

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL COAST REGION**

**DRAFT GENERAL WASTE DISCHARGE REQUIREMENTS  
FOR  
DISCHARGES FROM IRRIGATED LANDS**

**ORDER NO. R3-20XX-XXXX**

**February 21, 2020**

**ATTACHMENT B**

**Monitoring and Reporting Program**

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## A. General Monitoring and Reporting Requirements

1. This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code section 13267, which authorizes the Central Coast Regional Water Quality Control Board (Central Coast Water Board) to require preparation and submittal of technical and monitoring reports.
2. The Central Coast Water Board needs the information required by this MRP to determine compliance with Order No. R3-20XX-XXXX. The evidence supporting the need for and benefits of to be obtained from these monitoring and reporting requirements is included in the findings the Order.
3. Pursuant to Water Code section 13268, a violation of a request made pursuant to section 13267 may subject the Discharger to civil liability of up to \$1000 per day. Pursuant to Water Code section 13350, a violation of a request made pursuant to section 13350 may subject the Discharger to civil liability of up to \$5000 per day.
4. Dischargers must submit reports in the format specified by the Executive Officer. Reports must be submitted electronically, unless otherwise specified by the Executive Officer. A transmittal letter must accompany each report, containing the following penalty of perjury statement signed by the Discharger or the Discharger's authorized agent:

*"In compliance with Water Code section 13267, I certify under penalty of perjury that this document and all attachments were prepared by me, or under my direction or supervision, following a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. To the best of my knowledge and belief, this document and all attachments are true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

5. All technical and monitoring reports submitted in compliance with this MRP must be complete and accurate. The submittal of an incomplete or inaccurate report does not constitute compliance with the requirement.
6. All water quality analyses must be conducted at a laboratory certified for such analysis through a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory according to approved standard and United States Environmental Protection Agency (USEPA) methods.<sup>1</sup> Unless otherwise noted,

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<sup>1</sup> Certified laboratories can be found online:  
[https://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/ag\\_waivers/docs/gw\\_labs\\_6\\_16.pdf](https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/gw_labs_6_16.pdf)

all sampling, sample preservation, and analyses must be performed in accordance with the latest edition of Test Methods for Evaluating Solid Waste, SW-846, USEPA, and analyzed as specified herein by the above analytical methods and reporting limits indicated.

7. Any laboratory data submitted to the Central Coast Water Board must be submitted by, or under the direction of, a state registered professional engineer, registered geologist, state certified laboratory, or other similarly qualified professional. Surface water quality data must be submitted electronically, in a format that is compatible with the California Environmental Data Exchange Network (CEDEN), or as directed by the Executive Officer. Groundwater quality data must be submitted in a format compatible with the electronic deliverable format (EDF) electronic data deliverable (EDD) criteria and protocols used by the State Water Board's GeoTracker data management system, or as directed by the Executive Officer.
8. Dischargers must provide the geographic information necessary to determine the Groundwater Phase Area, Surface Water Priority Area, and Riparian Priority Area that applies to each individual ranch when they enroll or update their electronic Notice of Intent (eNOI).
9. The Central Coast Water Board encourages Dischargers to participate in cooperative monitoring programs to comply with these monitoring and reporting requirements. Dischargers not participating in a cooperative monitoring program must conduct required monitoring and reporting individually. Participation in a cooperative monitoring program does not relieve Dischargers of the responsibility to comply with these requirements or of the requirement to have their ranch-level data reported to the Central Coast Water Board.
10. The section titled [Summary of Reporting Periods and Due Dates](#) at the end of this MRP includes tables that summarize the monitoring and reporting dates associated with the requirements in this MRP.

## **B. Total Nitrogen Applied (TNA) Monitoring and Reporting**

1. **Upon adoption of the Order**, all Dischargers, regardless of Groundwater Phase, who were enrolled in Order R3-2017-0002 (Ag Order 3.0) and required to submit TNA reports under Ag Order 3.0 must continue to conduct monitoring and recordkeeping, as described below, to submit a complete and accurate TNA report.

2. **By March 1, 2021, and March 1, 2022**, all Dischargers, regardless of Groundwater Phase, who were enrolled in Order R3-2017-0002 (Ag Order 3.0) and required to submit TNA reports under Ag Order 3.0 must submit a TNA report, electronically in the TNA report form.
3. **Beginning January 1, 2022**, Dischargers in Groundwater Phase 1 areas must conduct monitoring and reporting consistent with the requirements outlined in [Section C. Irrigation and Nutrient Management Plan \(INMP\) Summary Report Monitoring and Reporting](#). The INMP Summary report includes the same nitrogen application information as the TNA report, as well as additional expanded reporting related to nitrogen removed and irrigation, and therefore satisfies the TNA requirement.
4. **Beginning January 1, 2022**, Dischargers in Groundwater Phase 2 areas must conduct monitoring and recordkeeping, as described below, to submit a complete and accurate TNA report.
5. **By March 1, 2023, and March 1, 2024**, Dischargers with ranches in Groundwater Phase 2 areas must submit a TNA report, electronically in the TNA report form. Beginning March 1, 2024, the INMP Summary report requirement, that includes modified TNA reporting, will apply to Dischargers with ranches in Groundwater Phase 2 areas.
6. **Beginning January 1, 2022**, Dischargers in Groundwater Phase 1 areas must conduct monitoring and recordkeeping, as described below, to submit a complete and accurate TNA report.
7. **By March 1, 2023, March 1, 2024, March 1, 2025, and March 1, 2026**, Dischargers with ranches in Groundwater Phase 3 areas must submit a TNA report, electronically in the TNA report form. Beginning March 1, 2026, the INMP Summary report requirement, that modified TNA reporting, will apply to Dischargers with ranches in Groundwater Phase 3 areas.
8. Dischargers required to submit the TNA report must monitor and report the total amount of nitrogen applied from all sources, as described below, including fertilizer nitrogen (**A<sub>FER</sub>**), compost nitrogen (**A<sub>COMP</sub>**), irrigation water nitrogen (**A<sub>IRR</sub>**), nitrogen present in the soil, nitrogen concentration of the irrigation water, volume of irrigation water applied to the ranch, and additional information. The information must be recorded for the calendar year prior to the report due date (for example, if a report is due March 1, 2022, the monitoring information must be recorded from January 1 through December 31, 2021). The physical area

reported on in each TNA report form must represent no more than 640 acres; if a ranch is greater than 640 acres in size then multiple reports must be submitted.

9. Fertilizer nitrogen (**A<sub>FER</sub>**), for each specific crop.
  - a. Dischargers must monitor and report the total amount of nitrogen applied to the ranch from fertilizers during the reporting period. **A<sub>FER</sub>** includes nitrogen applied from fertilizers and amendments and all other materials or products containing nitrogen in any form or concentration, including but not limited to, organic and inorganic fertilizers, fertilizers applied through the irrigation water (i.e., fertigation), foliar fertilizers, slow release products, compost, compost teas, manure, and extracts.
  
10. Compost nitrogen (**A<sub>COMP</sub>**), by specific crop or for the entire ranch.
  - a. Dischargers must monitor and report the total amount of compost nitrogen applied to the ranch during the report period.
  
  - b. Dischargers have the option of using a compost discount factor (**C**) to calculate the amount of compost nitrogen mineralized during the report year the compost was applied to the ranch. The compost discount factor can only be applied to compost reported as **A<sub>COMP</sub>**. If compost is reported under **A<sub>FER</sub>** then the compost discount factor cannot be applied.
  
  - c. The Central Coast Water Board's standard compost discount factors (**C**) are defined below. Different compost discount factors are applied based on the carbon to nitrogen (C:N) ratio of the product.<sup>2</sup>
    - i. For C:N ratio > 11:1, **C = 0.05**. That is, 5 percent of the nitrogen in the compost will be counted in the A-R compliance calculation.
  
    - ii. For C:N ratio ≤ 11:1, **C = 0.10**. That is, 10 percent of the nitrogen in the compost will be counted in the A-R compliance calculation.
  
  - d. Only a final product (or stabilized compost) can receive the compost discount factors defined above. Other materials containing nitrogen that are not final products are not eligible for the compost discount factor. Vegetative food materials include the crop residues left on the field after harvest and are not considered to be a final product. A final product is a

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<sup>2</sup> Attachment A, Section C.1 includes information on the source of the standard compost discount factors.

material that has been composted and completed the curing composting phase.

- e. Dischargers who elect to use their own compost discount factor (**C**) to determine the amount of compost nitrogen mineralized during the report year must report their **C** value. Records detailing the rationale and sampling methods used to determine the **C** value must be maintained in the Farm Plan and must be submitted to the Central Coast Water Board upon request.
- f. If compost nitrogen is reported as **A<sub>COMP</sub>** it should not also be included in the **A<sub>FER</sub>** calculation (i.e., it should not be reported twice in the same report form).

11. Irrigation water nitrogen (**A<sub>IRR</sub>**), for the entire ranch.

- a. The amount of irrigation water nitrogen applied, **A<sub>IRR</sub>**, is calculated using the nitrogen concentration of the irrigation water and the volume of water applied to the ranch during the reporting period.
- b. **A<sub>IRR</sub>** does not include liquid fertilizers applied during fertigation.
- c. The volume of water used in this calculation must include all water applied, including water applied for irrigation, leaching, runoff, backflush, operational spills, etc. Rainwater should not be included in this calculation.

12. Nitrogen present in the soil.

- a. Dischargers must conduct soil nitrogen monitoring to inform fertilizer application decisions for their ranch. Dischargers must measure and report the amount of soil nitrogen present in the soil at least once per reporting period. Soil nitrogen monitoring locations and frequencies should be representative of cropping patterns and soil types as needed to inform nitrogen management decisions.
- b. Dischargers may take a soil sample for laboratory analysis, use a nitrate quick test, or use an alternative method to evaluate nitrogen content in the soil prior to planting, prior to seeding the field, prior to pre-side dressing, or when appropriate to determine nitrogen available in the soil for the current or following crop, prior to applying fertilizer nitrogen. These records must be maintained in the Farm Plan and submitted to the Central Coast Water Board upon request.

- c. Soil nitrogen content must be measured at the time of year or the stage during the crop cycle when soil nitrogen content is high and therefore should be accounted for as a source of nitrogen. Records describing the timing of the soil nitrogen monitoring and the rationale used to determine the timing must be maintained in the Farm Plan and must be submitted to the Central Coast Water Board upon request.

13. Nitrogen concentration of the irrigation water.

- a. Dischargers required to submit the TNA report must, at a minimum, obtain and report a precise<sup>3</sup> nitrogen concentration from the primary source of irrigation water (e.g., primary irrigation well, municipal supply water, recycled water, etc.) during the reporting period. If Dischargers obtain multiple precise nitrogen samples from their primary irrigation well, they must compute and report the average nitrogen concentration based on all samples taken.
- b. Dischargers using an irrigation source for their ranch that is not located on their ranch property (e.g., sharing an irrigation well with a neighbor) are still responsible for obtaining a precise nitrogen concentration from the primary source of irrigation water.
- c. Examples of methods used to obtain precise values include laboratory analyses and portable measuring devices. A method that produces a concentration range, such as a nitrate quick test strip, cannot be used to satisfy this requirement unless additional technology or methods are used to obtain a precise value from the test strip.
- d. Where possible, Dischargers are encouraged to obtain precise nitrogen samples from all sources of irrigation water and compute a weighted average irrigation water nitrogen concentration. The weighted average is calculated using volume and concentration information from each water source. The methodology for calculating the weighted average is described in the [Nitrogen Applied](#) section in section C below.
- e. Details on the required frequency and methods for monitoring irrigation wells are included in the [Irrigation Wells](#) section in section D below.

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<sup>3</sup> For the purposes of this MRP, a “precise” represents an exact measurement (e.g., 2.5 mg/L or 4 mg/L), as opposed to a measurement expressed as a range (e.g. 1-5 mg/L).

14. Volume of irrigation water applied to the ranch.

- a. Dischargers required to submit the TNA report must, at a minimum, estimate and report the total volume of irrigation water applied to the ranch during the reporting period. Where possible, Dischargers are encouraged to measure the volume of irrigation water applied to the ranch or to each specific crop grown. Records describing the method used to estimate the volume of irrigation water applied must be maintained in the Farm Plan and must be submitted to the Central Coast Water Board upon request.

15. Additional information.

- a. Dischargers must report additional information required in the TNA report form, including acres of each specific crop grown, whether each specific crop was grown using organic or conventional methods, and information describing the basis for the amount of nitrogen applied (e.g., University of California (UC) Farm Advisor consultation, on-farm research trials, trade publication, etc.).

### C. Irrigation and Nutrient Management Plan (INMP) Summary Report Monitoring and Reporting

1. The INMP Summary report contains the same nitrogen application information as the TNA report, plus additional information related to nitrogen removed and irrigation management. Therefore, the INMP Summary report satisfies the TNA report requirement and an additional TNA report is not required to be submitted when the INMP Summary report is submitted to the Central Coast Water Board.
2. The INMP Summary report is used to determine compliance with the nitrogen discharge targets and limits established in the Order via the two available compliance pathways. Dischargers must input the information in the formulas described below into the INMP Summary report. The INMP Summary report will calculate the nitrogen discharge based on nitrogen applied minus nitrogen removed (A-R) for the ranch.

**Compliance Pathway 1:  $A_{FER} + (C \times A_{COMP}) + A_{IRR} - R = \text{Nitrogen Discharge}$**

OR

**Compliance Pathway 2:  $A_{FER} + (C \times A_{COMP}) = R$**

**In both formulas,  $R = R_{HARV} + R_{SEQ} + R_{TREAT} + R_{OTHER}$**

- a.  $A_{FER}$  is the amount of fertilizer nitrogen applied in pounds per acre.
- b.  $C$  is the compost discount factor used to represent the amount of compost nitrogen mineralized during the year that the compost was applied.
- c.  $A_{COMP}$  is the total amount of compost nitrogen applied in pounds per acre.
- d.  $A_{IRR}$  is the amount of irrigation water nitrogen applied in pounds per acre.
- e.  $R$  is the amount of nitrogen removed from the field through harvest, sequestration, or other removal methods, in pounds per acre.
- f.  $R_{HARV}$  is the amount of nitrogen removed from the field through harvest or other removal of crop material.
- g.  $R_{SEQ}$  is the amount of nitrogen removed from the field through sequestration in woody materials of permanent or semi-permanent crops.
- h.  $R_{TREAT}$  is the amount of nitrogen removed from the ranch through a quantifiable treatment method (e.g., bioreactor).
- i.  $R_{OTHER}$  is the amount of nitrogen removed from the ranch through other methods not previously quantified.

3. **Beginning January 1, 2022**, Dischargers in Groundwater Phase 1 areas must conduct monitoring and recordkeeping, as described below, to submit a complete and accurate INMP Summary report.
4. **By March 1, 2023, and by March 1 annually thereafter**, Dischargers in Groundwater Phase 1 areas must submit an INMP Summary report, electronically in the INMP Summary report form.
5. **Beginning January 1, 2024**, Dischargers in Groundwater Phase 2 areas must conduct monitoring and recordkeeping, as described below, to submit a complete and accurate INMP Summary report.
6. **By March 1, 2025, and by March 1 annually thereafter**, Dischargers in Groundwater Phase 2 areas must submit an INMP Summary report, electronically in the INMP Summary report form.
7. **Beginning January 1, 2026**, Dischargers in Groundwater Phase 3 areas must conduct monitoring and recordkeeping, as described below, to submit a complete and accurate INMP Summary report.
8. **By March 1, 2027, and by March 1 annually thereafter**, Dischargers in Groundwater Phase 3 areas must submit an INMP Summary report, electronically in the INMP Summary report form.
9. Dischargers required to submit the INMP Summary report must monitor and report the total amount of nitrogen applied from all sources, the amount of nitrogen removed from the field, and information on irrigation management, as described below. The physical area reported on in each INMP Summary report must represent no more than 640 acres; if a ranch is greater than 640 acres in size then multiple reports must be submitted.

### **Nitrogen Applied**

10. See section B above for [fertilizer nitrogen \(A<sub>FER</sub>\)](#), [compost nitrogen \(A<sub>COMP</sub>\)](#), [irrigation water nitrogen \(A<sub>IRR</sub>\)](#), [nitrogen present in the soil](#), and [additional information](#) requirements. These sections are the same in the TNA report and INMP Summary report. The INMP Summary report includes expanded requirements for the nitrogen concentration of the irrigation water and volume of irrigation water applied sections of the TNA report, and includes additional requirements related to nitrogen removed and irrigation water that are not required in the TNA report.

11. Nitrogen concentration of the irrigation water.

- a. Dischargers required to submit the INMP Summary report must obtain and report a precise nitrogen concentration from all sources of irrigation water (e.g., each irrigation well, municipal supply water, recycled water, etc.) used during the reporting period. Minimum irrigation well reporting requirements are included in the [Irrigation Wells](#) section in section D below) of this MRP. If Dischargers obtain multiple precise nitrogen samples from a given irrigation well or wells, they must compute and report the average nitrogen concentration based on all samples taken from that well.
- b. Dischargers using an irrigation source for their ranch that is not located on their ranch property (e.g., sharing an irrigation well with a neighbor) are still responsible for obtaining a precise nitrogen concentration from the primary source of irrigation water.
- c. Dischargers must calculate and report a weighted average irrigation water nitrogen concentration. The weighted average is calculated using volume and concentration information from each water source.
- d. The following formula can be used to compute the weighted average nitrate concentration of the irrigation water. Here, C1 represents the concentration of well 1, V1 represents the volume of well 1, C2 represents the concentration of well 2, etc.

$$\text{Weighted Average Concentration} = \frac{((C1 * V1) + (C2 * V2) + (C3 * V3) + \dots)}{(V1 + V2 + V3 + \dots)}$$

- e. Dischargers must obtain sufficient samples to calculate the amount of nitrogen applied with the irrigation water to be used in determining compliance with nitrogen discharge targets and limits. At a minimum, Dischargers must obtain a precise sample from each source of irrigation water once during the reporting period. Dischargers may obtain additional samples to increase the accuracy of their reporting and improve their ability to utilize irrigation water nitrogen in place of fertilizer nitrogen.
- f. Dischargers must maintain records of all irrigation water sampling conducted and of all weighted average calculations performed. These records must be maintained in the Farm Plan and must be submitted upon request.

- g. Details on the required frequency and methods for monitoring irrigation wells are included in the [Irrigation Wells](#) section in section D below.

12. Volume of irrigation water applied to the ranch.

- a. Dischargers required to submit the INMP Summary report must measure and report the total volume of irrigation water applied to the ranch during the reporting period. Dischargers must estimate, and where possible are encouraged to measure the volume of irrigation water applied to each specific crop. Records describing the method used to measure the volume of irrigation water applied to the ranch and/or to estimate or measure the volume of irrigation water applied to each specific crop must be maintained in the Farm Plan and must be submitted to the Central Coast Water Board upon request.

**Nitrogen Removed**

13. Nitrogen removed from the field, for each specific crop.

- a. Dischargers must monitor and report the total amount of nitrogen removed from the field through harvest, sequestration, or other removal methods, (R).

$$R = R_{\text{HARV}} + R_{\text{SEQ}} + R_{\text{TREAT}} + R_{\text{OTHER}}$$

- b.  $R_{\text{HARV}} = \text{Conversion Coefficient} \times \text{Material Removed}$

- i. All Dischargers must monitor the total mass of each specific crop in pounds per acre removed from the field during the reporting period.
- ii. To calculate the amount of nitrogen removed from the field, Dischargers must either use a conversion coefficient provided by the regional board in [Table MRP-1](#) or develop and use their own conversion coefficient. Dischargers who elect to develop their own conversion coefficient must do so by obtaining a laboratory result from samples collected from their operation, following standard protocols approved by the Executive Officer, to determine the nitrogen concentration in the crop material. Dischargers must maintain any data collected and rationale used in determining their individual conversion coefficient in the Farm Plan. This information must be submitted to the Central Coast Water Board upon request.

- iii. For crops that do not yet have approved conversion coefficients in [Table MRP-1](#), Dischargers must either select a conversion coefficient for a crop that is similar to their crop or develop their own conversion coefficient using the approved method described above. Dischargers must maintain records detailing how and why they selected a particular conversion coefficient for their crop and, if applicable, information on the method used to obtain their own conversion coefficient in the Farm Plan. These records must be submitted to the Central Coast Water Board upon request.
- c. **R<sub>SEQ</sub>**
- i. Dischargers with permanent or semi-permanent crops may determine the amount of nitrogen sequestered in their crops during the reporting year and quantify and report this as **R<sub>SEQ</sub>** for use in their nitrogen applied minus nitrogen removed reporting. Dischargers must maintain any data collected and rationale used in determining the amount of sequestered nitrogen in the Farm Plan. This information must be submitted to the Central Coast Water Board upon request.
- d. **R<sub>TREAT</sub>**
- i. Dischargers using treatment systems may monitor the inflow and outflow nitrate concentration and volume of their treatment systems and quantify and report this as **R<sub>TREAT</sub>** for use in their nitrogen applied minus nitrogen removed reporting. Dischargers must maintain any data collected and rationale used in determining the amount of nitrogen removed through treatment in the Farm Plan. This information must be submitted to the Central Coast Water Board upon request.
- e. **R<sub>OTHER</sub>**
- i. If Dischargers remove nitrogen from their ranch in ways not quantified above, they may monitor this nitrogen removed and report this as **R<sub>OTHER</sub>** for use in their nitrogen applied minus nitrogen removed reporting. Dischargers must maintain any data collected and rationale used in determining any other methods of nitrogen removal in the Farm Plan. This information must be submitted to the Central Coast Water Board upon request.

### **Irrigation Water**

#### 14. Crop evapotranspiration.

- a. Dischargers must calculate and report the evapotranspiration for each specific crop. Acceptable methods include, but are not limited to, using reference evapotranspiration data from a local weather station (e.g., California Irrigation Management Information System (CIMIS)<sup>4</sup> or an on-farm station) with a crop coefficient conversion value, and direct measurement.

#### 15. Irrigation discharge to surface water and groundwater.

- a. Dischargers must estimate and report the volume of water discharged through surface outflows, including tile drains, and the volume of water discharged to groundwater through percolation.

### **D. Groundwater Monitoring and Reporting**

This section contains four types of monitoring and reporting related to groundwater quality: [On-Farm Domestic Wells](#), [Irrigation Wells](#), and [Groundwater Quality Trends](#) that are required of all Dischargers and [Ranch-Level Groundwater Discharge](#) that must be completed when required by the Executive Officer.

1. All groundwater monitoring data sampled to meet the minimum groundwater monitoring requirements of the Order must be submitted electronically to the State Water Board's GeoTracker database by the testing laboratory. Submitted data must include the ranch AGL, the well coordinates (latitude and longitude), the well name (i.e., Location Identifier (LOCID)/Field Point Name) that is consistently and repeatedly used to refer to the same well each time the well is sampled, and the well type (i.e., Field Point Class; PRIW for Domestic/Private Drinking Water Well or AGIR for Agricultural/Irrigation Well). It is recommended the well name be affixed to the well to eliminate confusion during sample collection and labeling and laboratory reporting.

#### **On-Farm Domestic Wells**

2. **Between March 1 and May 31 annually, all** Dischargers, regardless of what Groundwater Phase their ranch is in, must conduct sampling of all on-farm

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<sup>4</sup> CIMIS can be found online at <https://cimis.water.ca.gov/>

domestic drinking water supply wells (see definition in Attachment C).  
Dischargers must report monitoring results by **July 31 each year**.

3. Dischargers must collect samples at or near the well head (before the pressure tank and prior to any well head treatment). If 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 devices or systems.
4. At a minimum, samples must be analyzed for total dissolved solids (TDS), general minerals (anions and cations), 1,2,3-trichloropropane (1,2,3-TCP), and nitrate as nitrogen or nitrate + nitrite as nitrogen as specified in [Table MRP-2](#).
5. Based on a well's location and well construction, one or more on-farm domestic wells may be appropriate to include in a groundwater trend monitoring program. In such cases, Dischargers must supplement analytical requirements described in [Table MRP-2](#) with additional constituents of concern the Executive Officer has approved for a trend monitoring program.

*Notification to On-Farm Domestic Well Users*

6. Dischargers must provide well users with laboratory analytical results within **10 days** of receiving results from the laboratory. Dischargers must also provide notification of the most recent laboratory analytical results to any new well users (e.g., tenants and employees with access to the sampled well) within **10 days** whenever there is a change in the population using the well.
7. Notification of laboratory results to well users must be accompanied by a statement regarding health risks associated with consuming and/or cooking with well water containing nitrate in excess of the Maximum Contaminant Level (MCL) (10 mg/L nitrate [or nitrate plus nitrite] as nitrogen). In addition, the notification must include a statement indicating that boiling water should not occur. Notifications must be provided in Spanish as well as English as needed to sufficiently inform all well users.
8. Dischargers must update their Annual Compliance Form (ACF; see [section F](#) below) within **30 days** of receiving results from the laboratory to confirm the following:
  - a. Well users have been provided with laboratory analytical results.
  - b. Well users have been provided with information regarding health risks associated with consuming and/or cooking with well water containing nitrate in excess of the MCL.

- c. Well users have an alternate source of water for drinking and cooking if the sampled well contains nitrate in excess of the MCL.
- d. If there has been a change in the population using the well in the past year (e.g., new tenants), confirm that new well users have been provided with the information and resources described above.

### **Irrigation Wells**

9. Between the months specified below, Dischargers must conduct monitoring of the primary irrigation well located on their ranch. Dischargers must report monitoring results by **July 31 each year**.
  - a. Ranches in Groundwater Phase 1 areas must monitor all irrigation wells, as described below.
  - b. **March 1 to May 31, 2022 and 2023**, for ranches in Groundwater Phase 2 areas.
  - c. **March 1 to May 31, 2022, 2023, 2024, and 2025** for ranches in Groundwater Phase 3 areas.
10. Between the months specified below, Dischargers must conduct monitoring of all irrigation wells located on their ranch. Dischargers must report monitoring results by **July 31 each year**.
  - a. **March 1 to May 31, 2022**, and annually thereafter, for ranches in Groundwater Phase 1 areas.
  - b. **March 1 to May 31, 2024**, and annually thereafter, for ranches in Groundwater Phase 2 areas.
  - c. **March 1 to May 31, 2026**, and annually thereafter, for ranches in Groundwater Phase 3 areas.
11. At a minimum, samples must be analyzed for total dissolved solids (TDS), general minerals (anions and cations), and nitrate as nitrogen or nitrate + nitrite as nitrogen as specified in [Table MRP-3](#).
12. Based on a well's location and construction, one or more irrigation wells may be appropriate to include in a groundwater quality trend monitoring program as required below. In such cases, Dischargers must supplement analytical requirements noted in [Table MRP-3](#) with additional constituents of concern the Executive Officer has approved for a trend monitoring program.

### **Groundwater Quality Trends**

#### **Third-Party Cooperative Approach**

13. An approved third-party representing Dischargers must develop and submit a regional groundwater trend monitoring and reporting work plan, by the dates and covering the areas specified below. The work plan must include a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP). The work plan must be prepared by a qualified professional and designed to quantitatively evaluate groundwater quality trends and quantitatively assess the impacts of agricultural discharges on groundwater quality over time.
  - a. **September 1, 2023** for all groundwater basins with Groundwater Phase 1 areas;
  - b. **September 1, 2025** for all groundwater basins with Groundwater Phase 2 areas;
  - c. **September 1, 2027** for all other areas.
  
14. The work plan must include the following, at a minimum:
  - a. Description of the geographic and hydrogeologic area in which the trend monitoring program will be established, including maps and cross-sections.
  - b. Rationale for a sufficiently representative monitoring well network to monitor discrete depth intervals with an emphasis on shallow or first encountered groundwater, including supporting soils, geologic, and hydrogeologic information such as cross-sections and groundwater depth and flow characteristics.
  - c. Location and construction details associated with proposed wells composing the monitoring network, including existing and new wells.
  - d. If applicable, a description of how data from existing monitoring networks will be incorporated into the groundwater trend monitoring program and how those data will be uploaded to GeoTracker.
  - e. Table showing proposed monitoring constituents that will be evaluated to assess changes in concentration over time. At a minimum, trend monitoring wells must be sampled in accordance with [Table MRP-4](#).
  - f. Proposed protocol used to evaluate trends in groundwater quality data, including statistical methods and data depiction.
  - g. Proposed reporting schedule for water quality trend analysis.
  - h. Proposal for obtaining well completion reports and/or well driller's logs and maintaining such data.
  - i. SAP and QAPP (see [Section G](#) below).
  
15. If one or more wells from an ongoing, established non-agricultural monitoring program are incorporated into the trend monitoring network, monitoring data from these wells must also be uploaded to the GeoTracker database and must comply with GeoTracker EDF and EDD criteria and protocols. Incorporation of such data must occur as described in the work plan approved by the Executive Officer.

Groundwater Quality Trends – Individual Approach

16. Dischargers who elect to perform groundwater trend monitoring and reporting individually must submit an individual trend monitoring work plan, based on their ranch location, by the dates specified below. The work plan must be developed and certified by a qualified professional, include a SAP and QAPP, and describe how the ranch-level monitoring program will quantitatively evaluate groundwater quality trends over time and quantitatively assess the impacts of agricultural discharges on groundwater quality.
  - a. **September 1, 2023** for all groundwater basins with Groundwater Phase 1 areas;
  - b. **September 1, 2025** for all groundwater basins with Groundwater Phase 2 areas;
  - c. **September 1, 2027** for all other areas.
  
17. Dischargers who elect to perform groundwater trend monitoring and reporting individually must provide well completion reports (WCRs) to the Central Coast Water Board for all wells located on all enrolled parcels. WCRs must be uploaded to the GeoTracker database as a Bore Log File (i.e., GEO\_BORE) in a PDF format.
  - a. **September 1, 2023** for all groundwater basins with Groundwater Phase 1 areas;
  - b. **September 1, 2025** for all groundwater basins with Groundwater Phase 2 areas;
  - c. **September 1, 2027** for all other areas.
  
18. Dischargers must enlist a qualified professional (e.g., hydrogeologist, geologist, or engineer) registered in California to develop and certify their work plan. The work plan must include, at a minimum:
  - a. Evaluation of well construction characteristics on all WCRs for determination of well suitability for use in trend monitoring.
  - b. Identification of specific wells for trend monitoring on the enrolled parcel, including the water-bearing zone monitored by each well. Determination of the wells used in trend monitoring must be justified.
  - c. Determination of the location(s) and well construction characteristics for one or more new purpose-built monitoring wells to be used in trend monitoring if existing wells are not adequate for long-term monitoring.
  - d. Determination of the statistical method that will be used for groundwater trend evaluation.
  - e. SAP and QAPP (see [Section G](#) below).

19. Dischargers must submit to the Central Coast Water Board a signed and dated document from the qualified professional who conducted activities described above in a format specified by the Executive Officer containing the following statement:

*I certify under penalty of law that I have used sound scientific and professional judgement to conduct the evaluation, and generate determinations and recommendations provided to [name and AGL of grower]. To the best of my knowledge and belief, information provided to [name grower] is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information. I am not responsible for any damages, loss, or liability arising from implementation of my determinations or recommendations by [name of grower] in a manner that is inconsistent with my determinations or recommendations for groundwater quality trend monitoring. This certification does not create liability for claims for environmental violations.*

20. Enrollees in the Order who do not have a well on their parcel, and do not choose to join a third party coalition for regional groundwater trend monitoring, must install a purpose-built monitoring well, or wells, as needed, to evaluate water quality trends in the shallowest water-bearing zone beneath their parcel.
21. **Quarterly**, Dischargers must monitor wells used in groundwater quality trend monitoring. Monitoring results must be uploaded by **January 31, April 30, July 31, October 31 each year**. At a minimum, groundwater quality trend monitoring wells must be sampled in accordance with [Table MRP-4](#).
22. **By January 31 annually**, Dischargers must submit a trend evaluation report. The trend evaluation report must be uploaded to the GeoTracker database.
23. At a minimum, the trend evaluation report must include the following:
- For each well used in trend monitoring, figures showing concentration versus time for all constituents of concern.
  - Description of the statistical method used to evaluate water quality trends.
  - Discussion of the statistical trend analysis results as they pertain to farm management practice impacts on groundwater quality.

### **Ranch-Level Groundwater Discharge**

24. When required by the Executive Officer based on groundwater quality data or exceedance of the nitrogen discharge targets or limits, Dischargers must conduct ranch-level groundwater discharge monitoring. Dischargers must submit a work plan for review by the Executive Officer prior to implementation. The work plan

must be submitted within **90 days** of being required by the Executive Officer. Once approved, the work plan must be implemented. The work plan must meet the following minimum criteria:

- a. Be designed to quantify the Discharger's impact on groundwater quality;
- b. Monitor the concentration of nitrate and other relevant constituents;
- c. Monitor the volume of water that percolates through the soil;
- d. Identify how the ranch-level groundwater discharge monitoring data will be used to assess and improve management practices;
- e. Include a time schedule for implementation;
- f. Result in compliance with the nitrogen discharge limits in the Order;
- g. SAP and QAPP (see [Section G](#) below).

## **E. Surface Water Monitoring and Reporting**

This section contains three types of monitoring and reporting related to surface water quality: [Surface Receiving Water Quality Trends](#) and [Follow-Up Surface Receiving Water](#) that are required of all Dischargers and [Ranch-Level Surface Discharge](#) that must be completed when required by the Executive Officer.

### **Surface Receiving Water Quality Trends**

1. Surface receiving water refers to water flowing in creeks and other surface waters of the State. Surface receiving water monitoring and reporting must be conducted through either a cooperative monitoring program on behalf of Dischargers, or Dischargers may choose to conduct surface receiving water monitoring and reporting individually. Key monitoring and reporting requirements for surface receiving water monitoring are shown in [Table MRP-5](#) and [Table MRP-6](#).
2. Dischargers must select a surface receiving water monitoring option (cooperative receiving water monitoring or individual receiving water monitoring) to comply with the surface receiving water monitoring requirements. Dischargers must identify the option selected in the operation eNOI.
3. Dischargers, either individually or as part of a cooperative program, must conduct surface receiving water monitoring and reporting to achieve the following:
  - a. Evaluate the impact of irrigated agricultural waste discharges on receiving waters;
  - b. Evaluate compliance with the numeric limits described in the Order;
  - c. Evaluate the status of receiving water quality, including whether water quality objectives are attained and beneficial uses are protected;

- d. Evaluate short-term patterns and long-term trends (five to ten years or more) in receiving water quality;
  - e. Evaluate water quality impacts of tile drain discharges from irrigated agricultural operations;
  - f. Evaluate water quality impacts of stormwater discharges from irrigated agricultural operations;
  - g. Evaluate the condition of existing perennial, intermittent, and ephemeral streams and riparian and wetland areas, including degradation resulting from erosion or irrigated agricultural discharges of waste;
  - h. Identify specific sources of water quality problems.
4. **By July 1, 2021**, Dischargers, either individually or as part of a cooperative program, must submit a surface receiving water work plan including a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP; see [Section G](#) below). The SAP must be developed to describe how the proposed monitoring will achieve the objectives of the MRP and evaluate compliance with the Order. The SAP may propose alternative monitoring and reporting site locations, adjusted monitoring parameters, and other changes as necessary to assess the impacts of irrigated agricultural wasted discharges to receiving water. The Executive Officer must approve the SAP and QAPP prior to implementation.
5. Dischargers, either individually or as part of a cooperative program, must perform surface receiving water monitoring and reporting in accordance with the work plan, SAP, and QAPP approved by the Executive Officer.
6. The work plan must, at a minimum, include monitoring sites to evaluate waterbodies identified in [Table MRP-5](#), unless otherwise approved by the Executive Officer. The SAP must include sites to evaluate receiving water quality impacts most directly resulting from areas of irrigated agricultural discharge (including areas receiving tile drain discharges). Site selection must take into consideration the existence of any long-term monitoring sites included in related monitoring programs (e.g., Central Coast Ambient Monitoring Program (CCAMP) and the existing cooperative monitoring program). Sites may be added or modified, subject to prior approval by the Executive Officer, to better assess the pollutant loading from individual sources or the impacts to receiving waters caused by individual discharges. Any modifications must consider sampling consistency for purposes of trend evaluation.
7. The work plan must, at a minimum, include the types of monitoring and evaluation parameters listed below and identified in [Table MRP-6](#).
  - a. Flow monitoring;
  - b. Water quality (physical parameters, metals, nutrients, pesticides);

- c. Toxicity (water and sediment);
  - d. Assessment of benthic invertebrates, physical habitat monitoring, and Riparian Rapid Assessment Method (RipRAM) monitoring.
8. The work plan must include a schedule for sampling. Timing, duration, and frequency of monitoring must be based on the land use, complexity, hydrology, and size of the waterbody. [Table MRP-6](#) includes minimum monitoring frequency and parameter lists. Agricultural parameters that are less common may be monitored less frequently. Modifications to the receiving water quality monitoring parameters, frequency, and schedule must be submitted for Executive Officer consideration and approval. At a minimum, the SAP schedule must consist of monthly monitoring of common agricultural parameters, including two major storm events during the wet season (October 1 – April 30).
9. Water column toxicity analyses must be conducted on 100% (undiluted) samples. At sites where persistent unresolved toxicity is found, the Executive Officer may require concurrent toxicity and chemical analyses and a Toxicity Identification Evaluation (TIE) to identify the individual discharges causing the toxicity.
10. Stormwater monitoring must be conducted within 18 hours of storm events, preferably including the first flush run-off event (see definition in Attachment C) that results in significant increase in stream flow. For the purposes of this MRP, a storm event is defined as precipitation producing onsite runoff (surface water flow) capable of creating significant ponding, erosion, or other water quality problems. A significant storm event will generally result in greater than a half-inch of rain within a 24-hour period.
11. **By January 1, April 1, July 1, and October 1 of each year**, Dischargers, either individually or as part of a cooperative program, must submit water quality monitoring data electronically to CEDEN, according to CEDEN submittal guidelines, or in a format specified by the Executive Officer. Each quarterly data submittal must be accompanied by an [Exceedance Report](#), wherein exceedances of water quality objectives and relevant water quality limits in the Order are summarized.
12. **By July 1 annually**, Dischargers, either individually or as part of a cooperative program, must submit an [Annual Report](#) for the previous year of collected data, electronically, in a format specified by the Executive Officer. The Annual Report must include the following minimum elements:
  - a. Signed transmittal letter;
  - b. Title page;
  - c. Table of contents;

- d. Executive summary;
- e. Summary of Exceedance Reports submitted during the reporting period;
- f. Monitoring objectives and design;
- g. Monitoring site descriptions and rainfall records for the time period covered;
- h. Location of monitoring sites and map(s);
- i. Results of all analyses arranged in tabular form so that the required information is readily discernible;
- j. Summary of water quality data for any sites monitored as part of related monitoring programs and used to evaluate receiving water as described in the SAP;
- k. Discussion of data to clearly illustrate compliance with the Order, water quality standards, and surface water limits required by the Order, including watershed-level data analysis for each hydrologic subarea in [Table MRP-5](#) (for example data analysis and discussion for sub-watersheds 30510, 30530, etc.);
- l. Discussion of short-term patterns and long-term trends in receiving water quality and beneficial use protection;
- m. Evaluation of pesticide and toxicity analyses results, and recommendation of candidate sites for TIEs;
- n. Sampling and analytical methods used;
- o. Copy of chain-of-custody forms;
- p. Field data sheets, signed laboratory reports, laboratory raw data;
- q. Associated laboratory and field quality control samples results;
- r. Summary of Quality Assurance Evaluation results;
- s. The method used to obtain flow at each monitoring site during each monitoring event;
- t. Electronic or hard copies of photos obtained from all monitoring sites, clearly labeled with site ID and date;
- u. Potential follow-up actions to correct any observed exceedances of the surface water limits;
- v. Conclusions.

### **Follow-Up Surface Receiving Water**

13. Dischargers, either individually or as party of a cooperative program, must develop a follow-up surface receiving water implementation work plan to achieve the following:
  - a. Identify and abate source of water quality impacts;
  - b. Evaluate the impact of irrigated agricultural waste discharges on receiving waters;
  - c. Evaluate compliance with the numeric limits described in the Order;

- d. Identify follow-up actions, including outreach, education, additional monitoring and reporting, and management practice implementation that will be implemented to achieve compliance with the numeric limits described in the Order.
14. The work plan must be submitted by the dates specified below, based on the ranch's Surface Water Priority Area:
- a. **March 1, 2022** for Surface Water Priority 1 areas;
  - b. **March 1, 2023** for Surface Water Priority 2 areas;
  - c. **March 1, 2024** for Surface Water Priority 3 areas;
  - d. **March 1, 2025** for Surface Water Priority 4 areas.
15. The work plan must include the following minimum components:
- a. Description of implementation measures that will be taken to reduce the discharge of relevant constituents and comply with the limits established in the Order.
  - b. Interim quantifiable milestones to confirm progress is being made to reduce the discharge of relevant constituents and achieved the limits established in the Order, consistent with their time schedule.
  - c. Consideration of the level of water quality impairment identified through surface receiving water monitoring. Work plans for areas with persistent exceedances of the surface water limits in the Order must identify follow-up actions to restore the degraded areas (e.g., outreach, education, management practice implementation) and additional surface receiving water monitoring locations for pollutant source identification and abatement. Work plans for areas that are already achieving the surface water limits in the Order must identify actions to be taken to protect the high-quality areas (e.g., outreach and education).
  - d. Where appropriate based on water quality data, follow-up monitoring sites to further evaluate the waterbody(s) specified by the Executive Officer. The work plan must include sites to evaluate receiving water quality impacts most directly resulting from areas of irrigated agricultural discharge (including areas receiving tile drain discharges). Site selection must take into consideration the existence of any long-term monitoring sites included in related monitoring programs (e.g., CCAMP and the existing cooperative monitoring program). Sites may be added or modified, subject to prior approval by the Executive Officer, to better

assess the pollutant loading from individual sources or the impacts to receiving waters caused by individual discharges.

- e. SAP and QAPP (see [Section G](#) below). The SAP must be developed to describe how the proposed monitoring will achieve the objectives of the MRP, identify additional follow-up monitoring sites upstream of observed exceedances to identify sources of the exceedances, and evaluate compliance with the limits established in the Order
16. The parameters to be monitored through follow-up monitoring may vary based on the water quality exceedances observed at downstream sites through the surface receiving water trend monitoring. The work plan must, at a minimum, include the types of monitoring and evaluation of parameters identified by the Executive Officer as requiring follow-up monitoring, such as the parameters listed below and identified in [Table MRP-6](#).
- a. Flow monitoring;
  - b. Water quality (physical parameters, metals, nutrients, pesticides);
  - c. Toxicity (water and sediment);
17. The work plan must include a schedule for sampling. Timing, duration, and frequency of monitoring must be based on the land use, complexity, hydrology, and size of the waterbody. [Table MRP-6](#) includes minimum monitoring frequency for parameters requiring follow-up monitoring by the Executive Officer. Agricultural parameters that are less common may be monitored less frequently. Modifications to the follow-up receiving water quality monitoring parameters, frequency, and schedule may be submitted for Executive Officer consideration and approval. At a minimum, the work plan schedule must consist of monthly monitoring of common agricultural parameters, including two major storm events during the wet season (October 1 – April 30).
18. If water column toxicity analyses must be conducted to comply with follow-up monitoring requirement, the analyses must be performed on 100% (undiluted) samples. At sites where persistent unresolved toxicity is found, the Executive Officer may require concurrent toxicity and chemical analyses and a TIE to identify the individual discharges causing the toxicity.
19. Stormwater monitoring must be conducted within 18 hours of storm events, preferably including the first flush run-off event (see definition in Attachment C) that results in significant increase in stream flow. For the purposes of this MRP, a storm event is defined as precipitation producing onsite runoff (surface water flow) capable of creating significant ponding, erosion, or other water quality

problems. A significant storm event will generally result in greater than half-inch of rain within a 24-hour period.

20. **By January 1, April 1, July 1, and October 1 of each year**, Dischargers, either individually or as part of a cooperative program, must submit follow-up surface receiving water quality monitoring data electronically to CEDEN, according to CEDEN submittal guidelines, or in a format specified by the Executive Officer. Each quarterly data submittal must be accompanied by an Exceedance Report, wherein exceedances of water quality objectives and relevant water quality limits in the Order are summarized.
21. **By July 1 annually**, Dischargers, either individually or as part of a cooperative program, must submit an Annual Report, electronically, in a format specified by the Executive Officer. The Annual Report must include the following minimum elements:
- a. Signed transmittal letter;
  - b. Title page;
  - c. Table of contents;
  - d. Executive summary;
  - e. Summary of Exceedance Reports submitted during the reporting period;
  - f. Monitoring objectives and design;
  - g. Monitoring site descriptions and rainfall records for the time period covered;
  - h. Location of monitoring sites and map(s);
  - i. Results of all analyses arranged in tabular form so that the required information is readily discernible;
  - j. Summary of water quality data for any sites monitored as part of related monitoring programs and used to evaluate receiving water as described in the work plan;
  - k. Discussion of data to clearly illustrate compliance with the Order, water quality standards, and surface water limits required by the Order;
  - l. Discussion of specific information about the identified sources of water quality impairment;
  - m. Discussion of management practice implementation and other follow-up activities performed to correct the persistent water quality impairment;
  - n. Sampling and analytical methods used;
  - o. Copy of chain-of-custody forms;
  - p. Field data sheets, signed laboratory reports, laboratory raw data;
  - q. Associated laboratory and field quality control samples results;
  - r. Summary of Quality Assurance Evaluation results;
  - s. The method used to obtain flow at each monitoring site during each monitoring event;

- t. Electronic or hard copies of photos obtained from all monitoring sites, clearly labeled with site ID and date;
- u. Conclusions.

### **Ranch-Level Surface Discharge**

22. When required by the Executive Officer, Dischargers must conduct ranch-level surface discharge monitoring and reporting to achieve the following. Monitoring and reporting efforts, including planning, must be explicitly designed and implemented to achieve these goals.
- a. Assess their contribution to exceedances of applicable surface water quality limits, including concentration and load for all applicable parameters in their discharge;
  - b. Evaluate effects of their discharge on receiving water quality and beneficial uses;
  - c. Evaluate compliance with applicable surface water limits.
23. **Within 90 days** of being required to conduct individual surface discharge monitoring, Dischargers must submit a ranch-level surface discharge work plan, to the Executive Officer for review prior to implementation. The work plan must be designed to monitor individual discharges of irrigation water and stormwater that leave the ranch from an outfall location, including tile drain discharge points. [Section G](#) includes more information on the required elements of the SAP and QAPP.
24. **Within 90 days** of receiving Executive Officer approval, or in accordance with an alternate schedule approved in the work plan, the work plan must be implemented.
25. Dischargers must select monitoring sites that characterize both irrigation and stormwater discharges. For irrigation discharge, Dischargers must select monitoring points to characterize at least 80 percent of the estimated maximum irrigation discharge volume, based on the typical discharge patterns of the ranch, and must include points of tailwater and tile drain (if present) discharges. The SAP must be designed such that monitoring must occur when it is highly probable that the irrigation discharge volume is the greatest during an irrigation event. Stormwater discharge sites must be selected to characterize the majority of stormwater discharge and must include first-flush monitoring. All selected monitoring sites must characterize discharge from the required farm/ranch, i.e., the discharge is not comingled with discharge from adjacent farms.

26. Dischargers must conduct monitoring for all parameters necessary to achieve the goals described for individual discharge monitoring.
27. Analytical methods, maximum practical quantitation limits (PQL), and reporting limits (RL) must be consistent with those outlined in [Section G](#), or as approved by the Executive Officer.
28. Individual surface discharge sampling must occur at each site a minimum of four times per year, with one sample drawn during each of the following calendar quarters: **January to March, April to June, July to September, October to December**, or as approved by the Executive Officer.
29. **By March 1 and September 1 of each year**, Dischargers must submit individual surface discharge monitoring data and information. The information must be submitted electronically and must contain the items listed below, unless otherwise approved by the Executive Officer.
  - a. All data and information from monitoring occurring in the preceding two calendar quarters and data not yet reported on previous semi-annual reports.
  - b. Data and Exceedance Report, in a tabular format, showing all data results and identifying any exceedances of water quality objectives and applicable surface water limits required by the Order, for each parameter and each monitoring event.
  - c. Electronic laboratory data
    - i. All reports of results must contain the ranch name and Global ID, site name(s), project contact, and date.
    - ii. Electronic laboratory data reports of chemical results must include analytical results, as well as associated quality assurance data including method detection limits, reporting limits, matrix spikes, matrix spike duplicates, laboratory blanks, and other quality assurance results required by the analysis method.
    - iii. Electronic laboratory data reports of toxicity results shall include summary results comparable to those required in a CEDEN file delivery, including test and control results. For each test result, the mean, associated control performance, calculated percent of control, statistical test results and determination of toxicity, must be included. Test results must specify the control ID used to calculate statistical outcomes.
    - iv. Field data results, including temperature, pH, conductivity, turbidity and flow measurements, any field duplicates or blanks, and field observations.

- v. Calculations of un-ionized ammonia concentrations (based on total ammonia value and field measurements for pH and water temperature).
- vi. Calculations of total flow and pollutant loading (for nitrate, pesticides if sampled, total ammonia, and turbidity) (include formulas);
- d. Location of sampling sites and map(s);
- e. Sampling and analytical methods used;
- f. Specify the method used to obtain flow at each monitoring site during each monitoring event;
- g. Photos obtained from all monitoring sites, clearly labeled with location and date;
- h. Sample chain-of-custody forms do not need to be submitted but must be made available to Central Coast Water Board staff, upon request.

#### **F. Annual Compliance Form (ACF)**

1. **By March 1, 2021, and annually thereafter by March 1, all Dischargers** must submit an ACF electronically, in a format specified by the Executive Officer. The ACF includes, but is not limited to, the items listed below.
  - a. Irrigation, stormwater, and tile drain discharge characteristics (e.g., number of discharge points, estimated flow and volume, and number of tailwater days).
  - b. Status of Farm Plan development and implementation.
  - c. Identification of specific water quality management practices implemented and assessed on the ranch to reduce water quality impacts, including:
    - i. Irrigation management practices;
    - ii. Nutrient management practices;
    - iii. Salinity management practices;
    - iv. Pesticide management practices;
    - v. Sediment and erosion management practices;
    - vi. Stormwater management practices; and
    - vii. Riparian and wetland area management practices.
  - d. Reporting on the Sediment and Erosion Management Plan (SEMP).
    - i. Confirmation that sediment and erosion control measures (e.g., sediment basins) are properly designed and maintained; and
    - ii. Where applicable, confirmation that the SEMP has been developed by a qualified professional.

- e. Reporting on the Riparian Area Management Plan (RAMP).
  - i. Current setback width, in feet;
  - ii. Current total vegetative cover, in percent;
  - iii. Current vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated);
  - iv. Digital map of farm and setback boundaries;
  - v. Compliance pathway selection if ranch is located in a Riparian Priority area;
  - vi. When the Cooperative Approach compliance pathway is selected, membership status in the cooperative.
  - vii. When the On-Farm Setback compliance pathway is selected, status of achieving success the success criteria in [Table MRP-7](#).
  - viii. When the Rapid Assessment Method compliance pathway is selected, RipRAM or CRAM results, to be compared with the appropriate reference sites and scores shown in [Table MRP-8](#).
  - ix. When the Alternative Proposal compliance pathway is selected, status of implementing approved work plan and achieving approved success criteria.
  - x. See below for details on reporting due dates.
- f. Reporting on water quality and management practice education obtained.
- g. Status of drinking water notification to well users.

### **Riparian Setback Monitoring and Reporting**

2. The Order establishes four compliance pathways for Dischargers to select from to comply with the riparian setback requirements. Monitoring and reporting dates for each of the compliance pathways are included below.

### **Cooperative Approach Compliance Pathway**

3. By the date specified below, the third-party representing Dischargers who selected the Cooperative Approach compliance pathway must submit the Cooperative Watershed Restoration Plan (CWRP) to the Executive Officer.
  - a. **March 1, 2023** for Riparian Priority 1 areas;
  - b. **March 1, 2024** for Riparian Priority 2 areas;
  - c. **March 1, 2025** for Riparian Priority 3 areas;
  - d. **March 1, 2026** for Riparian Priority 4 areas.

4. Upon approval of the CWRP or by the date specified below, the third-party representing Dischargers who selected the Cooperative Approach compliance pathway must begin implementation of an approved CWRP.
  - a. **March 1, 2025** for Riparian Priority 1 areas;
  - b. **March 1, 2026** for Riparian Priority 2 areas;
  - c. **March 1, 2027** for Riparian Priority 3 areas;
  - d. **March 1, 2028** for Riparian Priority 4 areas.
  
5. **By March 1 following the approval of the CWRP, and by March 1 annually thereafter**, the third-party representing Dischargers who selected the Cooperative Approach compliance pathway must submit an annual report that details the status of identifying and implementing approved restoration projects and their progress toward meeting the approved success criteria. The contents of the annual report must be outlined in the approved CWRP.

#### On-Farm Setback Compliance Pathway

6. By the date specified below, Dischargers who selected the On-Farm Setback compliance pathway and whose setback width and vegetation do not achieve the riparian setback requirements in the Order must update their Riparian Area Management Plan (RAMP) to identify measures and practices that will be implemented to achieve the riparian setback requirements and success criteria in [Table MRP-7](#) and [Table MRP-8](#).
  - a. **March 1, 2022** for Riparian Priority 1 areas;
  - b. **March 1, 2023** for Riparian Priority 2 areas;
  - c. **March 1, 2024** for Riparian Priority 3 areas;
  - d. **March 1, 2025** for Riparian Priority 4 areas.

#### Rapid Assessment Method Compliance Pathway

7. Dischargers who selected the Rapid Assessment Method pathway must have Riparian Rapid Assessment Method (RipRAM) assessments performed to confirm compliance with the minimum reference site score of **69**. The RipRAM assessment must be conducted by a RipRAM Practitioner who has completed the required training.
  
8. By the date specified below, Dischargers who selected the Rapid Assessment Method compliance pathway must have a RipRAM assessment performed for the existing riparian areas on their ranch and report the results in the ACF. Dischargers whose RipRAM score does not achieve the minimum reference site score of **69** must update their RAMP to identify measures and practices that will be implemented to achieve the minimum score.

- a. **March 1, 2022** for Riparian Priority 1 areas;
  - b. **March 1, 2023** for Riparian Priority 2 areas;
  - c. **March 1, 2024** for Riparian Priority 3 areas;
  - d. **March 1, 2025** for Riparian Priority 4 areas.
9. By the date specified below, Dischargers who selected the Rapid Assessment Method compliance pathway must perform an additional RipRAM analysis and report the results in the ACF. If their RipRAM score does not achieve the minimum score of **69**, they must engage in adaptive management to achieve the minimum score within 3 years.
- a. **March 1, 2027** for Riparian Priority 1 areas;
  - b. **March 1, 2028** for Riparian Priority 2 areas;
  - c. **March 1, 2029** for Riparian Priority 3 areas;
  - d. **March 1, 2030** for Riparian Priority 4 areas.
10. By the date specified below, Dischargers who selected the Rapid Assessment Method compliance pathway must perform an additional RipRAM analysis and report the results in the ACF to confirm that the site has achieved the minimum score of **69**.
- a. **March 1, 2030** for Riparian Priority 1 areas;
  - b. **March 1, 2031** for Riparian Priority 2 areas;
  - c. **March 1, 2032** for Riparian Priority 3 areas;
  - d. **March 1, 2033** for Riparian Priority 4 areas.

Alternative Proposal Compliance Pathway

11. By the date specified below, Dischargers who selected the Alternative Proposal compliance pathway must submit a work plan to the Executive Officer for review prior to implementation. The work plan must include success criteria, measures that will be implemented to achieve the success criteria, and ranch-level surface discharge monitoring and reporting as described in section E. Once approved, the work plan must be implemented.
- a. **March 1, 2022** for Riparian Priority 1 areas;
  - b. **March 1, 2023** for Riparian Priority 2 areas;
  - c. **March 1, 2024** for Riparian Priority 3 areas;
  - d. **March 1, 2025** for Riparian Priority 4 areas.
12. Upon approval of the work plan or by the date specified below, Dischargers who selected the Alternative Proposal compliance pathway must begin implementation of an approved work plan and must update their RAMP to incorporate their approved work plan.
- a. **March 1, 2024** for Riparian Priority 1 areas;

- b. **March 1, 2025** for Riparian Priority 2 areas;
- c. **March 1, 2026** for Riparian Priority 3 areas;
- d. **March 1, 2027** for Riparian Priority 4 areas.

## **G. Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP)**

1. The SAP must include the following minimum components as applicable depending on the monitoring requirement:
  - a. Monitoring strategy to achieve objectives of the Order and MRP;
  - b. Map and Global Positioning System (GPS) coordinates of monitoring sites (e.g., well, receiving water locations, outfall locations etc.);
  - c. Monitoring parameters;
  - d. Monitoring schedule, including description and frequencies of monitoring events;
  - e. Identification of beneficial uses and applicable water quality standards (with the following as appropriate for surface water monitoring);
    - i. Identification of known water quality impairments and impaired waterbodies per the most recent USEPA approved Clean Water Act 303(d) List of Impaired Waterbodies (List of Impaired Waterbodies);
    - ii. Identification of applicable Total Maximum Daily Loads (TMDLs);
  - f. Sample collection and handling procedures (e.g., preservation, storage, transport, holding times, etc.);
  - g. Chain of custody procedures;
  - h. Quality Assurance and Quality Control (QA/QC) sampling and analysis criteria and procedures;
  - i. Data management and reporting procedures;
  - j. Description of data analytical methods, specifications and limits (e.g., PQL and RL).
  
2. The QAPP must include site-specific information, project organization and responsibilities, and quality assurance components of the MRP. The QAPP must also include the laboratory and field requirements to be used for analysis and data evaluation. The QAPP must contain adequate detail for project and Water Board staff to identify and assess the technical and quality objectives, measurement and data acquisition methods, and limitations of the data generated under the monitoring program. All sampling and laboratory methodologies and QAPP content must be consistent with USEPA methods.

Following USEPA guidelines,<sup>5</sup> the monitoring QAPP must include the following minimum required components:

- a. Project Management: Address basic project management, including the project history and objectives, roles and responsibilities of the participants, and other aspects.
  - b. Data Generation and Acquisition: Address all aspects of project design and implementation. Implementation of these elements ensures that appropriate methods for sampling, measurement and analysis, data collection or generation, data handling, and quality control activities are employed and are properly documented. Quality control requirements are applicable to all the constituents sampled as part of the MRP, as described in the appropriate method.
  - c. Assessment and Oversight: Address the activities for assessing the effectiveness of the implementation of the project and associated quality assurance (QA) and quality control (QC) activities. The purpose of the assessment is to provide project oversight that will ensure that the QAPP is implemented as prescribed.
  - e. Data Validation and Usability: Address the quality assurance activities that occur after the data collection, laboratory analysis and data generation phase of the project is completed. Implementation of these elements ensures that the data conform to the specified criteria, thus achieving the MRP objectives. The Executive Officer may conduct an audit of contracted laboratories at any time in order to evaluate compliance with the SAP and QAPP.
3. The SAP and QAPP, and any proposed revisions, are subject to approval by the Executive Officer. The Executive Officer may also revise the SAP, including adding, removing, or changing monitoring site locations, changing monitoring parameters, and other changes as necessary to assess the impacts of irrigated agricultural discharges on water quality.

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<sup>5</sup> USEPA. 2001 (2006) USEPA Requirements for Quality Assurance Project Plans (QA/R-5) Office of Environmental Information, Washington, D.C. USEPA QA/R-5

**Tables for Monitoring and Reporting Requirements**

**Table related to [Section C: Irrigation and Nutrient Management Plan \(INMP\) Monitoring and Reporting](#)**

**Table MRP-1. Nitrogen Removal Conversion Coefficients**

<b>Crop</b>	<b>Conversion Coefficient</b>	<b>Crop</b>	<b>Conversion Coefficient</b>
Alfalfa - Hay	<b>0.03115</b>	Lemons	<b>0.00154</b>
Alfalfa - Silage	<b>0.01200</b>	Lettuce, Baby	<b>0.00376</b>
Apples	<b>0.00050</b>	Lettuce, Iceberg	<b>0.00132</b>
Apricots	<b>0.00280</b>	Lettuce, Romaine	<b>0.00181</b>
Asparagus	<b>0.00293</b>	Melon, Cantaloupe	<b>0.00240</b>
Avocados	<b>0.00220</b>	Melon, Watermelon	<b>0.00070</b>
Barley - Grain	<b>0.01680</b>	Mixed Greens	<b>0.00405</b>
Barley - Straw	<b>0.00770</b>	Mizuna	<b>0.00405</b>
Beans, dry - Blackeye	<b>0.03650</b>	Oat Hay	<b>0.01085</b>
Beans, dry - Garbanzo	<b>0.03360</b>	Olives	<b>0.00314</b>
Beans, dry - Lima	<b>0.03615</b>	Onions, dry	<b>0.00197</b>
Beans, green (snap beans)	<b>0.00289</b>	Oranges	<b>0.00150</b>
Broccoli	<b>0.00460</b>	Peaches	<b>0.00113</b>
Brussels Sprouts	<b>0.00649</b>	Pears	<b>0.00065</b>
Cabbage Green	<b>0.00218</b>	Peppers, Bell	<b>0.00185</b>
Cabbage Red	<b>0.00224</b>	Pistachios	<b>0.02800</b>
Carrots	<b>0.00160</b>	Plums	<b>0.00142</b>
Cauliflower	<b>0.00288</b>	Potatoes	<b>0.00310</b>
Celery	<b>0.00120</b>	Pumpkin	<b>0.00368</b>
Cherries - Sweet	<b>0.00220</b>	Ryegrass, Perennial - Hay	<b>0.02745</b>
Cilantro	<b>0.00605</b>	Safflower	<b>0.02840</b>
Corn - Grain	<b>0.01200</b>	Spinach, Bunch	<b>0.00371</b>
Corn - Silage	<b>0.00378</b>	Spinach, Clip	<b>0.00427</b>
Corn - Sweet	<b>0.003585</b>	Spring Mix	<b>0.00405</b>
Cucumbers	<b>0.00108</b>	Squash, Winter	<b>0.001835</b>
Figs	<b>0.00127</b>	Strawberry	<b>0.00133</b>
Garlic	<b>0.00760</b>	Tangerines	<b>0.00127</b>
Grapefruit	<b>0.00150</b>	Tomatoes, Fresh Market	<b>0.00130</b>
Grapes - Table	<b>0.00113</b>	Walnuts, English	<b>0.01590</b>
Grapes - Wine	<b>0.00131</b>	Wheat, Common - Grain	<b>0.00690</b>
Kale, Baby	<b>0.00504</b>		

Note: Refer to Attachment A for a discussion of the source of these coefficients.

Tables related to [Section D: Groundwater Monitoring and Reporting](#)

**Table MRP-2. On-Farm Domestic Drinking Water Supply Well Monitoring  
Constituents and Reporting Due Date**

Parameter	RL <sup>2</sup>	Analytical Method <sup>3</sup>	Units	Reporting Due Date
pH	0.1	Field or Laboratory Measurement EPA General Methods	pH Units	Annually by July 31
Specific Conductance	2.5		µS/cm	
Total dissolved solids (TDS)	0.5	SM 2540-D	mg/L	
Total Alkalinity as CaCO <sub>3</sub>		EPA Method 310.1 or 310.2		
Calcium	0.05	General Cations <sup>4</sup> EPA 200.7, 200.8, 200.9		
Magnesium	0.02			
Sodium	0.1			
Potassium	0.1			
Sulfate (SO <sub>4</sub> )	1.0	General Anions EPA Method 300 or SM 4500NO <sub>3</sub>		
Chloride	0.1			
Nitrate + Nitrite <sup>1</sup> (as N) <sup>2</sup> or Nitrate as N	0.1			
1,2,3- Trichloropropane (1,2,3-TCP)	0.0015	SRL-524M	µg/L	

<sup>1</sup>The MRP allows analysis of “nitrate plus nitrite” to represent nitrate concentrations (as N). The “nitrate plus nitrite” analysis allows for extended laboratory holding times and relieves the Discharger of meeting the short holding time required for nitrate.

<sup>2</sup>RL – Reporting Limit or level of quantification defined as the level that can be reliably detected and quantified within acceptable limits of precision and bias for a given method.

<sup>3</sup>Dischargers may use alternative analytical methods approved by USEPA after obtaining Executive Officer approval.

<sup>4</sup>General chemistry parameters (major cations and anions) represent geochemistry of water bearing zone and assist in evaluating quality assurance/quality control of groundwater monitoring and laboratory analysis.

**Table MRP-3. Irrigation Well Monitoring Constituents and Reporting Due Date**

Parameter	RL <sup>2</sup>	Analytical Method <sup>3</sup>	Units	Reporting Due Date
pH	0.1	Field or Laboratory Measurement EPA General Methods	pH Units	Annually by July 31
Specific Conductance	2.5		µS/cm	
Total dissolved solids (TDS)	0.5	SM 2540-D	mg/L	
Total Alkalinity as CaCO <sub>3</sub>		EPA Method 310.1 or 310.2		
Calcium	0.05	General Cations <sup>4</sup> EPA 200.7, 200.8, 200.9		
Magnesium	0.02			
Sodium	0.1			
Potassium	0.1			
Sulfate (SO <sub>4</sub> )	1.0	General Anions EPA Method 300 or SM 4500NO <sub>3</sub>		
Chloride	0.1			
Nitrate + Nitrite <sup>1</sup> (as N) <sup>2</sup> or Nitrate as N	0.1			

<sup>1</sup>The MRP allows analysis of “nitrate plus nitrite” to represent nitrate concentrations (as N). The “nitrate plus nitrite” analysis allows for extended laboratory holding times and relieves the Discharger of meeting the short holding time required for nitrate.

<sup>2</sup>RL – Reporting Limit or level of quantification defined as the level that can be reliably detected and quantified within acceptable limits of precision and bias for a given method.

<sup>3</sup>Dischargers may use alternative analytical methods approved by USEPA after obtaining Executive Officer approval.

<sup>4</sup>General chemistry parameters (major cations and anions) represent geochemistry of water bearing zone and assist in evaluating quality assurance/quality control of groundwater monitoring and laboratory analysis.

**Table MRP-4. Groundwater Trend Monitoring Constituents and Reporting Due Dates**

Parameter	RL <sup>2</sup>	Analytical Method <sup>3</sup>	Units	Reporting Due Date <sup>4</sup>
pH	0.1	Field or Laboratory Measurement EPA General Methods	pH Units	Quarterly by January 31, April 30, July 31, and October 31
Specific Conductance	2.5		µS/cm	
Total dissolved solids (TDS)	0.5	SM 2540-D	mg/L	
Total Alkalinity as CaCO <sub>3</sub>		EPA Method 310.1 or 310.2		
Calcium	0.05	General Cations <sup>4</sup> EPA 200.7, 200.8, 200.9		
Magnesium	0.02			
Sodium	0.1			
Potassium	0.1			
Sulfate (SO <sub>4</sub> )	1.0	General Anions EPA Method 300 or SM 4500NO <sub>3</sub>		
Chloride	0.1			
Nitrate + Nitrite <sup>1</sup> (as N) <sup>2</sup> or Nitrate as N	0.1			
1,2,3- Trichloropropane (1,2,3-TCP)	0.0015	SRL-524M	µg/L	

<sup>1</sup>The MRP allows analysis of “nitrate plus nitrite” to represent nitrate concentrations (as N). The “nitrate plus nitrite” analysis allows for extended laboratory holding times and relieves the Discharger of meeting the short holding time required for nitrate.

<sup>2</sup>RL – Reporting Limit or level of quantification defined as the level that can be reliably detected and quantified within acceptable limits of precision and bias for a given method.

<sup>3</sup>Dischargers may use alternative analytical methods approved by USEPA after obtaining Executive Officer approval.

<sup>4</sup>General chemistry parameters (major cations and anions) represent geochemistry of water bearing zone and assist in evaluating quality assurance/quality control of groundwater monitoring and laboratory analysis.

Tables related to [Section E: Surface Water Monitoring and Reporting](#)

**Table MRP-5. Major Waterbodies in Agricultural Areas**

Hydrologic SubArea	Waterbody Name	Hydrologic SubArea	Waterbody Name
30510	Pajaro River	30920	Quail Creek
30510	Salsipuedes Creek	30920	Salinas Reclamation Canal
30510	Watsonville Slough	31022	Chorro Creek
30510	Watsonville Creek	31023	Los Osos Creek
30510	Beach Road Ditch	31023	Warden Creek
30530	Carnadero Creek	31024	San Luis Obispo Creek
30530	Furlong Creek	31024	Prefumo Creek
30530	Llagas Creek	31031	Arroyo Grande Creek
30530	Miller's Canal	31031	Los Berros Creek
30530	San Juan Creek	31210	Bradley Canyon Creek
30530	Tesquisquita Slough	31210	Bradley Channel
30600	Moro Cojo Slough	31210	Green Valley Creek
30910	Alisal Slough	31210	Main Street Canal
30910	Blanco Drain	31210	Orcutt Solomon Creek
30910	Old Salinas River	31210	Oso Flaco Creek
30910	Salinas River (below Gonzales Rd.)	31210	Little Oso Flaco Creek
30920	Salinas River (above Gonzales Rd. and below Nacimiento R.)	31210	Santa Maria River
30910	Santa Rita Creek	31310	San Antonio Creek
30910	Tembladero Slough	31410	Santa Ynez River
30920	Alisal Creek	31531	Bell Creek
30920	Chualar Creek	31531	Glenn Annie Creek
30920	Espinosa Slough	31531	Los Carneros Creek
30920	Gabilan Creek	31534	Arroyo Paredon Creek
30920	Natividad Creek	31534	Franklin Creek

Note: At a minimum, monitoring sites must be included for these waterbodies in agricultural areas, unless otherwise approved by the Executive Officer. Monitoring sites may be proposed for addition or modification to better assess the impacts of waste discharges from irrigated lands to surface water. These waterbodies are included because they are listed waterbodies on the most recent USEPA approved 303(d) List of Impaired Waters that are associated with areas of agricultural discharge. The list is subject to change based on most recent USEPA approved 303(d) List of Impaired Waters and/or other changes approved by the Executive Officer.

**Table MRP-6. Surface Receiving Water Quality Monitoring Parameters**

<b>Parameters and Tests</b>	<b>RL<sup>3</sup></b>	<b>Monitoring Frequency<sup>1</sup></b>
<b>Photo Monitoring</b>		
Upstream and downstream photographs at monitoring location		With every monitoring event
<b>RipRAM</b>		
RipRAM assessment and score at each monitoring location collected in accordance with the CCWG SOP		Annually beginning the first full calendar year following adoption of the Agricultural Order
<b>Bioassessment</b>		
Benthic invertebrate and associated physical habitat assessment collected in accordance with the SWAMP SOP. Data reported with CSCI numeric values for each monitoring location on Santa Ynez, Salinas, Santa Maria and Pajaro Rivers		Every five years beginning in 2023 from April-June
<b><u>WATER COLUMN SAMPLING</u></b>		
<b>Physical Parameters and General Chemistry</b>		
Flow (field measure) (CFS) following SWAMP field SOP <sup>9</sup>	0.25	Monthly, including 2 stormwater events
pH (field measure)	0.1	"

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
Electrical Conductivity (field measure) (µS/cm)	2.5	"
Dissolved Oxygen (field measure) (mg/L)	0.1	"
Temperature (field measure) (°C)	0.1	"
Turbidity (NTU)	0.5	"
Total Dissolved Solids (mg/L)	10	"
Total Suspended Solids (mg/L)	0.5	"
Total Alkalinity (as CaCO <sub>3</sub> )	EPA 310.1 or 310.2	"
Calcium	0.05	"
Magnesium	0.02	"
Sodium	0.1	"
Potassium	0.1	"
Sulfate (SO <sub>4</sub> )	1.0	"
Chloride	0.1	"
<b>Nutrients</b>		
Total Nitrogen (mg/L)	0.5	Monthly, including 2 stormwater events
Nitrate + Nitrite (mg/L as nitrogen)	0.1	"
Total Ammonia (mg/L)	0.1	"

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
Unionized Ammonia (calculated value including total ammonia and field measures of water temperature and pH, mg/L as nitrogen)		"
Total Phosphorus (as P) (mg/L)	0.02	"
Soluble Orthophosphate (mg/L)	0.01	"
Water column chlorophyll a (µg/L)	1.0	"
Algae cover, Floating Mats, % coverage	-	"
Algae cover, Attached, % coverage	-	"
<b>Water Column Toxicity Test</b>		
Algae - <i>Selenastrum capricornutum</i> (96-hour chronic; Method 1003.0 in EPA/821/R-02/013)	-	4 times each year; once from each of the following calendar quarters: January – March, April – June, July – September, October – December.
Water Flea – <i>Ceriodaphnia dubia</i> (7-day chronic; Method 1002.0 in EPA/821/R-02/013)	-	"
Midge - <i>Chironomus spp.</i> (96- hour acute; Alternate test species in EPA 821-R- 02-012)	-	"

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
Toxicity Identification Evaluation (TIE)	-	As directed by Executive Officer
<b>Pesticides<sup>2</sup> (Insecticides and Herbicides) (µg/L)</b>		
<b>Organophosphate Pesticides</b>		
Azinphos-methyl	0.02	<p>2 times in 2021 concurrent with water toxicity monitoring; once from July – September and once from October – December.</p> <p>2 times in 2022 concurrent with water toxicity monitoring; once from January – March and once from April – June.</p> <p>Then, 4 times every fourth year beginning in 2026 concurrent with water toxicity monitoring from each of the following calendar quarters: January – March, April – June, July – September, and October – December.</p>
Chlorpyrifos	0.005	”
Diazinon	0.005	”
Dichlorvos	0.01	”
Dimethoate	0.01	”
Dimeton-s	0.005	”
Disulfoton (Disyton)	0.005	”
Malathion	0.005	”
Methamidophos	0.02	”
Methidathion	0.02	“
Parathion-methyl	0.02	“

<b>Parameters and Tests</b>	<b>RL<sup>3</sup></b>	<b>Monitoring Frequency<sup>1</sup></b>
Phorate	0.01	“
Phosmet	0.02	“
<b>Neonicotinoids</b>		
Thiamethoxam	.002	“
Imidacloprid	.002	“
Thiacloprid	.002	“
Dinotefuran	.006	“
Acetamiprid	.01	“
Clothianidin	.02	“
<b>Carbamates</b>		
Aldicarb	.05	“
Carbaryl	.05	“
Carbofuran	.05	“
Methiocarb	.05	“
Methomyl	.05	“
Oxamyl	.05	“

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
<b>Herbicides</b>		
Atrazine	0.05	“
Cyanazine	0.20	“
Diuron	0.05	“
Glyphosate	2.0	“
Linuron	0.1	“
Paraquat	0.20	“
Simazine	0.05	“
Trifluralin	0.05	“
<b>Metals (µg/L)</b>		
Arsenic (total) <sup>5,7</sup>	0.3	<p>2 times in 2021 concurrent with water toxicity monitoring; once from July – September and once from October – December.</p> <p>2 times in 2022 concurrent with water toxicity monitoring; once from January – March and once from April – June.</p> <p>Then, 4 times every fourth year beginning in 2026 concurrent with water toxicity monitoring from each of the following calendar quarters: January – March, April – June, July – September and October – December.</p>
Boron (total) <sup>6,7</sup>	10	“
Cadmium (total & dissolved) <sup>4,5,7</sup>	0.01	“

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
Copper (total and dissolved) <sup>4,7</sup>	0.01	“
Lead (total and dissolved) <sup>4,7</sup>	0.01	“
Nickel (total and dissolved) <sup>4,7</sup>	0.02	“
Molybdenum (total) <sup>7</sup>	1	“
Selenium (total) <sup>7</sup>	0.30	“
Zinc (total and dissolved) <sup>4,5,7</sup>	0.10	“
<b>Other (µg/L)</b>		
Total Phenolic Compounds <sup>8</sup>	5	<p>2 times in 2021 concurrent with water toxicity monitoring; once from July – September and once from October – December.</p> <p>2 times in 2022 concurrent with water toxicity monitoring; once from January – March and once from April – June.</p> <p>Then, 4 times every fourth year beginning in 2026 concurrent with water toxicity monitoring from each of the following calendar quarters concurrent with water toxicity monitoring: January – March, April – June, July – September and October – December.</p>
Hardness (mg/L as CaCO <sub>3</sub> )	1	“
Total Organic Carbon (ug/L)	0.6	“

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
<b><u>SEDIMENT SAMPLING</u></b>		
Sediment Toxicity - <i>Hyalella azteca</i> 10-day static renewal (EPA, 2000)		2 times in 2021; once from April – June and once from August – October.  Then once per year in calendar quarter April – June.
<b>Pyrethroid Pesticides in Sediment (µg/kg)</b>		
Gamma-cyhalothrin	2	1 time in 2021 from August – October concurrent with sediment toxicity sampling and 1 time in 2022 from April – June concurrent with sediment toxicity sampling.  Then, once every fourth year beginning in 2026 concurrent with sediment toxicity monitoring, in calendar quarter April – June
Lambda-cyhalothrin	2	“
Bifenthrin	2	“
Beta-cyfluthrin	2	“
Cyfluthrin	2	“
Esfenvalerate	2	“
Permethrin	2	“
Cypermethrin	2	“
Danitol	2	“
Fenvalerate	2	“
Fluvalinate	2	“

Parameters and Tests	RL <sup>3</sup>	Monitoring Frequency <sup>1</sup>
<b>Other Monitoring in Sediment</b>		
Chlorpyrifos (µg/kg)	2	“
Total Organic Carbon	0.01%	“
Sediment Grain Size Analysis	1%	“

<sup>1</sup>Minimum monitoring frequency may be used as a guide for developing alternative Sampling and Analysis Plans implemented by individual growers.

<sup>2</sup>Pesticide list may be modified based on specific pesticide use in Central Coast Region. Analytes on this list must be reported, at a minimum.

<sup>3</sup> Reporting Limit, taken from SWAMP where applicable.

<sup>4</sup> Holmgren, Meyer, Cheney and Daniels. 1993. Cadmium, Lead, Zinc, Copper and Nickel in Agricultural Soils of the United States. J. of Environ. Quality 22:335-348.

<sup>5</sup>Sax and Lewis, ed. 1987. Hawley's Condensed Chemical Dictionary. 11<sup>th</sup> ed. New York: Van Nostrand Reinhold Co., 1987. Zinc arsenate is an insecticide.

<sup>6</sup>Boron is applied directly or as a component of fertilizers as a plant nutrient.

<sup>7</sup>Madramootoo, Johnston, Willardson, eds. 1997. Management of Agricultural Drainage Water Quality. International Commission on Irrigation and Drainage. U.N. FAO. SBN 92-6-104058.3.

<sup>8</sup> Include Nonylphenol. Phenols are breakdown products of herbicides and pesticides. Phenols can be directly toxic and cause endocrine disruption. Requirement may be removed or modified based on 2019-2020 monitoring results.

<sup>9</sup>See SWAMP field measures SOP, p. 17

mg/L – milligrams per liter; ug/L – micrograms per liter; ug/kg – micrograms per kilogram; NTU – Nephelometric Turbidity Units; CFS – cubic feet per second.

Tables related to Section F: [ACF - Riparian Setback Monitoring and Reporting](#)

**Table MRP-7. On-Farm Setback Success Criteria for Riparian Areas**

<b>Vegetative Cover</b>	<b>Invasive Species Cover</b>	<b>Bare Ground</b>	<b>Years Without Supplemental Irrigation<sup>1</sup></b>
≥ 75%	< 5%	< 20%	2

<sup>1</sup>Riparian vegetation must be maintained to the extent that success criteria will be achieved for two consecutive years without irrigation.

**Table MRP-8. On-Farm Setback Success Criteria for Wetland Areas**

<b>Hydrophytic Vegetative Cover</b>	<b>Emergent Vegetative Cover</b>	<b>Invasive Species Cover</b>
≥ 75%	≥ 65%	<10%

**Summary of General Reporting Periods and Due Dates**

**General Requirements**

**Table MRP-9. Annual Compliance Form**

Ranches Required	Annual Compliance Form Monitoring Period	Annual Compliance Form Due Date
All ranches	Jan 1 – Dec 31, annually	Mar 1, annually

**Groundwater Requirements**

**Table MRP-10. TNA Report and Primary Irrigation Well**

Ranches Required	TNA Report Monitoring Period	Primary Irrigation Well Monitoring Period	TNA Report Due Date	Primary Irrigation Well Reporting Due Date
All ranches required under Ag Order 3.0	Jan 1 – Dec 31 2020 – 2021	-	Mar 1 2021 – 2022	-
Groundwater Phase 1	-	-	-	-
Groundwater Phase 2	Jan 1 – Dec 31 2022 – 2023	Mar 1 – May 31 2022- 2023	Mar 1 2023 – 2024	July 31 2022 – 2023
Groundwater Phase 3	Jan 1 – Dec 31 2022 – 2025	Mar 1 – May 31 2022 – 2025	Mar 1, 2023 – 2026	July 31 2022 – 2025

**Table MRP-11. INMP Summary Report and All Irrigation Wells**

Ranches Required	INMP Summary Report Monitoring Period	All Irrigation Wells Monitoring Period	INMP Summary Report Due Date	All Irrigation Wells Reporting Due Date
Groundwater Phase 1	Jan 1 – Dec 31, 2022 Annually thereafter	Mar 1 – May 31, 2022 Annually thereafter	Mar 1, 2023 Annually thereafter	July 31, 2022 Annually thereafter
Groundwater Phase 2	Jan 1 – Dec 31, 2024 Annually thereafter	Mar 1 – May 31, 2024 Annually thereafter	Mar 1, 2025 Annually thereafter	July 31, 2024 Annually thereafter
Groundwater Phase 3	Jan 1 – Dec 31, 2026 Annually thereafter	Mar 1 – May 31, 2026 Annually thereafter	Mar 1, 2027 Annually thereafter	July 31, 2026 Annually thereafter

Note: Based on Groundwater Phase, Dischargers submit either the TNA Report or the INMP Summary Report.

**Table MRP-12. On-Farm Domestic Wells**

Ranches Required	All On-Farm Domestic Wells Monitoring Period	All On-Farm Domestic Wells Reporting Due Date
All ranches	Mar 1 – May 31, 2021 Annually thereafter	July 31, 2021 Annually thereafter

**Table MRP-13. Groundwater Quality Trends**

Ranches Required	Cooperative Selection		Individual Selection	
	Work Plan Due Date	Trend Monitoring Frequency	Work Plan and Well Completion Report Due Date	Trend Monitoring Frequency
Groundwater Phase 1	Sept 1, 2023	Established in Work Plan	Sept 1, 2023	Quarterly
Groundwater Phase 2	Sept 1, 2025		Sept 1, 2025	
Groundwater Phase 3	Sept 1, 2027		Sept 1, 2027	

**Surface Water Requirements**

**Table MRP-14. Surface Receiving Water Trend Monitoring**

Ranches Required	Cooperative or Individual Selection			
	Work Plan Due Date	Upload Data to CEDEN	Exceedance Report Due Date	Annual Report Due Date
All ranches	July 1, 2021	Quarterly by Jan 1, Apr 1, July 1, Oct 1	Quarterly by Jan 1, Apr 1, July 1, Oct 1	Annually by July 1

**Table MRP-15. Surface Receiving Water Follow-Up Implementation**

Ranches Required	Cooperative Selection or Individual Selection			
	Work Plan Due Date	Upload Data to CEDEN	Exceedance Report Due Date	Annual Report Due Date
Surface Water Priority 1	Mar 1, 2022	Quarterly by Jan 1, Apr 1, July 1, Oct 1 after work plan is approved	Quarterly by Jan 1, Apr 1, July 1, Oct 1 after work plan is approved	Annually by July 1 after work plan is approved
Surface Water Priority 2	Mar 1, 2023			
Surface Water Priority 3	Mar 1, 2024			
Surface Water Priority 4	Mar 1, 2025			

**Riparian Requirements**

**Table MRP-16. Operational Setback**

Ranches Required	Operational Setback Compliance Date	Operational Setback Reporting Date
All ranches (with waterbodies on or adjacent to the ranch)	October 1, 2022	Mar 1, 2023 (in Annual Compliance Form)

**Table MRP-17. Cooperative Approach Compliance Pathway**

Ranches Required	Report on Current Conditions	Work Plan Due Date	Begin Work Plan Implementation*	Annual Report Due Date
Riparian Priority 1	Mar 1, 2021 (in Annual Compliance Form)	Mar 1, 2023	Mar 1, 2025	Annually by Mar 1 after work plan is approved
Riparian Priority 2		Mar 1, 2024	Mar 1, 2026	
Riparian Priority 3		Mar 1, 2025	Mar 1, 2027	
Riparian Priority 4		Mar 1, 2026	Mar 1, 2028	

\*Implementation must begin once the work plan is approved or by the date specified in the table

**Table MRP-18. On-Farm Setback Compliance Pathway**

Ranches Required	Report on Current Conditions	Update RAMP (retain on-site)	Report on Progress
Riparian Priority 1	Mar 1, 2021 (in Annual Compliance Form)	Mar 1, 2022	Mar 1 (in Annual Compliance Form)
Riparian Priority 2		Mar 1, 2023	
Riparian Priority 3		Mar 1, 2024	
Riparian Priority 4		Mar 1, 2025	

**Table MRP-19. Rapid Assessment Method Compliance Pathway**

Ranches Required	Report on Current Conditions	Initial RipRAM Assessment Due Date and Update RAMP (retain on-site)	Interim RipRAM Assessment Due Date	Final RipRAM Assessment Due Date	Report on Progress
Riparian Priority 1	Mar 1, 2021 (in Annual Compliance Form)	Mar 1, 2022	Mar 1, 2027	Mar 1, 2030	Mar 1 (in Annual Compliance Form)
Riparian Priority 2		Mar 1, 2023	Mar 1, 2028	Mar 1, 2031	
Riparian Priority 3		Mar 1, 2024	Mar 1, 2029	Mar 1, 2032	
Riparian Priority 4		Mar 1, 2025	Mar 1, 2030	Mar 1, 2033	

**Table MRP-20. Alternative Proposal Compliance Pathway**

Ranches Required	Report on Current Conditions	Work Plan Due Date	Begin Work Plan Implementation*	Surface Receiving Monitoring Due Date	Report on Progress
Riparian Priority 1	Mar 1, 2021 (in Annual Compliance Form)	Mar 1, 2022	Mar 1, 2024	Annually by Mar 1 after work plan is approved	Mar 1 (in Annual Compliance Form)
Riparian Priority 2		Mar 1, 2023	Mar 1, 2025		
Riparian Priority 3		Mar 1, 2024	Mar 1, 2026		
Riparian Priority 4		Mar 1, 2025	Mar 1, 2027		

\*Implementation must begin once the work plan is approved or by the date specified in the table