

**PRELIMINARY DRAFT  
STAFF RECOMMENDATIONS  
FOR AN  
AGRICULTURAL ORDER**

**CONDITIONALLY WAIVING INDIVIDUAL WASTE  
DISCHARGE REQUIREMENTS  
FOR DISCHARGES  
FROM IRRIGATED LANDS**

**Preliminary Draft Report**

**CENTRAL COAST REGIONAL  
WATER QUALITY CONTROL BOARD**

*February 1, 2010*





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## Table of Contents

<b>1.0</b>	<b>Introduction</b> .....	4
1.1	What is the issue? .....	4
1.2	Why is the issue important?.....	4
1.3	What is the Central Coast Water Board’s regulatory role? .....	6
1.4	Why is the Central Coast Water Board changing the current Order? .....	6
1.5	What actions are necessary to achieve water quality improvement? .....	7
1.6	A Dilemma:.....	8
<b>2.0</b>	<b>Background</b> .....	9
<b>3.0</b>	<b>The Preliminary Draft Agricultural Order</b> .....	9
3.1	Summary.....	9
3.2	Public Input and Consideration of Additional Information .....	10
<b>4.0</b>	<b>Water Quality Conditions</b> .....	10
4.1	Summary of Surface Water Quality Conditions.....	10
4.2	Groundwater Quality.....	13
4.3	Aquatic Habitat Conditions .....	15
4.4	Agricultural Discharge Water Quality .....	17
<b>5.0</b>	<b>Preliminary Draft Staff Recommendations for an Agricultural Order</b> .....	18
5.1	Background on Agricultural Regulatory Program Implementation (2004 – 2009) .....	18
5.2	Preliminary Draft Agricultural Order – Summary of Staff Proposed Conditions .....	19
5.3	Preliminary Draft Monitoring and Reporting Requirements .....	21
5.4	Proposed Time Schedule for Compliance.....	25
<b>6.0</b>	<b>Preliminary Draft Environmental Analysis Pursuant to the California Environmental Quality Act (CEQA)</b> .....	25
<b>7.0</b>	<b>References</b> .....	26

## Attachments

1. Preliminary Draft Report on Water Quality Conditions
2. Draft Summary Table of Changes Related to Existing Conditional Waiver
3. Preliminary Draft Agricultural Order
4. Draft Surface Water and Riparian Monitoring Sampling Parameters
5. Preliminary Draft Initial Study and Environmental Checklist
6. List of References Consulted and/or Cited for Preliminary Draft Agricultural Order

## **1.0 Introduction**

The Central Coast Water Board currently regulates discharges from irrigated lands with a Conditional Waiver of Waste Discharge Requirements (Order No. R3-2009-0050, hereafter current Order) that expires in July 2010. The Central Coast Water Board is beginning their process to consider conditions to be included in a new or revised Order that achieves desired water quality improvement.

### **1.1 *What is the issue?***

The Central Coast Water Board must determine how best to regulate agricultural discharges on the Central Coast to directly address the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater so that we achieve desired water quality outcomes that support all beneficial uses. Agricultural discharges (primarily due to contaminated irrigation runoff and percolation to groundwater) are a major cause of water quality impairment. The main problems are:

1. In the Central Coast Region, thousands of people are drinking water contaminated with unsafe levels of nitrate or are drinking replacement water to avoid drinking contaminated water. The cost to society for treating polluted drinking water is estimated to be in the hundreds of millions of dollars.
2. Aquatic organisms in large stretches of rivers in the entire region's major watersheds have been severely impaired or completely destroyed by severe toxicity from pesticides.

These impairments are well documented, severe, and widespread. Nearly all beneficial uses of water are impacted, and the discharges causing the impairments continue. Immediate and effective action is necessary to improve water quality protection and resolve the widespread and serious impacts on people and aquatic life.

### **1.2 *Why is the issue important?***

The Central Coast Region's coastal and inland water resources are unique, special, and in some areas still of relatively high quality. Millions of Central Coast residents depend on groundwater for nearly all their drinking water from both deep municipal supply wells and shallow domestic wells. In addition, the region supports some of the most significant biodiversity of any temperate region in the world and is home to many sensitive natural habitats and species of special concern. These resources and the beneficial uses of the Central Coast water resources are severely impacted or threatened by agricultural discharges. At the same time, the Central Coast Region is one of the most productive and profitable agricultural regions in the nation, reflecting a gross production value of more than six billion dollars in 2008, contributing 14 percent of California's agricultural economy. For example, agriculture in Monterey County supplies

80 percent of the nation's lettuces and nearly the same percentage of artichokes and sustains an economy of 3.4 billion dollars.<sup>1</sup>

Thousands of people rely on public supply wells with unsafe levels of nitrate and other pollutants. Excessive nitrate concentration in drinking water is a significant public health issue resulting in risk to infants for methemoglobinemia or "blue baby syndrome", and adverse health effects (i.e., increased risk of non-Hodgkin's, diabetes, Parkinson's disease, Alzheimers, endocrine disruption, cancer of the organs) among adults as a result of long-term consumption exposure. Seventeen percent of public supply wells surveyed by the Department of Water Resources (DWR) showed contaminants above the drinking water standard, with nitrate as the most frequent chemical to exceed the drinking water standard. In a Monterey County study, in portions of the Salinas Valley, up to 50 percent of the wells surveyed had concentrations above the nitrate drinking water standard; with average concentrations nearly double the drinking water standard and the highest concentration of nitrate approximately nine times the drinking water standard. Water Board staff estimate several additional thousands of people are drinking from shallow private domestic wells. For these wells, water quality is not regulated, is often unknown, not treated, or treated at significant cost to the well owner.

Agricultural discharges of fertilizer are the main source of nitrate contamination to groundwater based on local nitrate loading studies. In some cases, up to 30 percent of applied nitrogen may have leached to groundwater in the form of nitrate. Due to elevated concentrations of nitrate in groundwater, many public water supply systems have abandoned wells and established new wells or sources of drinking water, or are required to remove nitrate before delivery to the drinking water consumer, often, at significant cost.

Agricultural discharges have impaired surface water quality in the Central Coast Region, such that some creeks are found toxic (lethal to aquatic life) every time the site is sampled and as a result many areas are devoid of aquatic organisms essential to ecological systems. Vertebrates, including fish, rely on invertebrates as a food source. Consequently, invertebrates are key indicators of stream health, and are commonly used for toxicity analyses and assessments of overall habitat condition. The majority of creeks, rivers and estuaries in the Central Coast Region are not meeting water quality standards. Most of these waterbodies are impacted by agriculture. These conditions were determined and documented on the Central Coast Water Board's 2008 Clean Water Act Section 303(d) List of Impaired Waterbodies. The three main forms of pollution from agriculture are excessive runoff of pesticides and toxicity, nutrients, and sediments. In a statewide study, the Central Coast Region had the highest percentage of sites with pyrethroid pesticides detected and the highest percentage of sites exceeding toxicity limits. In addition, there are more than 46 waterbodies that exceed the nitrate water quality standard and several waterbodies routinely exceed the nitrate water quality standard by five-fold or more. In addition to causing the human health impacts discussed previously, these high levels of nitrate are impacting sensitive fish

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<sup>1</sup> Salinas Valley Chamber of Commerce [http://atlantabrain.com/ag\\_industry.asp](http://atlantabrain.com/ag_industry.asp)

species such as the threatened Steelhead, endangered Coho Salmon, by causing algae blooms that remove oxygen from water, creating conditions unsuitable for aquatic life.

The water quality conditions throughout the region are also impacting several other threatened and endangered species, including the marsh sandwort (*arenaria paludicola*), Gambel's watercress (*nasturtium rorippa gambelii*), California least tern (*sterna antillarum browni*), and red-legged frog (*Rana aurora*). The last remaining known populations of the two endangered plants, marsh sandwort and Gambel's watercress, occur in Oso Flaco Lake, are critically imperiled and depend upon the health of the Oso Flaco watershed to survive.

### **1.3 What is the Central Coast Water Board's regulatory role?**

The California Regional Water Board's and State Water Resources Control Board's mission and regulatory responsibility *"is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations."* The Central Coast Water Board is responsible for regulating discharges of waste to the region's waterbodies to protect beneficial uses of the water. In some cases, such as the discharge of nitrate to groundwater, the Water Board is the only agency with regulatory responsibility and authority for controlling the discharge to waters of the State. The Central Coast Water Board issues Orders that contain prohibitions on and requirements for discharging waste and enforces violations of the prohibitions and requirements in these Orders. The Central Coast Water Board also develops water quality standards and implements plans and programs. These activities are conducted to best protect the State's waters, recognizing the local differences in climate, topography, geology and hydrology. As the current Order expires in July 2010, The Central Coast Water Board must immediately determine how best to regulate agricultural discharges on the Central Coast to directly address the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater so that we achieve desired water quality outcomes that support all beneficial uses.

### **1.4 Why is the Central Coast Water Board changing the current Order?**

The Central Coast Water Board and other stakeholders successfully developed an Order (in the form of a Conditional Waiver of Waste Discharge Requirements (2004 Conditional Waiver) through a stakeholder process and the Board adopted the Conditional Waiver on July 9, 2004 and renewed it for one year on July 10, 2009. Agricultural dischargers enrolled and established farm plans based on education and outreach, and created an industry-led, nonprofit, monitoring program. The current Conditional Waiver, however, lacks clarity and does not focus on accountability and verification of directly resolving the known water quality problems. The conditions of the 2004 Conditional Waiver address all common problems associated with all agricultural operations equally and without specific targets or timelines for compliance. Currently, the Water Board and the public have no direct evidence that water quality is improving

due to the 2004 Conditional Waiver. The current watershed-scale monitoring program only indicates long-term (multi-year), receiving water changes without measuring : 1) if individual agricultural dischargers are in compliance with Conditional Waiver conditions or water quality standards, or 2) if short-term progress towards water quality improvements on farms or in agricultural discharges is occurring. We know that better on-site information assists growers in improving farming practices and some growers have advanced efforts toward water quality protection. Currently, information that provides evidence of on-farm improvements and reductions in pollution loading from farms is not required, and therefore probably does not exist for most farms. The public, including those who are directly impacted by farm discharges, and the Water Board, do not have the necessary evidence of compliance or improvements. This is unacceptable given the magnitude and scale of the documented water quality impacts and the number of people directly affected. At a minimum, we continue to observe that agricultural discharges continue to severely impact water quality. The Central Coast Water Board must determine how best to regulate agricultural discharges on the Central Coast to directly address the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater so that we achieve desired water quality outcomes that support all beneficial uses.

### ***1.5 What actions are necessary to achieve water quality improvement?***

The Central Coast Water Board must fulfill its regulatory responsibility to protect water quality. The Central Coast Water Board must determine how best to regulate agricultural discharges on the Central Coast to directly address and resolve the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater so that we achieve desired water quality outcomes that support all beneficial uses. The agricultural industry must be accountable for preventing and addressing the water quality issues caused by agriculture. Together, we must control agricultural discharges – especially contaminated irrigation runoff and percolation to groundwater. The Central Coast Water Board must focus on those areas of the Central Coast Region already known to have, or be at great risk for, severe water quality impairment. The agricultural industry must implement the most effective management practices (related to irrigation, nutrient, pesticide and sediment management) that will most likely yield the greatest amount of water quality protection, and verify their effectiveness with on-farm data. The Central Coast Water Board must establish a known and reasonable time schedule, with clear and direct methods of verifying compliance and monitoring progress over time so that agricultural dischargers understand when and if they are successfully reducing their contribution to the problems or maintaining adequate levels of protection. We all must adapt to what we learn from measures of progress, so we efficiently and effectively achieve water quality improvement over time. To prevent further water quality impairment and impact to beneficial uses, we must take action now.

## **1.6 A Dilemma:**

Agricultural discharges continue to contribute to already significantly impaired water quality and impose certain risk and massive costs to public health, drinking water supplies, aquatic life, and valued water resources. If we do not protect water quality and beneficial uses, these costs and other impacts are likely to increase significantly. Resolving agricultural water quality issues will greatly benefit public health, present and future drinking water supplies, aquatic life, aesthetic, recreational, and other beneficial uses. Resolving agricultural water quality issues will require changes in farming practices, will impose increasing costs to individual farmers and the agricultural industry at a time of competing demands on farm income, regulatory compliance efforts, and food safety challenges, and may impact the local economy.

Protecting water quality and the environment while protecting agricultural benefits and interests will require change and may shift who bears the costs and who reaps the benefits. There will be a spectrum of adaptation by individual farmers to any change in water quality requirements – some farmers will react by actively adapting to the change and find efficiencies and advantages to achieving compliance; and some farmers may be more resistant to change or otherwise have greater difficulty adapting, possibly resulting in negative impacts. These impacts can be reduced by the use of reasonable time schedules and by providing that individual farmers identify how they can best meet water quality standards in their individual Farm Plans.

However, continuing to operate in a mode that causes constant or increasingly severe receiving water problems is not a sustainable model. Change will be effected one way or another. Without proactive improvements in operation, a non-sustainable model will result in increasing changes such as increasingly impaired habitat, and reactive fixes such as additional costly water supply treatment, and additional cost for developing new supplies (example: northern Monterey County water supply on-going development costs due in part to groundwater overuse by Salinas Valley water users and seawater intrusion). There is no “new water” other than through desalinization which is expensive not only in terms of money but in energy costs.

To prevent further water quality impairment and impact to beneficial uses, the Central Coast Water Board must take action immediately to better regulate agricultural discharges on the Central Coast to directly address the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater so that we achieve desired water quality outcomes that support all beneficial uses.

## **2.0 Background**

The California Regional Water Quality Control Board (Central Coast Water Board) Agricultural Regulatory Program was initiated in 2004, with the adoption of a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (2004 Conditional Waiver, Order No. R3-2004-0117). The 2004 Conditional Waiver expired on July 9, 2009 and the Central Coast Water Board extended it until July 10, 2010 (Order No. R3-2009-0050).

The intent of the 2004 Conditional Waiver was to regulate discharges from irrigated lands to ensure that such dischargers are not causing or contributing to exceedances of any Regional, State, or Federal numeric or narrative water quality standard. The requirements of the 2004 Conditional Waiver focused on enrollment, education and outreach, the development of Farm Water Quality Management Plans (Farm Plans), and receiving (watershed-scale) water quality monitoring. However, substantial evidence indicates discharges of waste are causing significant exceedances of numeric and narrative water quality standards resulting in negative impacts on beneficial uses.

Prior to the expiration of the current Conditional Waiver in July 2010, the Central Coast Water Board must consider the adoption of new or revised conditions to achieve desired water quality improvement. This report provides background and supporting information, and the terms and requirements for these Preliminary Staff Recommendations for an Agricultural Order for Discharges from Irrigated Lands (Preliminary Draft Agricultural Order). Specifically, this report contains:

1. an introduction explaining the context for considering a new Agricultural Order,
2. a description of the water quality impacts caused by agricultural discharges,
3. the Preliminary Draft Agricultural Order,
4. and a preliminary draft evaluation of environmental impacts from implementation of this Preliminary Draft Agricultural Order (initial study/environmental checklist).

## **3.0 The Preliminary Draft Agricultural Order**

### **3.1 Summary**

The Preliminary Draft Agricultural Order, like the 2004 Conditional Waiver, must regulate discharges of waste from irrigated lands to ensure that such dischargers are not causing or contributing to exceedances of any Regional, State, or Federal numeric or narrative water quality standard, such that all beneficial uses are protected. The Preliminary Draft Agricultural Order directly addresses agricultural discharges – especially contaminated irrigation runoff and percolation to groundwater causing widespread toxicity, unsafe levels of nitrate, unsafe levels of pesticides, and excessive sediment in surface waters and/or groundwaters. The Preliminary Draft Agricultural Order also focuses on those areas of the Central Coast Region already known to have, or at great risk for, severe water quality impairment. In addition, the Preliminary Draft

Agricultural Order requires the effective implementation of management practices (related to irrigation, nutrient, pesticide and sediment management) that will most likely yield the greatest amount of water quality protection. The Preliminary Draft Agricultural Order includes immediate requirements to eliminate or minimize the most severe or impactful agricultural discharges and additional requirements with specific and reasonable time schedules to eliminate or minimize degradation from all agricultural discharges. The Preliminary Draft Agricultural Order also includes clear and direct methods and indicators for verifying compliance and monitoring progress over time.

### **3.2 Public Input and Consideration of Additional Information**

The Preliminary Draft Agricultural Order describes requirements for owners and operators (Dischargers) of irrigated lands that discharge or have the potential to discharge waste that could directly or indirectly reach waters of the State and affect the quality of any surface water or groundwater. The requirements described in the Preliminary Draft Agricultural Order were developed by Central Coast Water Board staff based upon information and data available, and public input received to date. At the December 2009 Board Meeting, the Central Coast Water Board invited interested persons to submit any alternative recommendations for regulating agricultural discharges for consideration by Board members and staff. Board members directed interested persons to submit alternative recommendations in writing by April 1, 2010. The Central Coast Water Board will review and consider all alternatives submitted for consistency with: 1) the program goals of resolving surface and groundwater water quality impairment and impacts to aquatic habitat over a reasonable time frame, and including milestones, and monitoring and reporting to verify compliance and measure progress over time; and 2) minimum statutory requirements (including Water Code sections 13263 and 13269 and relevant plans, policies, and regulations identified in Attachment A to the Preliminary Draft Agricultural Order). During the course of reviewing alternatives (including any specific comments on or recommendations for the Preliminary Draft Agricultural Order), Central Coast Water Board staff may modify proposed conditions or identify other feasible conditions, resulting in revisions to the Preliminary Draft Agricultural Order. Interested Persons will have an opportunity to review and provide comments on forthcoming versions of the Agricultural Order (e.g., during informal staff workshops or Board information workshops), and during future public comment periods associated with specific actions to be taken by the Central Coast Water Board (e.g., adoption of new Agricultural Order).

## **4.0 Water Quality Conditions**

### **4.1 Summary of Surface Water Quality Conditions**

Most waterbodies located in or near areas influenced by agriculture in the Central Coast Region have unsafe levels of nutrients, unsafe levels of pesticides/toxicity, and

excessive levels of sediment/turbidity, evidenced by exceedances of surface water quality standards, and poor biological and physical conditions. Most surface waterbodies in agricultural watersheds are not suitable for drinking water, recreation (swimming or fishing), or aquatic life. Surface water quality data shows severe water quality impairment in most areas of the region with only minimal signs of improvement in a few areas.

To develop a comprehensive assessment of surface water quality in agricultural areas throughout the Region, staff evaluated data from the Cooperative Monitoring Program (CMP), the monitoring program established for compliance with the Conditional Waiver, and the Central Coast Water Board's Regional Monitoring Program, the Central Coast Ambient Monitoring Program (CCAMP). The CMP data focused monitoring in problem areas with agricultural sources and CCAMP data focused monitoring in all areas of the Region. Consequently, CMP data are biased toward more agricultural runoff influenced streams. Staff also evaluated (and will continue to evaluate) both sets of data for evidence of trends. Staff also completed an assessment of potential risk to Marine Protected Areas in the nearshore marine environment.

Surface water quality conditions are detailed in Attachment 1 to this staff report and summarized below.

#### *Indicators of Surface Water Quality Impairment-*

- Most of the same areas that showed serious contamination from agricultural pollutants five years ago are still seriously contaminated.
- The 2008 Clean Water Act Section 303(d) List of Impaired Waterbodies for the Central Coast Region (Impaired Waters List) identified surface water impairments for approximately 167 water quality limited segments related to a variety of pollutants (e.g., salts, nutrients, pesticides/toxicity, and sediment/turbidity). Sixty percent of the surface water listings identified agriculture as one of the potential sources of water quality impairment.
- Agricultural discharges most severely impact surface waterbodies in the lower Salinas and Santa Maria watersheds, both areas of intensive agricultural activity. Evaluated through a multi-metric of water quality, 82 percent of the most degraded sites in the Central Coast Region are in these agricultural areas.
- Nitrate concentrations in areas that are most heavily impacted are not improving in significantly or in any widespread manner and in a number of sites in the lower Salinas and Santa Maria watersheds appear to be getting worse in the last few years (from CCAMP and CMP data) .
- Thirty percent of all sites from CCAMP and CMP have average nitrate concentrations that exceed the drinking water standard, and approximately 57 percent exceed the level necessary to protect aquatic life. Several of these water bodies have average nitrate concentrations that exceed the drinking water standard by five-fold or more. Some of the most seriously polluted waterbodies include the Tembladero Slough system (including Old Salinas River, Alisal Creek, Alisal Slough, Espinosa Slough, Gabilan Creek and Natividad Creek), the Pajaro River (including Llagas Creek, San Juan Creek, and Furlong Creek), the

lower Salinas River (including Quail Creek, Chualar Creek and Blanco Drain), the lower Santa Maria River (including Orcutt-Soloman Creek, Green Valley Creek, and Bradley Channel), and the Oso Flaco watershed (including Oso Flaco Lake, Oso Flaco Creek, and Little Oso Flaco Creek).

- Discharges from some agricultural drains have shown toxicity every time the drains are sampled. Researchers collaborating with CCAMP have shown that these toxic discharges can cause toxic effects in river systems that damage benthic invertebrate communities.
- Agricultural use of pyrethroid pesticides in the Central Coast Region and associated toxicity are among the highest in the state. In a statewide study of four agricultural areas conducted by the Department of Pesticide Regulation (DPR), the Salinas study area had the highest percent of surface water sites with pyrethroid pesticides detected (85 percent), the highest percent of sites that exceeded levels expected to be toxic (42 percent), and the highest rate (by three-fold) of active ingredients applied (113 lbs/acre).
- Agricultural discharges contribute to sustained turbidity with many sites heavily influenced by agricultural discharges exceeding 100 NTUs as a median value. Most CCAMP sites have a median turbidity level of under 5 NTUs. Resulting turbidity greatly exceeds levels that impact the ability of salmonids to feed. Many of these sites are located in the lower Santa Maria and Salinas-Tembladero watersheds.
- Agricultural discharges result in water temperatures that exceed levels that are desirable for salmonids at some sites in areas dominated by agricultural activity. Several of these sites are in major river corridors that provide rearing and/or migration habitat for salmonids. These include the Salinas, Santa Maria, and Santa Ynez rivers.
- Bioassessment data shows that creeks in areas of intensive agricultural activity have impaired benthic communities. Aquatic habitat is often poorly shaded, high in temperature, and has in-stream substrate heavily covered with sediment.
- Several Marine Protected Areas (MPAs) along the Central Coast are at risk of pollution impacts from sediment and water discharges leaving river mouths. Three of the MPAs, Elkhorn Slough, Moro Cojo Slough and Morro Bay, are estuaries that receive runoff into relatively enclosed systems.
- For Moro Cojo Slough and Elkhorn Slough, nitrates, pesticides and toxicity are documented problems. These two watersheds have more intense irrigated agricultural activity than does the Morro Bay watershed.

#### *Indicators of Surface Water Quality Improvement -*

- Some drainages in the Santa Barbara area are improving in surface water quality (such as Bell Creek, which supports agricultural activities) and on Pacheco Creek in the Pajaro watershed. In the lower Salinas and Santa Maria watersheds, flow volumes are declining at some sites, so at these locations nitrate loads may not necessarily be getting worse in spite of trends in concentrations;
- Dry season flow volume appears to be declining in some areas of intensive agriculture;

- Detailed flow analysis by the CMP showed that 18 of 27 sites in the lower Salinas and Santa Maria watersheds had statistically significant decreases in dry season flow over the first five years of the program;
- Two sites in the lower Santa Maria area show significant improvements in nitrate concentration (Green Valley Creek (312GVS) and Oso Flaco Creek (312OFC);
- Four sites on the main stem of the Salinas River show improvements in turbidity during the dry season;
- Dry season turbidity is improving along a portion of the main stem of the Salinas River;
- CCAMP monitoring has detected declining flows at other sites elsewhere in the Region, likely because of drought;

#### *Surface Water Quality Data and Information Gaps -*

- The timeframe and frequency of data collection limit the evaluation of statistical trends for some water quality parameters in surface waterbodies;
- Flow data are not collected at all sites, making it difficult to identify patterns or trends in flow and loading of pollutants (compared to changes in concentration);
- Flow information and water quality data are not reported for agricultural discharges from individual farms, so correlations cannot be made between reductions in irrigation runoff or improvements in agricultural discharge quality vs. in-stream changes.
- In-stream water quality is an effective long-term measure of water quality improvement (especially for nutrients), and more time may be necessary to identify any significant change.
- There is no individual on-farm monitoring or reporting, and it is unknown how individual farms contribute to surface water quality improvement or impairment. In addition, it is unknown if individual Dischargers are in compliance with water quality standards (given the magnitude and scale of documented impacts, it is highly likely that most discharges are not in compliance).
- In Marine Protected Areas, there is no monitoring of sediments that carry pesticides in attached forms. Without this information it is difficult to determine if these pesticides, carried downstream in streamflow by sediments and discharged to the ocean, harm marine life.
- Additional research would increase understanding of the potential impacts of nutrient discharges in rivers in local ocean waters.

## **4.2 Groundwater Quality**

Groundwater is severely impaired by nitrate contamination in many areas of the Central Coast Region. In many areas, nitrate concentration in groundwater is orders of magnitude above the drinking water standard, resulting in a significant threat to public health. This problem is critically important because much of the Central Coast Region is almost completely dependent on groundwater resources.

To develop a comprehensive assessment of groundwater quality in agricultural areas throughout the Region, staff evaluated available groundwater data collected by the California Department of Water Resources, California Department of Public Health (CDPH), Monterey County Water Resources Agency, and other researchers. Groundwater quality data generally represents conditions at the groundwater basin and sub-basin scale, and in particular, comprehensive impacts of agricultural land uses over a broad scale. Groundwater quality data for the purposes of characterizing specific individual agricultural discharges are not available and collection of this type of groundwater data is not required in the 2004 Conditional Waiver.

Groundwater quality conditions are detailed in Attachment 1 to this staff report and summarized below.

*Indicators of Groundwater Quality Impairment -*

- Groundwater contamination from nitrate severely impacts public drinking water supplies in the Central Coast Region. A Department of Water Resources (DWR) survey of groundwater quality data collected between 1994 and 2000 from 711 public supply wells in the Central Coast Region found that 17 percent of the wells (121 wells) detected a constituent at concentrations above one or more drinking water standards or primary maximum contaminant levels (MCLs). Nitrate caused the most frequent MCL exceedances (45 mg/L nitrate as nitrate or 10 mg/L nitrate as nitrogen), with approximately 9 percent of the wells (64 wells) exceeding the MCL for nitrate. According to data maintained in the GAMA-Geotracker database, recent impacts to public supply wells are greatest in portions of the Salinas Valley (up to 20 percent of wells impacted) and Santa Maria groundwater (approximately 17 percent) basins. In the Gilroy-Hollister Groundwater Basin, 11 percent are impacted, and the CDPH identified over half of the drinking water supply wells as vulnerable to discharges from agricultural-related activities. Due to these elevated concentrations of nitrate in groundwater, many public water supply systems are required to provide wellhead treatment, at significant cost, to remove nitrate before delivery to the drinking water consumer.
- Groundwater contamination from nitrate severely impacts shallow domestic drinking water supplies in the Central Coast Region. Domestic wells (wells supplying one to several households) are typically screened in shallower zones than public supply wells, and typically have higher nitrate concentrations as a result. Water quality monitoring of domestic wells is not generally required and water quality information is not readily available, however based on the limited data available, the number of domestic wells that exceed the nitrate drinking water standard is likely in the range of hundreds to thousands in the Central Coast Region.
- In Monterey County, 25 percent of 352 wells sampled (88 wells) had concentrations above the nitrate drinking water standard in the northern Salinas Valley. In portions of the Salinas Valley, up to approximately 50 percent of the wells surveyed had concentrations above the nitrate drinking water standard, with average concentrations nearly double the drinking water standard and the highest concentration of nitrate approximately nine times the drinking water

standard. Nitrate exceedences in the Gilroy-Hollister and Pajaro groundwater basins are similar, as reported by local agencies/districts for those basins.

- In many cases, whole communities relying on groundwater for drinking water purposes are affected. Local agencies have reported the shut down of domestic drinking water wells due to high nitrate concentrations. In addition, local agencies and consumers have reported impacts to human health resulting from nitrate contaminated groundwater likely due to agricultural land uses, and spent significant financial resources to ensure proper drinking water treatment and reliable sources of quality drinking water for the long-term. In the Central Coast Region, the Monterey County community of San Jerardo, the San Martin area of Santa Clara County, and the City of Morro Bay are among the local communities affected by nitrate.

#### *Groundwater Quality Data and Information Gaps -*

- Groundwater quality (especially in deeper parts of the aquifer) is an effective long-term measure of water quality improvement and long time periods are usually necessary to identify significant change in water quality.
- Shallow groundwater is generally more directly susceptible to pollution from overlying land use. Groundwater quality data collection from shallow wells (especially agricultural or domestic drinking water wells) is not required and data is only broadly available, thus limiting evaluations related to shorter term indications of water quality changes.
- Well construction data (e.g., depth and screened intervals) are generally available for public supply wells but are otherwise not collected on a broad scale in a common format. This data gap limits more precise evaluations of water quality and groundwater depth.
- Groundwater data from wells associated with individual farms or areas of intensive agriculture are not routinely collected, nor have data been collected for all such areas in the region. This data gap limits understanding of chemical contributions from individual farms or areas to the levels of chemicals found in groundwater wells.

### **4.3 Aquatic Habitat Conditions**

Aquatic habitat is degraded in many areas of the region as evidenced by poor biological and physical conditions. Most surface waterbodies in agricultural watersheds are not suitable for safe recreational fishing or to support aquatic life.

To determine aquatic habitat conditions, staff reviewed data collected by CMP and CCAMP, and conducted a review of available riparian and wetland information for the Central Coast Region. While the 2004 Conditional Waiver did not specifically require aquatic habitat monitoring, it stated that cooperative monitoring of in-stream effects would enable the Central Coast Water Board to assess the overall impact of agricultural discharges to beneficial uses, such as aquatic life and habitat. The 2004 Conditional Waiver also requires protection of beneficial uses including aquatic and wildlife habitat.

The proposed 2010 order continues that requirement.

Aquatic habitat conditions are detailed in Attachment 1 to this staff report and summarized below.

*Indicators of Aquatic Habitat Degradation -*

- Agricultural activities result in the alteration of riparian and wetland areas, and continue to degrade the waters of the State and associated beneficial uses. Owners and operators of agricultural operations historically removed riparian and wetland areas to plant cultivated crops and in many areas continue to do so.
- As a result of aquatic habitat degradation, watershed functions that serve to maintain high water quality, aquatic habitat and wildlife - by filtering pollutants, recharging aquifers, providing flood storage capacity, have been disrupted.
- Data collected from CCAMP and CMP indicate that population characteristics of aquatic insects (benthic macroinvertebrates) important to ecological systems reflect poor water quality, degradation or lack of aquatic habitat, and poor overall watershed health at sites in areas with heavy agricultural land use. Aquatic habitat is often poorly shaded, high in temperature, and stream bottoms are heavily covered with sediment.
- The lower Salinas watershed and lower Santa Maria watersheds score low for common measures of benthic macroinvertebrate community health and aquatic habitat health.
- Unstable, bare dirt and tilled soils, highly vulnerable to erosion and stormwater runoff, are common directly adjacent to surface waterbodies in agricultural areas. Erosion and stormwater runoff from agricultural lands contributes sediment and sustained turbidity at levels that impact the ability of salmonids to feed. Many of these sites are located in the lower Santa Maria and Salinas-Tembladero watersheds.
- Degradation of aquatic habitat also results in water temperatures that exceed levels that are desirable for salmonids at some sites in areas dominated by agricultural activity. Several of these sites are in major river corridors that provide rearing and/or migration habitat for salmonids. These include the Salinas, Santa Maria, and Santa Ynez rivers.
- Real and/or perceived incompatible demands between food safety and environmental protection and subsequent actions taken by Dischargers to address food safety concerns associated with environmental features have resulted in the removal of aquatic habitat and related management practices.
- According to a Spring 2007 survey by the Resource Conservation District of Monterey County (RCDMC), 19 percent of 181 respondents said that their buyers or auditors had suggested they remove non-crop vegetation from their ranches. In response to pressures by auditors and/or buyers, approximately 15 percent of all growers surveyed indicated that they had removed or discontinued use of previously adopted management practices used for water quality protection. Grassed waterways, filter or buffer strips, and trees or shrubs were among the management practices removed.

#### *Indicators of Aquatic Habitat Improvement -*

- Protection, restoration and enhancement of aquatic habitat and watershed functions are demonstrated to be effective for improving water quality, aquatic and wildlife habitat, aquifer recharge, and flood storage capacity.
- Grant-funded projects in the Gabilan Watershed and surrounding Southern Monterey Bay Watersheds demonstrate that wetland restoration results in improved aquatic habitat conditions measured by changes in populations of native plants and birds, and establishment of macroinvertebrate populations. Restoration projects also resulted in water quality improvement by reducing sediment loads, removing large fractions of nitrate and suspended sediment inputs, and removal of ammonia, phosphate, and diazinon.
- Restoration projects implemented in the Moro Cojo Slough indicated that agricultural runoff that ran through wetland habitats can result in greatly reduced levels of nitrate. In addition, restoration resulted in better support of native plants and animals. Greater than 40 native plant species and 22 native vertebrates were observed throughout the project sites. In addition, the following protected species were documented throughout the Moro Cojo Watershed: California Red-legged Frog, California Tiger Salamander, Steelhead, Santa Cruz Long-toed Salamander, Tidewater Goby, and Saline Clover.
- Restoration projects in the Hansen Slough area near Watsonville resulted in decreases in stream turbidity by more than 50-fold, comparing sites above and below restoration. Nitrate concentrations also decreased as water passed through the restoration area – nitrate concentrations entering the site exceeded 140 mg/L and levels leaving the site never exceeded 40 mg/L, and were frequently below 5 mg/L.

#### *Aquatic Habitat Data and Information Gaps -*

- The success of aquatic habitat protection and restoration efforts is dependent on a variety of different parameters including scale, climate, topography, flow, water quality, and other site-specific variables.

## **4.4 Agricultural Discharge Water Quality**

Water quality of agricultural discharges is often poor, carrying nitrates at concentrations above safe drinking water levels and pesticides at concentrations above toxic levels to waterbodies in the region. Agricultural discharges contribute significantly to water quality conditions. In some cases, agricultural discharges are the sole or primary source of pollution in impaired waterbodies. Even in areas where agricultural is not the only source of pollution, it is a primary contributor.

Numerous studies document the impact of agricultural discharges on water quality and specific pollutants contained in irrigation runoff. Research conducted by the Food and Agriculture Organization of the United Nations found that irrigation return flow resulted in a significant increase in nitrogen, phosphorous, pesticide residues, and sediments.

Agricultural research conducted by University of California Cooperative Extension (UCCE) found nitrate values in agricultural tailwater at 26, 53, and 75 mg/L NO<sub>3</sub>-N (up to 7.5 times the drinking water standard). UCCE researchers indicated that the high levels of nitrate at the site were likely caused by the grower injecting nitrogen fertilizer into the irrigation water during the 2nd and 3rd irrigation events. A UC Davis study of Salinas Valley farms found that by the second and third crop cycles, farm soils had begun to accumulate nitrogen, but that growers continued with the same fertilization schedule. In addition, soils are high enough in phosphorus that in some areas no added phosphorus is necessary; however, growers continue to add this chemical to their fields. These practices lead to excess fertilizer leaving the farm, which ultimately cause significant water quality impairment. Similar to tailwater, tile drain water with elevated nitrate levels has been found draining into surface water bodies. Nitrate concentrations in selected waterbodies in the Pajaro Valley Watershed have been found to range from 19 to 89.5 mg/l NO<sub>3</sub> as N (compared to the drinking water standard, 10 mg/l).

Pesticides have been detected in agricultural tailwater and routinely exceed the toxicity water quality standard (lethal to aquatic life). Regionwide, CCAMP and the Cooperative Monitoring Program have conducted toxicity monitoring in 80 streams and rivers. Some measure of lethal effect (as opposed to growth or reproduction effect) has been observed at 65 percent of the water bodies monitored.

## **5.0 Preliminary Draft Staff Recommendations for an Agricultural Order**

### **5.1 Background on Agricultural Regulatory Program Implementation (2004 – 2009)**

On July 9, 2004, the Central Coast Water Board unanimously adopted the 2004 Conditional Waiver, and the associated Monitoring and Reporting Program, with the support of an Agricultural Advisory Panel (including agricultural and environmental interest group representatives), and overall public support. The goal of the 2004 Conditional Waiver was to improve agricultural water quality through the implementation of appropriate management practices. The requirements of the 2004 Conditional Waiver focused on enrollment, education and outreach, development of Farm Water Quality Management Plans (Farm Plans), and cooperative water quality monitoring.

During the term of the 2004 Conditional Waiver, Water Board staff worked with the agriculture community to develop an Agricultural Regulatory Program that would progress to protect and restore surface water quality, groundwater quality, and aquatic habitat to conditions that protect all designated beneficial uses of water in areas with irrigated agricultural lands. Major programmatic accomplishments of the first five years include the following:

- Enrollment of approximately 90 percent of the Central Coast Region's total irrigated agricultural acreage under the 2004 Conditional Waiver;

- Development and Implementation of a region-wide monitoring program (CMP) to assess water quality conditions at the watershed-scale;
- Tracking program implementation for more than 1700 farming operations (including inspections at 59 farming operations, and various enforcement actions: more than 200 Notices of Violation, more than 20 water quality enforcement actions, and five Administrative Civil Liability complaints);
- Discharger development of Farm Water Quality Management Plans for over 1528 operations (72 percent of enrollees); and
- Discharger completion of water quality education courses (in total, more than 18,000 hours);

While the success of initial efforts of the Agricultural Regulatory Program to develop a Conditional Waiver with stakeholders and achieve enrollment through education and outreach is significant, the current Conditional Waiver lacks clarity and focus on water quality requirements and does not include adequate compliance and verification monitoring. Thus, desired water quality outcomes achievement is uncertain and unmeasured. At a minimum, agricultural discharges continue to severely impact water quality in most receiving waters. The Central Coast Water Board must determine how better to regulate agricultural discharges on the Central Coast to directly address the major water quality issues of toxicity, nitrates, pesticides and sediment in agricultural runoff and/or leaching to groundwater to achieve desired water quality outcomes that support all beneficial uses.

## **5.2 Preliminary Draft Agricultural Order – Summary of Staff Proposed Conditions**

Conditions in the Preliminary Draft Agricultural Order and changes related to the 2004 Conditional Waiver are summarized in Attachment 2 and the Preliminary Draft Agricultural Order is contained in Attachment 3. Conditions in the Preliminary Draft Agricultural Order that are a clarification of conditions in the 2004 Conditional Waiver are notated as “<CLARIFICATION OF EXISTING>” in the Preliminary Draft Agricultural Order, Attachment B, Terms and Conditions. -. Conditions in the Preliminary Draft Agricultural Order that do not exist in the 2004 Conditional Waiver are notated as “<NEW>”. Conditions in the Preliminary Draft Agricultural Order without a notation are the same as conditions contained in the 2004 Conditional Waiver.

Staff developed these preliminary recommendations for an Agricultural Order by building upon the 2004 Conditional Waiver to advance efforts to improve agricultural water quality and gain compliance with applicable water quality standards. Thus, staff recommends the same regulatory tool, a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands, to regulate agricultural discharges. To ensure understanding of applicable water quality standards, staff included explicit clarification of water quality discharge and compliance requirements. In addition, to improve implementation actions directly addressing the specific priority water quality issues, the Preliminary Draft Agricultural Order builds upon the development and

implementation of Farm Plans, including effective implementation of management practices (related to irrigation, nutrient, pesticide and sediment management) that will most likely yield the greatest amount of water quality protection. The Preliminary Draft Agricultural Order also builds upon the existing Cooperative Monitoring Program by retaining watershed-scale, receiving water monitoring, but adds individual monitoring and reporting to improve Water Board staff's ability to identify specific discharges loading pollutants or contributing to impacts, verify compliance with the requirements by dischargers and measure progress over time at the farm and watershed scales. The Preliminary Draft Agricultural Order focuses on reducing or eliminating agricultural discharges – especially contaminated irrigation runoff and percolation to groundwater in the most severely impaired areas. Due to the unique conditions related to irrigated lands and individual farming operations, the Preliminary Draft Agricultural Order includes multiple options for compliance to maximize Dischargers' flexibility in achieving desired water quality improvement according to a specific time schedule and specific milestones. Similar to the 2004 Conditional Waiver, the Preliminary Draft Agricultural Order also includes significantly reduced monitoring and reporting requirements for those agricultural discharges identified as having relatively low-risk for water quality impairment. The conditions for compliance, the monitoring and reporting requirements and the time schedule for compliance are summarized in the following paragraphs.

To demonstrate compliance with this Order, Dischargers must:

- Enroll to be covered by the Order
- Develop and implement a farm plan that includes management practices with certain conditions and specifications
- Eliminate non-storm water discharges, or use source control or treatment such that non-storm water discharges meet water quality standards
- Demonstrate through water quality monitoring that individual discharges meet certain basic water quality targets (that are or indicate water quality standards that protect beneficial uses). For example, non-storm water discharge monitoring should find:
  - No toxicity
  - Nitrate  $\leq 10$  mg/L NO<sub>3</sub> (N)
  - Turbidity  $\leq 25$  NTUs
  - Un-ionized Ammonia  $< 0.025$  mg/L (N)
  - Temperature  $\leq 68^{\circ}\text{F}$
- Demonstrate through water quality monitoring that receiving water is trending toward water quality standards that protect beneficial uses or is being maintained at existing levels for high quality water
- Farm operation must support a functional riparian system and associated beneficial uses (e.g., recreational uses like swimming, wading, or kayaking, fishing, wildlife habitat, etc.)

### 5.3 Preliminary Draft Monitoring and Reporting Requirements

Water quality monitoring for the Preliminary Draft Agricultural Order is required by California Water Code Section 13269. Monitoring requirements are designed to support the implementation of the Preliminary Draft Agricultural Order (specifically as a Conditional Waiver of Waste Discharges). Monitoring must verify the adequacy and effectiveness of the Order's conditions. Monitoring information and data must be reported to the Water Board. The reporting requirements that staff recommends with the Preliminary Draft Agricultural Order include all farm operations to report on management practice implementation at the time of enrollment, to report on management practices at least once during the period of the Order, to update their farm plans annually with monitoring and site evaluation results, and to update their plans annually with specific adjustments in response to any results that indicate unacceptable progress (e.g., do not meet interim milestones set forth in the Order).

The current monitoring program for the 2004 Conditional Waiver uses a third party for meeting all monitoring and reporting requirements (Preservation, Inc., the nonprofit organization that implements the Cooperative Monitoring Program). Under the current monitoring and reporting program, Dischargers are responsible for monitoring and reporting either individually or collectively, and they must comply with the requirements of the Board-approved Monitoring and Reporting Program. The preliminary draft monitoring and reporting requirements provide for Dischargers to continue to use a third party as long as the third party is approved by the Executive Officer.

The existing monitoring program does not collect sufficient information regarding:

- Groundwater quality
- Pollution source identification
- Individual compliance
- Terrestrial riparian conditions

To address the critical need for additional data for groundwater quality, source identification, source control and/or compliance and riparian condition, Water Board Staff considered various monitoring options.

In the Preliminary Draft Agricultural Order, Water Board staff recommends a monitoring program that requires four categories of monitoring: Individual Discharge Characterization Monitoring, Individual Discharge Monitoring, Watershed (receiving water) Monitoring, and Additional Monitoring if required by the Executive Officer (receiving water and/or discharge). Staff recommends this monitoring program because it:

- Addresses all surface water (tailwater, tile drain water, stormwater, etc) and groundwater
- Provides complete identification of individual operations responsible for discharge
- Allows for immediate management of known discharges with the potential to impact water quality

- Limits costs for farms that are in compliance
- Prioritizes further regulatory action on farms that are not progressing toward compliance
- Uniformly distributes costs for trend and stormwater monitoring across all growers resulting in similar costs for all growers based on acreage farmed
- Provides data for surface and groundwater trends, individual compliance, management practice implementation, riparian protection, and stormwater
- Allows data collection, analysis, and reporting to be performed by a non-regulatory single third party
- Provides follow up monitoring to identify and mitigate known discharges with the potential to impact water quality

The following paragraphs describe each of the four categories of monitoring recommended.

*Individual Discharge Characterization Monitoring-*

To establish the need for one time and/or continuous monitoring at an individual farm operation, farm operations (Dischargers) will be required to evaluate their farms individually. The first step under this option is a requirement that all farm operations conduct an “individual discharge characterization” of their farm operation. The characterization will require a farm operation to identify if they have non-stormwater discharge(s) to either surface or ground water. Examples of non-stormwater discharges include agriculture tailwater, irrigation runoff, tile drain water, pond water discharge, ponded furrows, and/or another intermittent agriculture water discharge.

If a farm operation verifies that it does not have any non-stormwater discharge, that farm operation is not required to conduct any individual discharge water quality monitoring. Each operation without an identified non-stormwater discharge must conduct watershed monitoring for stormwater and long-term in-stream trends.

If a farm operation has an identified non-stormwater discharge to either surface or ground water, that discharge must be sampled and analyzed for the following discharge characterization parameters:

- Flow
- Toxicity
- Total Nitrogen (mg/L)
- Nitrate-Nitrite (mg/L)
- Total Ammonia (mg/L)
- Ortho-Phosphosphate (mg/L)
- Turbidity (NTU)
- Water Temperature (degrees C)
- pH
- Total Dissolved Solids (mg/L)

The following parameter must be calculated (based on Ammonia and pH):

- Un-ionized Ammonia (mg/L)

Staff and the discharger will use this information to assess the discharge to surface and/or ground water. If the discharge characterization demonstrates the discharge is impairing or has potential to impair surface and/or groundwater (load pollutants at levels that would cause exceedance of water quality standards to protect beneficial uses), that pollutant discharge must be eliminated, If the discharge flow can not be eliminated, the discharge must be treated or controlled to meet water quality standards to be protective of ground and surface water beneficial uses (within a time-frame specified in the Order), and must be monitored as described under “individual discharge monitoring” below.

#### *Individual Discharge Monitoring-*

For a farm operation with continuous discharge(s), the discharge(s) must be monitored until the discharge(s) is terminated or controlled so that it meets water quality standards (within a time frame specified in the Order). Data collected through individual monitoring will be used to verify that individual operations are progressing towards or have succeeded to eliminate or adequately control discharges that are impacting waters of the state and associated beneficial uses. If individual discharge monitoring demonstrates discharges are loading significant amounts of pollutants to receiving waterbodies that are already impaired (exceed water quality standards that protect beneficial uses) or that have water quality conditions at or better than water quality standards currently supporting beneficial uses, the Discharger must use additional source control/pollutant reduction (compliance is defined by time frames specified in the Order).

A third-party monitoring group can fund or perform this monitoring on behalf of individual dischargers. Individual agriculture operations identified through Individual Discharge Characterization or Follow-up monitoring efforts as the source of pollution must implement additional management practices or improve implementation of current practices for the protection of water quality and associated beneficial uses.

If management practice implementation fails to eliminate a source of pollution or bring a discharge in compliance with applicable water quality standards, the Water Board may pursue enforcement to bring the discharge into compliance with water quality standards.

#### *Watershed Monitoring Program-*

Sites on main stems of rivers and tributaries in agricultural areas of the region must be monitored on a regular basis to evaluate in-stream stormwater trends and long-term trends in water quality and associated beneficial uses. All Dischargers must conduct watershed monitoring program.

The watershed monitoring program must collect samples at a core network of receiving water sites. For the watershed monitoring component of the monitoring requirements, Dischargers may recommend monitoring sites or constituents to best characterize potential agricultural impacts that the Executive Officer must approve to be effectuated. Similarly, the Executive Officer may require changes to the sites or waste constituents, or other aspects of the watershed monitoring program, to better characterize agricultural

impacts, identify sources of pollution, or better characterize stream water quality (See discussion of Additional Monitoring below).

#### *Surface Water*

Representative surface water samples shall be collected and analyzed for the parameters listed in Attachment 4. Also, two stormwater events shall be monitored for the parameters listed in Attachment 4 during the rainy season (October 15 – March 15). Rainy season sampling is typically conducted during or shortly after runoff events, preferably including the first event that results in significant flow increase.

#### *Groundwater*

At a minimum, all Dischargers must sample their own irrigation wells and drinking water wells annually. Sampling must include collection and analyses of data for nitrate and TDS, at a minimum.

Additionally, individual Dischargers (or approved third party on their behalf) must develop a plan to monitor groundwater to characterize groundwater quality in agricultural areas including:

- current representative conditions of groundwater quality,
- more specific groundwater quality along general groundwater flow paths (where water is recharged to where it discharges, e.g., into streams or wells), and
- trends in groundwater quality
- impacts to beneficial uses (or protection of beneficial uses).

The proposed groundwater monitoring plan may rely on existing groundwater wells and may include existing monitoring efforts around the region to document groundwater quality. The proposed groundwater monitoring plan must be submitted to the Water Board Executive Officer by March 1, 2012.

To be an acceptable third-party, the monitoring group must:

- Be responsible for implementing monitoring and reporting program.
- Report names of participating dischargers.
- Report any dischargers who cease to comply with requirements.
- Comply with a Quality Assurance Program Plan and monitoring plan approved by the Water Board's quality assurance officer.
- Submit all data (daily, monthly, quarterly, etc.) to the Water Board; the data submission shall conform to criteria approved by the Central Coast Regional Water Quality Control Board Executive Officer.

#### *Additional Monitoring required by the Executive Officer*

At the direction of the Water Board Executive Officer, individual Dischargers or an approved third party must conduct Follow up monitoring in areas identified as problematic through Individual Discharge Monitoring, Watershed Monitoring, and the Central Coast Ambient Monitoring Program. This monitoring must be conducted to identify the source of pollution and monitor any identified discharges associated with

agriculture operations to surface or ground water, including discharges to streams, discharges to tail-water ponds, and stormwater runoff.

#### **5.4 Proposed Time Schedule for Compliance**

Water Board Staff considered a time schedule that would support timely and effective implementation. Under this Preliminary Draft Agricultural Order, either irrigation runoff will need to be eliminated within two years of adoption of the Order or the following pollutants in irrigation runoff will need to be eliminated and/or treated or controlled to meet applicable water quality standards by the dates specified:

- Toxicity – within two years of adoption of the Order
- Turbidity – within three years of adoption of the Order
- Nutrients – within four years of adoption of the Order
- Salts – within four years of adoption of the Order

Additionally, dischargers must implement management practices to reduce pollutant loading to groundwater.

Staff recommends the time-schedule in this Preliminary Draft Agricultural Order as a reasonable starting point to improve water quality. This schedule acknowledges that to fully control all discharges and achieve compliance will take longer than the five years of this Preliminary Draft Agricultural Order. In a separate, but related effort regarding regulation of agricultural discharges, staff is evaluating and developing a time schedule for actions and to meet interim milestones that extends out to 2025.

### **6.0 Preliminary Draft Environmental Analysis Pursuant to the California Environmental Quality Act (CEQA)**

Consistent with CEQA, staff prepared a preliminary draft environmental impact analysis, currently in the form of an Initial Study, including an environmental checklist. See Attachment 5.

The project evaluated in this Initial Study/Environmental Checklist is the Preliminary Draft Irrigated Ag Order, which is a revised Conditional Waiver of Waste Discharge Requirements and the requirement to submit a report of waste discharge.

The preliminary draft environmental impact analysis contains the following information relating to the Preliminary Draft Irrigated Ag Order:

1. A description of proposed activity and proposed alternatives ,
2. An environmental checklist,
3. An initial evaluation of potentially significant environmental impacts.

## 7.0 References

Staff consulted several references in preparing the report on water quality conditions and the Preliminary Draft Agricultural Order. A list of those references is included as Attachment 6.

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