 per year.

Lab analysis – The MRP requires trend groundwater monitoring wells to by analyzed for laboratory constituents annually. The estimated cost for trend groundwater analysis is estimated to be $800 per year.

The total annual cost for groundwater trend monitoring to comply with the requirements of the Order is estimated to range from **$5,600 to 5,920 per year**.

5. Fish Tissue Monitoring

Sample collection – One annual fish tissue sampling event is estimated to cost $4,900 including personnel and mileage (Moss Landing Marine Laboratories estimate (2018)).

Lab analysis – The cost of analyzing one annual fish sample is estimated to be $5,343.

The total annual cost for fish tissue monitoring to comply with the requirements of the Order is estimated to be **$10,243 per year**.

6. Education and Outreach

Each Coalition Group is required to provide at least one education and outreach activity to each of its Members. It is estimated that planning, developing, and

scheduling one annual activity would require 60 to 80 hours of professional level staff at $100 to $120 per hour (6,000 to $9,600 per year).

If 12 to 15 Members attend each scheduled activity, 12 to 16 activities would have to be scheduled for each year. It is estimated that 6 hours of professional level staff would be required for each activity for a total 72 to 96 hours at $100 to $120 per hour or, for 190 members, 7,200 to $11,520 per year.

Providing education and outreach materials during activities and making them available to Members upon request is estimated to cost $5 per member for 190 members is $950 per year.

Providing follow-up education for Members who are identified as outliers could result in 1 or 2 additional educational activities per year requiring 6 to 12 hours of professional staff at $100 to $120 per hour, or $600 to $1440 per year.

Complying with the education and outreach requirements of the Order is estimated to range in cost from **$14,750 to $23,510 per year.**

7. Fee Collection

The Coalition Group will be required to collect fees from their members and pay one annual invoice to the state. The cost of invoicing, collecting, and tracking the submittal of fees by members is estimated to range from $15 to $25 per year per member. The cost collecting state fees from 190 members is estimated to range from $2,850 to $4,750 per year.

C. Summary of Annual Costs Per Acre

Table A-3. Range of Cost Estimates Averaged Over First Five Years

Order Requirement	Low Annual Estimate ($)	High Annual Estimate ($)
eNOIs	4,560	13,680
Farm Evaluations	67,920	271,680
INMP and Summaries	226,400	407,520
INMP Certification for Outliers	13,600	16,320
Attend Education and Outreach	182,400	182,400
Drinking Well Monitoring	5,434	11,320
State Fee	56,550	70,200

Order Requirement	Low Annual Estimate ($)	High Annual Estimate ($)
Record Keeping and Reporting	72,000	72,000
IT and Data Management	164,440	164,440
Surface Water Monitoring	37,100	38,380
Groundwater Trend Monitoring	5,600	5,920
Fish Tissue Monitoring	10,243	10,243
Provide Education and Outreach	14,750	23,510
Collect Fees	2,850	4,750
Total Estimated Annual Costs	$715,877	1,144,363
Estimated Annual Cost per Irrigated Acre	**11**	**18**

D. State Annual Fees for WDRs for Irrigated Agricultural Lands

The General WDRs require each 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 California Code of Regulations, title 23, section 2200.6. The acreage on which the fee is based refers to the area that has been irrigated by the farmer or discharger at any time in the previous five years. As of the date that this Order is adopted, the above-mentioned fees are as follows:

If a Discharger is a member of a group that has been approved by the Regional Water Board or Regional Water Board's Executive Officer to manage fee collection and payment, then the annual fee is based on agricultural activity according to the following fee schedule:

Agricultural Activity Tier for Group Enrollment	Per Acre Fee
Tier A – All agricultural activity except those identified in Tier B.	$1.08
Tier B – Discharger or group of dischargers whose agricultural activities are managed wetlands, irrigated pastures with no external nitrogen input, those belonging to the California Rice Commission third party group, or are determined by the Regional Water Board or the Executive Officer to be exempt from the precedential requirement to develop an Irrigation and Nitrogen Management Plan.	$0.87

If a Discharger is not a member of a group that has been approved by the Regional Water Board or Regional Water Board's Executive Officer to manage fee collection and payment, then the annual fee shall be based on agricultural activity according to the following fee schedule:

Agricultural Activity Tier for Individual Enrollment	Per Acre Fee
Tier A – All agricultural activity except those identified in Tier B	$27.00 per acre up to 300 acres Plus $13.50 per acre over 300 acres with a minimum fee of $550
Tier B – Discharger or group of dischargers whose agricultural activities are managed wetlands, irrigated pastures with no external nitrogen input, those belonging to the California Rice Commission third party group, or are determined by the Regional Water Board or the Executive Officer to be exempt from the precedential requirement to develop an Irrigation and Nitrogen Management Plan.	$21.60 per acre up to 300 acres Plus $10.80 per acre over 300 acres with a minimum fee of $550

E. Sources of Financial Assistance

1. Federal

U.S. Department of Agriculture's Natural Resources Programs

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) offers landowners financial, technical, and educational assistance to implement conservation practices on privately-owned land. These programs include the following:

- *Environmental Quality Incentives Program* (EQIP) offers financial, educational, and technical help to install or implement best management practices such as manure management systems, pest management, and erosion control, to improve the health of the environment. Cost-sharing may pay up to 50% of the costs of certain conservation practices. Additional information can be found at the EQIP Program webpage.

- *National Conservation Buffer Initiative* was created to help landowners establish conservation buffers, which can include riparian areas along rivers, streams, and wetlands. NRCS is the lead agency in cooperation with other agencies. The NRCS' Indio Service Center, which provides service to the

Coachella Valley, is located at 81077 Indio Boulevard, Indio, California 92201. The telephone number is (760) 347-3675, extension 4.

Clean Water Act Section 319(h)

Federal nonpoint source water quality implementation grants are offered each year on a competitive basis. These grants can range from $250,000 to $800,000 and must include a funding match, unless a waiver of match is approved. The grants are administered through the Colorado River Basin Water Board in the Colorado River Basin Region. Additional information can be found at the 319(h) Grant Program webpage.

2. State

The Clean Water State Revolving Fund (CWSRF) program offers low-cost financing for a wide variety of water quality projects. The program has significant financial assets and is capable of financing projects from <$1 million to >$100 million. Additional information can be found at the CWSRF Program webpage.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN

ATTACHMENT B – MONITORING AND REPORTING PROGRAM
TO ORDER R7-2020-0026
GENERAL WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF WASTE FROM IRRIGATED AGRICULTURAL LANDS
FOR DISCHARGERS THAT ARE MEMBERS OF A COALITION GROUP
RIVERSIDE COUNTY

I. INTRODUCTION

This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267, which authorizes the California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) to require preparation and submittal of technical and monitoring reports. This MRP includes requirements the Coachella Valley Irrigated Lands Coalition, a third-party representative entity assisting individual Irrigated Agricultural Lands operators and owners that are members of the Coalition Group and enrolled under the *General Waste Discharge Requirements for Discharges of Waste from Irrigated Agricultural Lands for Dischargers that Are Members of a Coalition Group in the Coachella Valley*, Order R7-2020-0026 (Order). It also contains monitoring and reporting requirements for Members with respect to on-farm drinking water well testing. The requirements of this MRP are necessary to monitor Member compliance with the provisions of the Order and determine whether state waters receiving discharges from Members are meeting water quality objectives.

This MRP establishes specific surface water and groundwater monitoring, reporting, and electronic data deliverable requirements for the CVIL Coalition. Due to the variable nature of Irrigated Agricultural Lands operations, monitoring requirements for surface waters and groundwaters will be periodically reassessed to determine if changes should be made to better represent Irrigated Agricultural Lands discharges to state waters. The monitoring schedule will also be periodically reassessed so that constituents are monitored during application and/or release timeframes, when constituents of concern are most likely to affect water quality. The CVIL Coalition must not implement any changes to this MRP unless the Colorado River Basin Water Board or its Executive Officer issues a revised MRP.

This MRP conforms to the goals of the Nonpoint Source (NPS) Program as outlined in the *Plan for California's nonpoint source pollution control program* by:

1. tracking, monitoring, assessing, and reporting program activities;
2. ensuring consistent and accurate reporting of monitoring activities;
3. targeting NPS Program activities at the watershed level;
4. coordinating with public and private partners; and

5. tracking implementation of management practices to improve water quality and protect existing beneficial uses.

Surface water and groundwater monitoring must provide sufficient data to describe Irrigated Agricultural Lands' impacts on surface water and groundwater quality and to determine whether existing or newly implemented management practices comply with the receiving water limitations of the Order. Surface water and groundwater monitoring shall include a comprehensive suite of constituents (also referred to as "parameters") monitored periodically in a manner that allows for an evaluation of the condition of a water body and determination of whether Irrigated Agricultural Lands operations in the Coachella Valley watersheds are causing or contributing to any surface water or groundwater quality problems.

II. GENERAL MONITORING REQUIREMENTS

1. Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge or receiving water sampled and shall be collected at monitoring points approved by the Colorado River Basin Water Board's Executive Officer.

2. All monitoring instruments and devices shall be properly maintained and calibrated as necessary to ensure their continued accuracy. Any flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

3. Surface water monitoring shall be conducted according to the U.S. Environmental Protection Agency (USEPA) test procedures approved under title 40 of the Code of Federal Regulations (40 CFR) part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, as amended, for the analyses of pollutants, unless another method is specified in this MRP. The Colorado River Basin Water Board's Executive Officer may approve equivalent test procedures at her or his discretion.

4. Groundwater monitoring, sample preservation, and analysis shall be performed in accordance with the latest edition of USEPA's *Test Methods for Evaluating Solid Waste*, SW-846, unless another method is specified in this MRP. The Colorado River Basin Water Board's Executive Officer may approve equivalent test procedures at her or his discretion.

5. Laboratory data must quantify each constituent down to the approved reporting levels for specific constituents. All analytical data shall be reported with method detection limits (MDLs) and with either the reporting level or limits of quantitation (LOQs) according to 40 Code of Federal Regulations part 136, Appendix B.

6. All analyses shall be conducted by a laboratory certified to perform such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water's Environmental Laboratory Accreditation Program (ELAP). Certified laboratories can be found at the web link: www.waterboards.ca.gov\elap.

7. Monitoring data collected to meet the requirements of the Order must be collected and analyzed in a manner that ensures the quality of the data. The CVIL Coalition must follow sampling and analytical procedures as specified in the approved Monitoring Program Quality Assurance Project Plan (QAPP).

8. The CVIL Coalition shall retain records of all monitoring information, copies of all reports required by the Order, and records of all data used to complete the application for the Order, for a period of **at least 10 years** from the date of the sample, measurement, report or application. Records may be maintained electronically, and back up files must be stored in a secure, offsite location managed by an independent entity. Records of monitoring information shall include:

    a. The date, time, and location that the sample was taken;

    b. The individual(s) who performed the sampling or measurements;

    c. The date(s) analyses were performed;

    d. The individual(s) who performed the analyses;

    e. The analytical techniques or methods used; and

    f. The results of such analyses.

9. To the extent feasible, all technical reports, information, and data required by this MRP must be submitted electronically in a format specified by the Colorado River Basin Water Board's Executive Officer.

10. This MRP requires the CVIL Coalition to collect information from its Members and allows the CVIL Coalition to report the information to the Colorado River Basin Water Board in a summary format. The CVIL Coalition must submit specific Member information collected as part of the Order and this MRP when requested by the Executive Officer or as specified in the Order.

11. This MRP becomes effective upon adoption of Order R7-2020-0026. The Executive Officer may revise this MRP as necessary. Upon the effective date of this MRP, the CVIL Coalition, on behalf of the individual Members, shall implement the monitoring and reporting below.

III. SURFACE WATER QUALITY MONITORING REQUIREMENTS

A. Surface Water Monitoring Sites

Surface water monitoring shall be performed at sites which are representative of the greater watershed for Coachella Valley.

As specified in Section V, the CVIL Coalition shall submit an updated Surface Water Monitoring Program Plan that, among other things, evaluates and updates as necessary existing surface monitoring sites. Until the approval of the plan, this MRP designates the following surface water sampling locations.* Table B-1 contains the geographic coordinates of the sampling locations. An aerial photograph showing the sampling locations is included as Appendix A of this MRP.

- Monitoring Site # 1 – Subsurface drain collector inspection port located on the northwest corner of Avenue 56 (Airport Blvd.) and Fillmore Street.

- Monitoring Site # 2 – Outlet of the subsurface drain collector into the Johnson Street Drain located on the south side of Highway 111.

- Monitoring Site # 3 – Outlet of the subsurface drain collector into the Avenue 76 Drain located on the southwest corner of Avenue 76 and Pierce Street.

- Monitoring Site # 4 – The Coachella Valley Stormwater Channel at Lincoln Street.

- Monitoring Site # 5 – Valley Sanitary District downstream receiving water station (RSW-002).

Samples are to be taken within the actual flow area of the water. Sampling should be avoided from ponded, sluggish, or stagnant water. Note that samples taken downstream of a bridge could be contaminated from the bridge structure or runoff from the road surface, so samples should be taken upstream when possible.

Table B-1. Coachella Valley Surface Water Quality Monitoring Sites Geographic Coordinates*

Site No.	Station Code	Latitude	Longitude
1	Avenue 56 and Fillmore Street	33?38.533	-116?07.763
2	Johnson Street Drain	33?33.183	-116?03.627
3	Avenue 76 and Pierce Street	33?29.939	-116?06.751
4	CVSC at Lincoln Street	33?31.490	-116?04.735
5	VSD Downstream Station	33?43.030	-116?11.670

* Monitoring sites listed in the table are not an exclusive list; the Executive Officer may require additional monitoring sites as necessary to meet the requirements of the Order.

B. Monitoring Schedule, Frequency, and Parameters

Monitoring must be conducted when the pollutant is most likely to be present. If there is a temporal or seasonal component to a beneficial use of the water body, monitoring must also be conducted when beneficial use impacts could occur. The frequency of data collection must be sufficient to allow determination of compliance with the relevant numeric water quality objective(s) or water quality guideline triggers.

The major pollutants of concern within the Coachella Valley from Irrigated Agricultural Lands discharges include nutrients, pesticides, salts, and sediments. Water quality monitoring shall be used to assess the wastes discharged from Irrigated Agricultural Lands to state waters and to evaluate the effectiveness of management practices implementation. Surface water quality shall be evaluated with the field and laboratory parameters and frequency listed in Table B-2.

As specified in Section V, the CVIL Coalition shall submit an updated Surface Water Monitoring Program Plan that, among other things, evaluates and updates as necessary the list of monitoring constituents and frequencies. Until the approval of the plan, this MRP designates the following minimum surface water sampling constituents and frequencies.

Table B-2: Surface Water Monitoring Parameters, Frequency, and Aquatic Life and Consumption Numeric Water Quality Objectives or Criteria [1]

Parameter	Units	Field or Laboratory Analysis	Frequency	Numeric Water Quality Objective or Criteria
Phosphorus	mg/L [2]	Laboratory	Quarterly	
Nitrogen (as ammonia)	mg/L	Laboratory	Quarterly	
Total Nitrogen	mg/L	Laboratory (calculated)	Quarterly	
Nitrate (as N)	mg/L	Laboratory	Quarterly	
Total Dissolved Solids (TDS)	mg/L	Laboratory	Quarterly	
Specific Conductivity	µmhos/ cm [3]	Field	Quarterly	
Temperature	?C	Field	Quarterly	
pH	pH units	Field		6.0 to 9.0
Dissolved Oxygen (DO)	mg/L	Field	Quarterly	5.0 mg/L

Parameter	Units	Field or Laboratory Analysis	Frequency	Numeric Water Quality Objective or Criteria
Esfenvalerate	µg/L [4]	Laboratory	Semi-annual (March and October)	
Atrazine	µg/L	Laboratory	Semi-annual (March and October)	
Chlorpyrifos	µg/L	Laboratory	Semi-annual (March and October)	0.020 µg/l (1-hour average), 0.014 µg/l (4-day average).
Malathion	µg/L	Laboratory	Semi-annual (March and October)	0.170 µg/l (Max 1-hour average), 0.028 µg/l (4-day average)

[1] Laboratory analyses should have the detection limit and reportable detection limit lower than corresponding numeric water quality objectives or water quality guidelines. Change of laboratory method with approval of Colorado River Basin Water Board may be required to meet the reporting limits requirement.
[2] mg/L = milligrams per liter
[3] µmhos/cm = micro-mhos per centimeter
[4] µg/l = micrograms per liter

Impacts to water quality shall also be evaluated using fish tissue laboratory analytical testing. Starting in 2023, annual (once yearly) fish tissue sampling will be conducted in late October/early November. Table B-3 below lists the constituents that are to be analyzed on trophic level 4 fish tissue samples which have been collected from the Coachella Stormwater Channel in the section of perennial flow from approximately Indio to the Salton Sea.

Table B-3: Fish Tissue Monitoring Parameters, Frequency, and Objectives at Monitoring Site # 4

Fish Tissue Measured Parameters	Field or Laboratory Analysis	Frequency	Numeric Fish Tissue Criteria
DDT	Laboratory	Annual	15 µg/kg
Dieldrin	Laboratory	Annual	0.32 µg/kg
Toxaphene	Laboratory	Annual	4.3 µg/kg
PCBs	Laboratory	Annual	2.6 µg/kg

C. Surface Water Data Management Requirements

Data should be provided in a form compatible with the Surface Water Ambient Monitoring Program (SWAMP). The results of monitoring are to be included in the

quarterly and annual monitoring reports described below, and shall include a map of the sampled locations, tabulation of the analytical data, and time concentration charts.

IV. GROUNDWATER QUALITY MONITORING REQUIREMENTS

The CVIL Coalition must collect sufficient data to describe Irrigated Agricultural Lands impacts on groundwater quality and to determine whether existing or newly-implemented management practices comply with the groundwater receiving water limitations of the Order. The evaluation of groundwater quality required by this MRP focuses on two primary areas: (1) groundwater trend monitoring and (2) drinking water supply well monitoring.

The purpose of the groundwater quality trend monitoring program is to determine current water quality conditions of groundwater relevant to Irrigated Agricultural Lands and develop long-term groundwater quality information that can be used to evaluate the regional effects of Irrigated Agricultural Lands practices. The purpose of the drinking water supply well program is to identify drinking water wells that have nitrate concentrations that threaten to exceed the maximum contaminant level (MCL) of 10 mg/L of nitrate + nitrite as N and notify any well users of the potential for human health impacts.

A. Groundwater Quality Trend Monitoring

The CVIL Coalition shall develop a groundwater monitoring network of wells that will (1) be representative of the Coalition's geographic area and (2) employ shallow wells (though not necessarily wells completed in the uppermost zone of first encountered groundwater). The Coalition shall propose the locations of the sampling wells in its Groundwater Trend Monitoring Plan, subject to approval of the Executive Officer.

The rationale for the distribution of trend monitoring wells shall be included in the workplan, and should consider the following:

a. The variety of agricultural commodities produced within the Coalition Group's boundaries (particularly those commodities comprising the most irrigated agricultural acreage), and

b. The areas contributing significant recharge to urban and rural communities where groundwater serves as a significant source of supply.

Details for wells proposed for groundwater monitoring shall include:

1. GPS coordinates;
2. Physical address of the property on which the well is situated (if available);
3. California state well number (if known);
4. Well depth;

5. Top and bottom perforation depths;
6. A copy of the water well drillers log, if available;
7. Depth of standing water (static water level), if available (this may be obtained after implementing the program); and
8. Well seal information (type of material, length of seal).

Monitoring wells shall be sampled, at a minimum, annually at the same time of the year and analyzed at least for the indicator parameters identified in Table B-4 below:

Table B-4: Groundwater Trend Monitoring Constituents and Minimum Frequency

Trend Monitoring Constituents	Units	Analysis Type		Frequency
Dissolved Oxygen (DO)	mg/L	Field		Annually
pH	pH Units	Field		Annually
Conductivity (at 25? C)	µmhos/cm	Field		Annually
Temperature	?C	Field		Annually
Nitrate as Nitrogen	mg/L	Laboratory		Annually
Total Dissolved Solids (TDS)	mg/L	Laboratory		Annually
General Minerals	mg/L	Laboratory		Initially and every five years
Anions (carbonate, bicarbonate, chloride, and sulfate)		Laboratory		Initially and every five years
Cations (boron, calcium, sodium, magnesium, and potassium)		Laboratory		Initially and every five years

Once the trend monitoring has been approved and is being implemented, the results of trend monitoring shall be included in the CIVL Coalition's annual monitoring reports and shall include a map of the sampled wells, tabulation of the analytical data, and time concentration charts. Groundwater monitoring data is to be submitted electronically to the State Water Board's GeoTracker database and to the Colorado River Basin Water Board.

B. Drinking Water Supply Well Monitoring

Members must initiate sampling of drinking water supply wells located on their property as described below. The initial sampling event must be completed in time to allow for the results to be submitted electronically to the State Water Board's GeoTracker database by **March 1, 2023**.

1. **Initial Testing.** Initially, Members must conduct annual drinking water supply well sampling for nitrates for three years. In lieu of one or more of these three annual tests, Members may submit one or more annual drinking water supply well sampling results from one or more of the five prior years, provided sampling and

testing for nitrates was completed using USEPA-approved methods and by an ELAP-certified laboratory.

2. **Continued Testing.** Members must continue conducting annual drinking water supply well sampling for nitrates, unless the nitrate concentration is below 8 mg/L nitrate+nitrite as N in three consecutive annual samples, in which case Members may conduct sampling every five years going forward. An alternative sampling schedule based on trending data for the well may be required by the Executive Officer at any time.

3. **Ceasing Sampling.** Sampling may cease if a drinking water well is taken out of service or no longer provides drinking water, including where the well is taken out of service because sufficient replacement water is being supplied. Members must keep any records (e.g. photos, bottled water receipts) establishing that the well is not used for drinking water.

4. **Exceedances.** If groundwater monitoring determines that water in any well that is used for drinking water exceeds 10 mg/L of nitrate+nitrite as N, the Member must provide notice to the users within 10 days of learning of the exceedance and send a copy of the notice to the Colorado River Basin Water Board. If the Member is not the owner of the Irrigated Agricultural Lands, the Member may provide notice instead to the owner within 24 hours of learning of the exceedance, and the owner must provide notice to the users within nine days and send a copy of the notice to the Colorado River Basin Water Board.

5. **Form of Notice.** At a minimum, notice shall be given to users by providing them a copy of a Drinking Water Notification Template approved by the Executive Officer. The template shall be signed by the Member (or landowner if the Member is not the owner) certifying notice has been provided to the users. A copy of the signed template shall be sent to the Colorado River Basin Water Board and retained by the Member or non-Member owner.

Groundwater samples must be collected using proper sampling methods, chain-of-custody, and quality assurance/quality control protocols. Groundwater samples must be collected at or near the well head before the pressure tank and prior to any well head treatment. In cases where this is not possible, the water sample must be collected from a sampling point as close to the pressure tank as possible, or from a cold-water spigot located before any filters or water treatment systems.

All drinking water supply well monitoring data, including any existing data, is to be submitted electronically to the State Water Board's GeoTracker database by the testing laboratory. The data submitted shall include the Assessor's Parcel Number (APN) where the drinking water supply well is located.

V. SURFACE AND GROUNDWATER MONITORING PROGRAM PLANS

The CVIL Coalition shall prepare and submit a detailed Surface Water Monitoring Program Plan and a Groundwater Trend Monitoring Plan to implement the surface water and groundwater monitoring requirements specified in this MRP. The Monitoring Program Plans are required under Section E.5.b of the General WDRs and shall be submitted for approval by the Executive Officer in accordance with the schedule set forth in that section.

At a minimum, the Monitoring Program Plans shall contain the following:

1. **Monitoring Event Preparation and Protocols -** The Monitoring Program Plans shall include a description of monitoring event preparation and field protocols for sample collection and sample handling (including chain of custody requirements). The Monitoring Program Plan shall also describe protocols for ensuring that all monitoring instruments and devices used by the Coalition for the prescribed monitoring and sample collection are properly maintained and calibrated to ensure proper working condition and continued accuracy.

2. **Quality Assurance Project Plan (QAPP) -** The Monitoring Program Plans shall include a QAPP describing the objectives and organization of the proposed surface water and groundwater monitoring, and quality assurance/quality control to be conducted. The purpose of the QAPP is to ensure that the data collection and analysis is consistent with the type and quality of data needed to meet the Colorado River Basin Water Board's monitoring goals and objectives. The QAPP shall meet the State Water Board's SWAMP requirements and shall include at least the following four sections: (1) Project Management, (2) Data Generation and Acquisition, (3) Assessment and Oversight, and (4) Data Validation and Usability. Laboratory analytical methods shall be included as an appendix of the QAPP. The Executive Officer must approve the QAPP prior to implementation. A QAPP template is available at the SWAMP website.

3. **Monitoring Locations -** The Monitoring Program Plans shall include a list of the monitoring locations. The monitoring locations shall meet the monitoring location requirements listed in Sections III.A and IV.A of this MRP. The Monitoring Program Plans shall describe the characteristics of each sampling site, including nearby crop type and cultivation practices, and shall provide an appropriately scaled map of the monitoring locations and GPS coordinates for each monitoring location. The Monitoring Program Plans shall also provide the supporting scientific rationale for the selection of each monitoring location including a demonstration that the proposed locations are appropriate for evaluating the effects of irrigation runoff, stormwater, and non-stormwater discharges from Irrigated Agricultural Lands, and for evaluating the success of management practices.

4. **Monitoring Constituents -** The Monitoring Program Plans shall include a list of the constituents to be monitored at each monitoring location. The list shall include, but need not be limited to, the parameters listed in Tables 2, and 3 and Sections III.B, IV.A, and IV.B of this MRP.

5. **Monitoring Frequency -** The Monitoring Program Plans shall include the frequency and approximate dates of monitoring. Surface water monitoring shall be conducted during the dry season and wet season and at the frequency specified in Tables 2, and 3 and Section III.B. Groundwater monitoring shall be conducted at the frequency specified in Sections IV.A, and IV.B of this MRP.

6. **Monitoring Team -** A description of the monitoring team and analytical laboratories, including names, titles, qualifications, and contact information of key personnel. Changes to the monitoring team should be included in the Annual Monitoring Report (Section VI.E of this MRP).

VI. REPORTING REQUIREMENTS

Reports and notices shall be submitted in accordance with Section F of the Order, General Provisions.

A. Submittal of Surface Water Monitoring Results

The CVIL Coalition shall submit surface water field measurements and laboratory analysis results as they are available in an electronic format. The quarterly surface water monitoring data results shall include the following for the required reporting period:

1. An Excel workbook containing all data records (surface water data). The workbook shall contain, at a minimum, those items detailed in the most recent version of the Coalition's approved Monitoring Program Plan and QAPP.
2. Electronic copies of all field sheets.
3. Electronic copies of photos obtained from all surface water monitoring sites, clearly labeled with station code and date.
4. Electronic copies of all applicable laboratory analytical reports shall be submitted once per year with the Annual Monitoring Report.
5. For chemistry data, analytical reports must include, at a minimum, the following:
    a. A lab narrative describing quality control failures;
    b. Analytical problems and anomalous occurrence;
    c. Chain of custody and sample receipt documentation;
    d. All sample results for contract and subcontract laboratories with units, Reporting Limits and Method Detection Limits;
    e. Sample preparation, extraction, and analysis dates; and
    f. Results for all quality control samples including all field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, and

surrogate recoveries.

If any data is missing from the quarterly report, the submittal must include a description of what data is missing and when it will be submitted to the Colorado River Basin Water Board.

B. Annual Submittal of Groundwater Monitoring Results

Each year, following approval and implementation of the Groundwater Trend Monitoring Plan, the CVIL Coalition shall submit groundwater field measurements and laboratory analysis results as they are available in an electronic format. The annual groundwater monitoring data results shall include the following for the required reporting period:

1. An Excel workbook containing all data records (groundwater data). The workbook shall contain, at a minimum, those items detailed in the most recent version of the Coalition's approved Monitoring Program Plan and QAPP.
2. Electronic copies of all field sheets.
3. Electronic copies of photos obtained from all surface water monitoring sites, clearly labeled with station code and date.
4. Electronic copies of all applicable laboratory analytical reports.
5. For chemistry data, analytical reports must include, at a minimum, the following:
    a. A lab narrative describing quality control failures;
    b. Analytical problems and anomalous occurrence;
    c. Chain of custody and sample receipt documentation;
    d. All sample results for contract and subcontract laboratories with units, Reporting Limits and Method Detection Limits;
    e. Sample preparation, extraction and analysis dates; and
    f. Results for all quality control samples including all field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, and surrogate recoveries.
    g. If any data is missing from the annual data report, the submittal must include a description of the missing data and the date it will be submitted to the Colorado River Basin Water Board.

C. Annual Submittal of Management Practice (Farm Plan) Data

By **July 1, 2023**, and by **July 1 annually** thereafter, the Coalition shall submit to the Colorado River Basin Water Board management practice implementation data from the most recently submitted Farm Plans.

The following data shall be reported to the Colorado River Basin Water Board for each field:

1. Anonymous Member ID
2. Crop: If the Member has more than one field of a given crop, these may be

identified by crop plus a number (e.g., $tomato_1$, $tomato_2$)
3. Irrigation method
4. Irrigation practices
5. Pest management practices
6. Sediment and erosion management practices
7. Whether there are irrigation wells
8. Whether there are abandoned wells

D. Annual Submittal of Irrigation and Nitrogen Management Summary Data

The Coalition shall submit certain data from the prior year's Irrigation and Nitrogen Management Plan (INMP) Summary Reports and certain additional calculations in three tables in Excel workbook format.

The Coalition shall submit the Individual Field Applied (A) and Removed (R) Data by Anonymous Member ID Table beginning July**, 2024** and **annually** thereafter. The Coalition shall submit Individual Field AR Data by Anonymous APN ID Table beginning **April 1, 2024** and **annually** thereafter. The Coalition shall submit Township AR Data Table information beginning **April 1, 2024** and **annually** thereafter.

The Coalition shall calculate the following values and convert them to per acre values as indicated:

Total Nitrogen Removed
The Total Nitrogen Removed shall be calculated from the total amount of material removed (harvested/sequestered) and multiplied by a crop-specific coefficient, C_N. The Coalition shall determine, through literature review, nitrogen removed testing, and research, the most appropriate C_N coefficients for converting crop yield to Nitrogen Removed. The Coalition shall publish C_N coefficients for crops that cover 95% of acreage within the Coalition's boundaries in time to calculate Total Nitrogen Removed values based on yield values reported in the INMP Summary Reports due **March 1, 2024**. By **March 1, 2025**, the Coalition shall publish C_N coefficients for crops that cover 99% of acreage within the Coalition's boundaries. For the crops that cover the remaining 1% of acreage within the Coalition's boundaries, it is acceptable to use estimated C_N coefficients based on similar crop types. The methods used to establish C_N coefficients must be approved by the Executive Officer. Until C_N coefficients have been established for a particular crop, the Member will only report the crop yield in the INMP. Nitrogen Removed includes nitrogen removal via harvest and nitrogen sequestered in permanent wood of perennial crops.

Nitrogen Applied/Nitrogen Removed Ratio (A/R Ratio)
The A/R ratio shall be reported as the ratio of Total Nitrogen Applied to Total Nitrogen Removed.

Multi-Year Applied/Nitrogen Removed Ratio (A/R Ratio)
For each field for which three consecutive years of A/R ratio is available, the multi-year A/R ratio shall be reported as the ratio of Total Nitrogen Applied to Total Nitrogen Removed for the three prior consecutive years.

Nitrogen Applied – Nitrogen Removed Difference (A-R Difference)
The A-R difference shall be reported as the numerical difference between Total Nitrogen Applied and Total Nitrogen Removed. The Coalition shall review each Member's INMP Summary Reports and independently calculate and report both the A/R ratio and the A-R difference for the current reporting cycle (A/R1 year and A-R1 year). Beginning the third year of reporting, for those locations with data available for three years, the Coalition shall calculate and report a three-year running total for both the A/R ratio and the A-R difference (A/R3 year and A-R3 year). The formulas for the A/R ratios and A-R differences are shown in the equations below.

$$\text{A/R Ratio} = \frac{\text{Nitrogen Applied (from any source, including fertilizers, irrigation)}}{\text{Nitrogen Removed (via harvest, etc.)}}$$

$$\text{A-R Difference} = \text{Nitrogen Applied} - \text{Nitrogen Removed}$$

The following data shall be reported to the Colorado River Basin Water Board in three tables:

Table 1: Individual Field-Level AR Data by Anonymous Member ID Table: One entry is made for each field or management unit reported.

1. Anonymous Member ID: Each Anonymous Member ID may be associated with more than one field;
2. Crop: If the Member has more than one field of a given crop, these may be identified by crop plus a number (e.g. $tomato_1$, $tomato_2$)[14];
3. Nitrogen applied via fertilizers (lbs/acre);
4. Nitrogen applied via organics and compost (lbs/acre);
5. Nitrogen applied via irrigation water (lbs/acre);
6. Total Nitrogen applied (lbs/acre) [sum of nitrogen from fertilizer, organics/compost, and irrigation water];
7. Nitrogen removed per acre (lbs/acre);
8. A/R ratio;
9. A-R difference (lbs/acre); and
10. 3-year A/R ratio, if available.

[14] The Regional Water Board recognizes that, if multiple crop types are grown in the same field over the course of a year or over several years, variations on field nomenclature and crop reporting will be necessary. For example, the field could be identified as the same field in an extra column and an extra row could be added for each crop. In addition, the three-year A/R target range would likely need to be expressed as a weighted average of the crops grown during the three years.

Table 2: Individual Field-Level AR Data by Anonymous APN ID Table: An entry for a field or management unit may be repeated if there is more than one Anonymous APN ID associated with the field or management unit.

1. Anonymous APN ID: List on a separate line each Anonymous APN ID assigned to parcels the field overlays completely or partially;
2. Associated groundwater basin or subbasin;
3. Crop: If there is more than one field of a given crop in the APN, these may be identified by crop plus a number (e.g. tomato1, tomato2);
4. Nitrogen applied via fertilizers (lbs/acre);
5. Nitrogen applied via organics and compost (lbs/acre);
6. Nitrogen applied via irrigation water (lbs/acre);
7. Total Nitrogen applied (lbs/acre) [sum of nitrogen from fertilizer, organics/compost, and irrigation water];
8. Nitrogen removed per acre (lbs/acre);
9. A/R ratio;
10. A-R difference (lbs/acre); and
11. 3-year A/R ratio, if available.

Table 3: Township-Level Aggregated AR Data Table:

1. Township and range;
2. Crop;
3. Total acreage: sum for all the acreage for each unique crop within the township (acres);
4. Total nitrogen applied via fertilizer: sum for all acreage for each unique crop (total lbs);
5. Total nitrogen applied via organics and compost: sum for compost for each unique crop (total lbs);
6. Total nitrogen applied via irrigation water: sum for all acreage for each unique crop (total lbs);
7. Total nitrogen applied for each unique crop (total lbs) [sum of nitrogen from fertilizer, organics/compost, and irrigation water];
8. Total nitrogen removed for each unique crop (total lbs);
9. A/R ratio for each unique crop; and
10. A-R difference for each unique crop (total lbs).

Outliers - The CVIL Coalition shall identify the entries in the Table 1 above that the Coalition Group considers to be outliers for the AR data and which are subject to follow up actions. The methodology used to make the outlier determination must be approved by the Colorado River Basin Water Board's Executive Officer.

E. Annual Monitoring Report (AMR)

The Annual Monitoring Report (AMR) shall be submitted by **April 1** every year. The AMR shall cover the monitoring periods from the previous calendar year. The AMR shall include the following components:

1. Signed transmittal letter;
2. Title page;
3. Table of contents;
4. Executive summary;
5. Description of the Coalition's covered geographical area;
6. Monitoring objectives and design;
7. Sampling site/monitoring well descriptions and rainfall records for the time period covered under the AMR:
8. Location map(s) of sampling sites/monitoring wells, crops, and land uses;
9. Results of all surface water and groundwater analyses arranged in tabular form so that the required information is readily discernible;
10. Discussion of data relative to water quality objectives, and where applicable, Water Quality Restoration Plan milestones;
11. Sampling and analytical methods used;
12. Summary of Quality Assurance Evaluation results (as identified in the most recent version of the Coalition's approved QAPP);
13. Specification of the method(s) used to obtain estimated flow at each surface water monitoring site during each monitoring event.
14. Summary of exceedances of water quality objectives/trigger limits occurring during the reporting period and for surface water-related pesticide use information;
15. Actions taken to address water quality exceedances that have occurred, including but not limited to, revised or additional management practices implemented;
16. Evaluation of monitoring data to identify spatial trends and patterns;
17. Summary of management practice information collected as part of the Farm Plans;
18. Summary of INMP Summary Report data;
19. Summary of education and outreach activities; and
20. Conclusions and recommendations.

Additional clarifications necessary for some of the above report components are described below:

Report Component (1) —Signed Transmittal Letter
A transmittal letter shall accompany each report. The transmittal letter shall be submitted and signed in accordance with the requirements of Section F of the Order, General Provisions.

Report Component (8) — Location Maps
Location map(s) showing the sampling sites/monitoring wells, crops, and land uses within the Coalition's geographic area must be included in the AMR. An accompanying GIS shapefile or geodatabase of monitoring site and monitoring well information must include site code and name (surface water only) and Global Positioning System (GPS) coordinates (surface water sites and wells used for monitoring). The map(s) must contain a level of detail that ensures they are informative and useful. GPS coordinates must be provided as latitude and longitude in the decimal degree coordinate system (at a minimum of five decimal places). The datum must be either WGS 1984 or NAD83, and clearly identified on the map. The source and date of all data layers must be identified on the map(s). All data layers/shapefiles/geodatabases included in the map shall be submitted with the AMR.

Report Component (9) – Tabulated Results
In reporting monitoring data, the Coalition shall arrange the data in tabular form so that the required information is readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with the data collection requirements of the MRP.

Report Component (10) — Data Discussion to Illustrate Compliance
The report shall include a discussion of the Coalition's compliance with the data collection requirements of the MRP. If a required component was not met, an explanation for the missing data must be included. Results must also be compared to water quality objectives and trigger limits.

Report Component (12) — Quality Assurance Evaluation (Precision, Accuracy and Completeness)
A summary of precision and accuracy results (both laboratory and field) is required in the report. Acceptance criteria for all measurements of precision and accuracy must be identified. The Coalition must review all quality assurance/quality control (QA/QC) results to verify that protocols were followed and identify any results that did not meet acceptance criteria. A summary table or narrative description of all QA/QC results that did not meet water quality objectives must be included. Additionally, the report must include a discussion of how the failed QA/QC results affect the validity of the reported data and the corrective actions to be implemented.

In addition to precision and accuracy, the Coalition must also calculate and report completeness. Completeness includes the percentage of all quality control results that meet acceptance criteria, as well as a determination of project completeness. The Coalition may ask the laboratory to provide assistance with evaluation of their QA/QC data, provided that the Coalition prepares the summary table or narrative description of the results for the AMR.

Report Component (14) — Summary of Exceedances
A summary of the exceedances of water quality objectives or triggers that have occurred during the monitoring period is required in the AMR. In the event of exceedances for pesticides or in surface water, local pesticide use data must be included in the AMR. Pesticide use information may be acquired from the agricultural commissioner. This requirement is described further in Section F below on Surface and Groundwater Exceedance Reports.

Report Component (16) — Evaluation of Monitoring Data
The Coalition must evaluate its monitoring data in the AMR in order to identify potential trends and patterns in surface water and groundwater quality that may be associated with waste discharge from Irrigated Agricultural Lands. As part of this evaluation, the Coalition must analyze all readily available monitoring data that meet program quality assurance requirements to determine deficiencies in monitoring for discharges from Irrigated Agricultural Lands and whether additional sampling locations are needed. If deficiencies are identified, the Coalition must propose a schedule for additional monitoring or source studies. Upon notification from the Executive Officer, the Coalition must monitor any parameter in a watershed that lacks sufficient monitoring data (i.e., a data gap should be filled to assess the effects of discharges from Irrigated Agricultural Lands on water quality).

The Coalition should incorporate pesticide use information, as needed, to assist in its data evaluation. Wherever possible, the Coalition should utilize tables or graphs that illustrate and summarize the data evaluation.

Report Component (17) – Summary of Management Practice Information
The Coalition will aggregate and summarize information collected from management practices implementation. The summary of management practice data must include a quality assessment of the collected information by township (e.g. missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken regarding any deficiencies in the quality of data submitted, if such deficiencies were identified.

Report Component (18) – INMP Summary Report Evaluation
In addition to submitting the INMP Summary Report data, the Coalition shall submit an evaluation comparing individual field data collected from the Members' INMP Summary Reports. These comparisons shall include the ratio of Nitrogen Applied[15] to Nitrogen Removed and the difference between Nitrogen Applied and Nitrogen Removed for crops in the watershed. Nitrogen Applied includes nitrogen from any sources, including, but not limited to, organic amendments, synthetic fertilizers, and irrigation water.

[15] For some crops, the information needed to determine nitrogen removed may not be readily available. This will be determined through N removed research and crop yield will serve as a placeholder until nitrogen removed data is made available.

The Coalition's evaluation of both the $A/R_{1\ year}$ and $A/R_{3\ year}$ ratios must include, at a minimum, a comparison of A/R ratios by crop type. As directed by the Executive Officer, initial further evaluations within each crop type comparing the irrigation method, the soil conditions, and the farming operation size shall be developed. The Coalition shall evaluate the corresponding $A\text{-}R_{1\ year}$ and $A\text{-}R_{3\ year}$ differences by crop type. The Coalition shall also evaluate any other A/R ratio or A-R difference comparisons as directed by the Executive Officer. For each comparison, the Coalition must identify the mean and the standard deviation as well as develop a histogram plot of the data. A box and whisker plot comparing the A/R ratio and A-R difference for each comparison, or equivalent tabular or graphical presentation of the data approved by the Executive Officer, may also be used. The summary of nitrogen management data must include a quality assessment of the collected information (e.g. missing data, potentially incorrect/inaccurate reporting). Spreadsheets showing the calculations used for data evaluation must also be submitted to the Executive Officer. The Coalition may include any recommendations regarding future A/R ratio target values.

F. Surface and Groundwater Exceedance Reports

The Coalition shall provide surface and groundwater exceedance reports if monitoring results show exceedances of applicable numeric water quality objectives and/or water quality benchmarks. For each surface or groundwater quality objective exceeded at a monitoring location, the Coalition shall submit an Exceedance Report to the Colorado River Basin Water Board. The Coalition shall evaluate all of its monitoring data and determine exceedances **no later than 14 business days** after receiving the laboratory analytical reports for an event. Upon determining an exceedance, the Coalition shall send the Exceedance Report by email to the Coalition's designated Colorado River Basin Water Board staff contact **by the next business day**.

The Exceedance Report shall indicate (a) the number of surface water exceedances within the previous four regular monitoring events, and (b) whether the current exceedance constitutes a Water Quality Triggering Event.

Appendix A

Aerial photograph showing the sampling locations that are representative of discharges from Irrigated Agricultural Lands in Coachella Valley.