

## Central Coast Regional Water Quality Control Board

November 19, 2018

Dear Interested Parties:

### NOTICE OF WRITTEN PUBLIC COMMENT PERIOD


#### FOR AG ORDER 4.0 CONCEPTUAL REGULATORY REQUIREMENT OPTIONS

The current agricultural order, Ag Order 3.0, was adopted on March 8, 2017. It is a conditional waiver of waste discharge requirements with a three-year term, meaning it must be replaced with a new order by March 7, 2020. The replacement order, known as Ag Order 4.0, is currently being conceptualized and will be developed via an ongoing public process. This document provides interested parties with an opportunity to provide written comment on the conceptual framework and associated regulatory requirements of Ag Order 4.0.

As part of this public process, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) is releasing a set of Ag Order 4.0 regulatory requirement options in a table format, herein referred to as options tables, to inform public comment. The requirements outlined in the options tables are conceptual at this time and address five agricultural-related water quality issues: 1) nitrate loading to groundwater, 2) nutrient loading to surface water, 3) pesticide discharges to surface water and groundwater, 4) sediment discharges to surface water, and 5) the protection of riparian habitat. The options tables convey a range of regulatory requirements addressing each of these five water quality issues that could be included in Ag Order 4.0 relative to the existing Ag Order 3.0 requirements.

Written comments must be received by **12:00 noon, Friday, January 18, 2019**. Please send written comments to [AgNOI@waterboards.ca.gov](mailto:AgNOI@waterboards.ca.gov) and indicate in the subject line,  "Comments to Ag Order 4.0 Options Tables."

#### SPECIFIC COMMENTS SOLICITED



Comments may address any areas related to Ag Order 4.0; however, the Central Coast Water Board is soliciting specific responses to the questions outlined below as they relate to the provided options tables (i.e., prioritization and phasing, numeric limits, time schedules, monitoring and reporting, incentives and consequences), California Environmental Quality Act (CEQA), management practice and regulatory requirement costs, and proposed alternatives. Technical justification or supporting rationale should be provided to clarify and support comments and recommendations. Recommendations and proposed alternative options need to achieve the project objectives. 

DR. JEAN-PIERRE WOLFF, CHAIR | JOHN M. ROBERTSON, EXECUTIVE OFFICER

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## PROJECT OBJECTIVES

The purpose of Ag Order 4.0 is to:

1. Protect and restore beneficial uses and achieve water quality objectives specified in the Basin Plan for commercial irrigated agricultural areas in the Central Coast Region by:
  - a. Minimizing nitrate discharges to groundwater,
  - b. Minimizing nutrient discharges to surface water,
  - c. Minimizing toxicity in surface water from pesticide discharges,
  - d. Protecting and restoring riparian and wetland habitat, and
  - e. Minimizing sediment discharges to surface water.
2. Effectively track and quantify achievement of 1.a. through e. over a specific, defined time schedule. 
3. Comply with the State Nonpoint Source Pollution Control Program, the State Antidegradation Policy, relevant court decisions such as those pertaining to Coastkeeper *et al* lawsuits, the precedential language in the Eastern San Joaquin Agricultural Order, and other relevant statutes and water quality plans and policies, including Total Maximum Daily Loads in the Central Coast Region. 

## OPTIONS TABLES QUESTIONS

### Prioritization and Phasing



- Should all farming operations be treated the same in terms of requirements and the implementation timing for these requirements?
- What is your recommendation and supporting rationale regarding how Ag Order 4.0 requirements should be phased and/or prioritized, such as by location, ranch characteristics, threat to water quality, etc.?

### Numeric Limits<sup>1</sup>

- What numeric limit(s) would you recommend for nitrogen applications, nitrogen discharges to groundwater, nutrient discharges to surface water, pesticide discharges to surface water, sediment discharges to surface water, and riparian setback width and percent vegetative cover?
- What other examples of quantifiable milestones, such as numeric limits, do you recommend?

### Time Schedule(s) to Achieve Numeric Limits

- What time schedule(s) would you recommend to achieve numeric limits (such as discharge limits) for nitrogen applications, nitrogen discharges to groundwater, nutrient

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<sup>1</sup> Numeric limits such as discharge and application limits are being proposed as “quantifiable milestones” (as required by Key Element 3 of the Nonpoint Source Policy) to measure progress towards achieving compliance with water quality objectives.

discharges to surface water, pesticide discharges to surface water, sediment discharges to surface water, and riparian setback width and percent vegetative cover?

- What time schedule(s) would you recommend to achieve water quality objectives for nitrate in groundwater and nutrients, pesticides, toxicity, sediment and turbidity in surface receiving waters?

#### Monitoring and Reporting

- What monitoring and reporting information (such as pollutants, parameters, frequency, locations, etc.) would you recommend to confirm compliance with numeric limit(s), water quality objectives, and associated time schedule(s)?
- Provide recommendation(s) for implementing groundwater quality trend monitoring.

#### Incentives

- Provide recommendation(s) for incentives that will help achieve the project objectives, such as how could Ag Order 4.0 incentivize the use of groundwater nitrate in place of fertilizer nitrate, implementation of effective management practices, reduced fertilizer and pesticide application, etc.

#### Consequences<sup>2</sup>

- What circumstances should trigger consequences and what consequences should be considered, such as increased monitoring and the prohibition of fertilizer or pesticide applications or discharges?

#### CEQA

- Are there any alternatives to the options tables? If yes, how might these alternatives lessen environmental impacts?
- Provide examples of management practices that may be implemented to improve water quality?
- Provide any specific evidence that implementing a certain management practice will have a significant impact on the environment.
- Provide any specific data or analyses related to cumulative environmental impacts of irrigated agriculture.

#### Costs



- Provide any specific data related to the cost of implementing management practices or regulatory requirements.

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<sup>2</sup> Clearly stated consequences are required by Key Element 5 of the Nonpoint Source Policy.

Alternative Options

- What alternative options do you recommend? These may include other types of quantifiable milestones, other than numeric limits, per the Nonpoint Source Policy that measure progress towards achieving the project objectives. Please provide alternative options in the options table format. Alternatives need to achieve the Project Objectives.

Supporting Information and Resources

The following are internet links to relevant laws, regulation, plans, policies and other resources the reader may be interested in reviewing prior to submitting public comment. We are not seeking public comment on these resources; we are simply providing these resources for your information.

- [Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program \(Nonpoint Source Policy\)](#)
- [Water Quality Control Plan for the Central Coastal Basin \(Basin Plan\)](#)
- [Total Maximum Daily Loads \(TMDLs\)](#)
- [Antidegradation Policy](#)
- [Porter-Cologne Water Quality Control Act](#)
- [Central Coast Water Board Human Right to Water Resolution](#)
- [Ag Order 4.0 Website](#)
- [Irrigated Lands Regulatory Program](#)

Sincerely,

for/  
John Robertson  
Executive Officer

Attachment 1: Requirement Options Tables

TABLE 1: IRRIGATION AND NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
<b>Phasing or Prioritization</b>	<u>Tiers</u> are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	<u>Phases</u> are based on location-specific conditions such as water quality impairment and risk to groundwater recharge areas.	<u>No prioritization or phasing</u> . All requirements apply to all ranches concurrently.
<b>Numeric Limit*</b>	None	<p><b><u>Discharge Limit</u></b>  <math>A_{FER} + A_{IRR} - R = \text{TBD lbs/ac/ranch/year}</math></p> <p><b><u>Application Limits</u></b>  <math>A_{FER}</math> cannot exceed TBD lbs/ac/crop</p> <p><u>Ranches that repeatedly exceed</u> the numeric discharge limit per the time schedule may be limited or prohibited from applying <math>A_{FER}</math>.</p> <p><i>Relatively higher limits</i></p>	<p><b><u>Discharge Limit</u></b>  <math>A_{FER} + A_{IRR} - R = \text{TBD lbs/ac/ranch/year}</math></p> <p><b><u>Application Limits</u></b>  <math>A_{FER}</math> cannot exceed TBD lbs/ac/crop</p> <p><u>Ranches that repeatedly exceed</u> the numeric discharge limit per the time schedule may be prohibited from applying <math>A_{FER}</math>.</p> <p><i>Relatively lower limits</i></p>
<b>Time Schedule to Achieve Numeric Limits*</b>	None	<p><b><u>Discharge Limit (lbs/ac/ranch/year)</u></b>  <math>A_{FER} + A_{IRR} - R = \text{TBD by 20XX}</math>  <math>A_{FER} + A_{IRR} - R = \text{TBD by 20XX}</math>  <math>A_{FER} + A_{IRR} - R = \text{Discharge Limit by 20XX}</math></p> <p><b><i>OR, for ranches with high <math>A_{IRR}</math></i></b>  <math>A_{FER} = R \text{ by 20XX}</math></p> <p><i>Relatively longer time schedule</i></p>	<p><b><u>Discharge Limit (lbs/ac/ranch/year)</u></b>  <math>A_{FER} + A_{IRR} - R = \text{TBD by 20XX}</math>  <math>A_{FER} + A_{IRR} - R = \text{TBD by 20XX}</math>  <math>A_{FER} + A_{IRR} - R = \text{Discharge Limit by 20XX}</math></p> <p><b><i>OR, for ranches with high <math>A_{IRR}</math></i></b>  <math>A_{FER} = R \text{ by 20XX}</math></p> <p><i>Relatively shorter time schedule</i></p>
<b>Monitoring and Reporting*</b>	<p><b><u>Total Nitrogen Applied Report</u></b>  <i>A subset of Tier 2 and Tier 3 ranches must monitor and report the following.</i></p> <ol style="list-style-type: none"> <li>Nitrogen applied from all sources (<math>A_{FER}</math>, <math>A_{IRR}</math>)</li> <li>Nitrogen present in the soil</li> <li>Irrigation well concentration</li> <li>Irrigation volume applied estimate</li> </ol> <p><b><u>Annual Compliance Form</u></b>  <i>All Tier 2 and Tier 3 ranches must submit information on the following.</i></p> <ol style="list-style-type: none"> <li>Irrigation, stormwater, and tile drain discharge to surface water</li> <li>Irrigation and nutrient management practices</li> </ol>	<p><b><u>Irrigation &amp; Nutrient Management Plan</u></b>  <i>All ranches must monitor the following. Report submittal is based on <u>phase</u>.</i></p> <ol style="list-style-type: none"> <li>Nitrogen applied from all sources (<math>A_{FER}</math>, <math>A_{IRR}</math>)</li> <li>Nitrogen present in the soil</li> <li>Irrigation well concentration</li> <li>Irrigation volume applied measurement</li> <li>Nitrogen removed (R)</li> <li>Crop evapotranspiration</li> <li>Irrigation discharge to surface water volume</li> <li>Irrigation discharge to groundwater volume</li> <li>Irrigation, nutrient, and salinity management practices</li> </ol>	<p><b><u>Irrigation &amp; Nutrient Management Plan</u></b>  <i>All ranches must monitor the following. Report submittal for all ranches <u>concurrently</u>.</i></p> <ol style="list-style-type: none"> <li>Nitrogen applied from all sources (<math>A_{FER}</math>, <math>A_{IRR}</math>)</li> <li>Nitrogen present in the soil</li> <li>Irrigation well concentration</li> <li>Irrigation volume applied measurement</li> <li>Nitrogen removed (R)</li> <li>Crop evapotranspiration</li> <li>Irrigation discharge to surface water volume</li> <li>Irrigation discharge to groundwater volume</li> <li>Irrigation, nutrient, and salinity management practices</li> </ol>

TABLE 1: IRRIGATION AND NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
	<p><b><u>Irrigation &amp; Nutrient Management Plan and Effectiveness Report</u></b>  <i>A subset of Tier 3 ranches must develop and implement an INMP considering the following.</i>  a. Nitrogen applied from all sources (<math>A_{FER}</math>, <math>A_{IRR}</math>)  b. Crop nitrogen uptake  c. Nitrogen removed (<math>R</math>)  d. Irrigation and nutrient management practices</p> <p><b><u>Individual Discharge to Groundwater</u></b>  Not required.</p> <p><b><u>Drinking Water Supply Well</u></b>  <i>All ranches</i> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program.</p> <p><b><u>Groundwater Quality Trends</u></b>  Not required.</p>	<p><b><u>Individual Discharge to Groundwater</u></b>  <i>Ranches that exceed the numeric discharge limit per the time schedule may be assigned individual groundwater discharge monitoring.</i>  a. Irrigation discharge to groundwater nitrate concentration  b. Irrigation discharge to groundwater volume</p> <p><b><u>Drinking Water Supply Well</u></b>  <i>All ranches</i> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program.</p> <p><b><u>Groundwater Quality Trends</u></b>  <i>All ranches</i> must conduct groundwater quality trend monitoring, either individually or through a cooperative program.   <i>Relatively more estimates are accepted in monitoring and reporting.</i></p>	<p><b><u>Individual Discharge to Groundwater</u></b>  <i>All ranches</i> must perform individual groundwater discharge monitoring.  a. Irrigation discharge to groundwater nitrate concentration  b. Irrigation discharge to groundwater volume</p> <p><b><u>Drinking Water Supply Well</u></b>  <i>All ranches</i> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program.</p> <p><b><u>Groundwater Quality Trends</u></b>  <i>All ranches</i> must conduct groundwater quality trend monitoring, either individually or through a cooperative program.   <i>Relatively more measurements are required in monitoring and reporting.</i></p>
<b>Incentives</b>	Sustainability Certification	Pump & fertilize (see numeric limits section) Additional incentives TBD	Pump & fertilize (see numeric limits section) Additional incentives TBD
<b>Definitions</b>	<p>-<math>A_{FER}</math> is the amount of nitrogen applied in fertilizers, compost, and other amendments  -<math>A_{IRR}</math> is the amount of nitrogen applied through the irrigation water based on the groundwater nitrate concentration  -<math>A_{FER} + A_{IRR}</math> = the total amount of nitrogen applied  -<math>R</math> is the amount of nitrogen removed through harvest, pruning, or other methods, plus the nitrogen sequestered in perennial crop permanent wood  -<math>A_{FER} + A_{IRR} - R</math> = nitrogen waste discharge, or nitrogen loading to groundwater  -TBD means "to be determined" and is used as a placeholder for the value of the numeric limits  *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input</p>		

TABLE 2: IRRIGATION AND NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
<b>Phasing or Prioritization</b>	<u>Tiers</u> based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	<u>Phases</u> are based on location-specific conditions such as water quality impairment, high quality surface water, and risk to surface water areas.	<u>No prioritization or phasing</u> . All requirements apply to all ranches concurrently.
<b>Numeric Limits*</b>	None	<p><b><u>Discharge Limit</u></b> Nitrate Concentration= TBD mg/L Ammonia Concentration = TBD mg/L Orthophosphate Concentration = TBD mg/L</p> <p><b><u>Application Limit</u></b> <i>Ranches that repeatedly exceed</i> the nitrate, ammonia and/or orthophosphate discharge limit per the time schedule may be limited or prohibited from applying nitrogen and/or phosphorous from fertilizers, compost and/or other amendments.</p> <p><i>Relatively higher limits</i></p>	<p><b><u>Discharge Limit</u></b> Nitrate Concentration = TBD mg/L Ammonia Concentration = TBD mg/L Orthophosphate Concentration = TBD mg/L</p> <p><b><u>Application Limit</u></b> <i>Ranches that repeatedly exceed</i> the nitrate, ammonia and/or orthophosphate discharge limit per the time schedule may be prohibited from applying nitrogen and/or phosphorous from fertilizers, compost and/or other amendments.</p> <p><i>Relatively lower limits</i></p>
<b>Time Schedule to Achieve Numeric Limits*</b>	None	<p><b><u>Discharge Limit</u></b> TBD mg/L by 20XX TBD mg/L by 20XX Discharge Limit by 20XX</p> <p><i>Relatively longer time schedule</i></p>	<p><b><u>Discharge Limit</u></b> TBD mg/L by 20XX TBD mg/L by 20XX Discharge Limit by 20XX</p> <p><i>Relatively shorter time schedule</i></p>
<b>Monitoring and Reporting*</b>	<p><b><u>Annual Compliance Form</u></b> <i>All Tier 2 and Tier 3 ranches must submit information on the following.</i></p> <ol style="list-style-type: none"> <li>Irrigation, stormwater, and tile drain discharge to surface water</li> <li>Irrigation and nutrient management practices</li> </ol>	<p><b><u>Irrigation Nutrient Management Plan &amp; Report</u></b> <i>All ranches must monitor the following. Reporting based on ranch phase.</i></p> <ol style="list-style-type: none"> <li>Irrigation, stormwater, and tile drain discharge characteristics</li> <li>Irrigation and nutrient management practices</li> </ol>	<p><b><u>Irrigation Nutrient Management Plan &amp; Report</u></b> <i>All ranches must monitor the following. Report submittal for all ranches concurrently.</i></p> <ol style="list-style-type: none"> <li>Irrigation, stormwater, and tile drain discharge characteristics</li> <li>Irrigation and nutrient management practices</li> </ol>

TABLE 2: IRRIGATION AND NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>            Not required.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>A subset of Tier 3 ranches</i> must submit information on the following.            a. Discharge flow rate and volume            b. Discharge nutrient concentrations</p>	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed</i> water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed</i> water quality objectives may be assigned individual discharge monitoring.            a. Discharge flow rate and volume            b. Discharge nutrient concentrations</p> <p><i>Relatively more estimates are accepted in monitoring and reporting.</i></p>	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in all watershed areas that repeatedly exceed water</i> quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in all watershed areas that repeatedly exceed</i> water quality objectives must perform individual discharge monitoring.            a. Discharge flow rate and volume            b. Discharge nutrient concentrations</p> <p><i>Relatively more measurements are required in monitoring and reporting.</i></p>
<b>Incentives</b>	Sustainability Certification	TBD	TBD
<b>Definitions</b>	<p><i>-TBD means "to be determined" and is used as a placeholder for the value of the numeric limits</i>  <i>*Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input</i></p>		



TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
<b>Phasing or Prioritization</b>	<u>Tiers</u> based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	<u>Phases</u> are based on location-specific conditions including water quality impairment, high quality surface water, and risk to surface water areas.	<u>No prioritization or phasing</u> . All requirements apply to all ranches concurrently.
<b>Numeric Limits*</b>	None	<p><b><u>Discharge Limit</u></b>  Pesticide Concentration = TBD µg/L  Toxicity Test = TBD # of toxic samples allowed  Toxic Unit = TBD</p> <p><b><u>Application Limits</u></b>  <u>Ranches that repeatedly exceed</u> the pesticide concentration discharge limit per the time schedule may be limited or prohibited from applying that pesticide.</p> <p><u>Ranches that repeatedly exceed</u> the toxicity discharge limit per the time schedule may be required to complete a toxicity identification evaluation to identify chemicals causing toxicity. Ranches may be limited or prohibited from applying the pesticide(s) that caused the toxicity.</p> <p><i>Relatively higher limits</i></p>	<p><b><u>Discharge Limit</u></b>  Pesticide Concentration = TBD µg/L  Toxicity Test = TBD # of toxic samples allowed  Toxic Unit = TBD</p> <p><b><u>Application Limits</u></b>  <u>Ranches that repeatedly exceed</u> the pesticide concentration discharge limit per the time schedule may be prohibited from applying that pesticide.</p> <p><u>Ranches that repeatedly exceed</u> the toxicity discharge limit per the time schedule may be required to complete a toxicity identification evaluation to identify chemicals causing toxicity. Ranches may be prohibited from applying the pesticide(s) that caused the toxicity.</p> <p><i>Relatively lower limits</i></p>
<b>Time Schedule to Achieve Numeric Limits*</b>	None	<p><b><u>Discharge Limit</u></b>  TBD µg/L by 20XX  TBD µg/L by 20XX  Discharge Limit by 20XX</p> <p>TBD # toxic samples allowed by 20XX  TBD # toxic samples allowed by 20XX  Discharge Limit by 20XX</p> <p>TBD Toxicity Unit by 20XX  TBD Toxicity Unit by 20XX  Discharge Limit by 20XX</p> <p><i>Relatively longer time schedule</i></p>	<p><b><u>Discharge Limit</u></b>  TBD µg/L by 20XX  TBD µg/L by 20XX  Discharge Limit by 20XX</p> <p>TBD # toxic samples allowed by 20XX  TBD # toxic samples allowed by 20XX  Discharge Limit by 20XX</p> <p>TBD Toxicity Unit by 20XX  TBD Toxicity Unit by 20XX  Discharge Limit by 20XX</p> <p><i>Relatively shorter time schedule</i></p>

TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
Monitoring and Reporting*	<p><b><u>Annual Compliance Form</u></b>  <i>All Tier 2 and Tier 3 ranches must submit information on the following.</i></p> <ul style="list-style-type: none"> <li>a. Irrigation, stormwater, and tile drain discharge characteristics</li> <li>b. Pesticide management practices</li> </ul>	<p><b><u>Pesticide Management Plan &amp; Report</u></b>  <i>All ranches must monitor the following. Reporting based on ranch phase.</i></p> <ul style="list-style-type: none"> <li>a. Application characteristics</li> <li>b. Irrigation, stormwater, and tile drain discharge characteristics</li> <li>c. Pesticide management practices</li> </ul>	<p><b><u>Pesticide Management Plan &amp; Report</u></b>  <i>All ranches must monitor the following. Report submittal for all ranches concurrently.</i></p> <ul style="list-style-type: none"> <li>a. Application characteristics</li> <li>b. Irrigation, stormwater, and tile drain discharge characteristics</li> <li>c. Pesticide management practices</li> </ul>
	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</i></p>	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</i></p>	<p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches must conduct surface receiving water quality monitoring, either individually or through a cooperative program.</i></p>
	<p><b><u>Follow-Up Receiving Water Monitoring</u></b>            Not required.</p>	<p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</i></p>	<p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in all watershed areas that repeatedly exceed water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</i></p>
	<p><b><u>Individual Discharge to Surface Water</u></b>  <i>A subset of Tier 3 ranches must submit information on the following.</i></p> <ul style="list-style-type: none"> <li>a. Discharge flow rate and volume</li> <li>b. Discharge pesticide concentration(s)</li> <li>c. Discharge toxicity</li> </ul>	<p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed water quality objectives may be assigned individual discharge monitoring.</i></p> <ul style="list-style-type: none"> <li>a. Discharge flow rate and volume</li> <li>b. Discharge pesticide concentration(s)</li> <li>c. Discharge toxicity</li> </ul>	<p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in all watershed areas that repeatedly exceed water quality objectives must perform individual discharge monitoring.</i></p> <ul style="list-style-type: none"> <li>a. Discharge flow rate and volume</li> <li>b. Discharge pesticide concentration(s)</li> <li>c. Discharge toxicity</li> </ul>
	<p><b><u>Drinking Water Supply Well</u></b>            Pesticide monitoring not required.</p>	<p><b><u>Drinking Water Supply Well</u></b>  <i>A subset of drinking water supply wells must be monitored for pesticides, either individually or through a cooperative program.</i></p> <p><i>Relatively more estimates are accepted in monitoring and reporting.</i></p>	<p><b><u>Drinking Water Supply Well</u></b>  <i>All drinking water supply wells must be monitored for pesticides, either individually or through a cooperative program.</i></p> <p><i>Relatively more measurements are required in monitoring and reporting.</i></p>
Incentives	Sustainability Certification	TBD	TBD
Definitions	<p>-<b>TBD</b> means “to be determined” and is used as a placeholder for the value of the numeric limits</p> <p>*Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input</p>		

**TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION**

	<b>Ag Order 3.0</b>	<b>Ag Order 4.0 (Option 1)</b>	<b>Ag Order 4.0 (Option 2)</b>
<b>Phasing or Prioritization</b>	<u>Tiers</u> are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	<u>Phases</u> are based on location-specific conditions including water quality impairment, high quality surface water, and risk characteristics such as slope and impermeable surfaces.	<u>No prioritization or phasing</u> . All requirements apply to all ranches concurrently.
<b>Numeric Limits*</b>	None	<p><b><u>Discharge Limits</u></b>  Turbidity = TBD NTU (COLD)  Turbidity = TBD NTU (WARM)</p> <p>Cultivation on ranches with impermeable surfaces on slopes greater than TBD% is not covered by this order. Ranches may apply for individual waste discharge requirements.</p> <p>No discharge of sediment due to erosion events may occur.</p> <p>No discharge may cause or contribute to altering the receiving water channel through scour, bank failure, downcutting, or sediment accumulation.</p> <p>Stormwater discharge intensity and volume from ranches with impermeable surfaces may not exceed discharge intensity and volume from equivalent non-impermeable area for any storm up to and including the design storm. Design storm TBD.</p> <p><i>Relatively higher limits</i></p>	<p><b><u>Discharge Limits</u></b>  Turbidity = TBD NTU (COLD)  Turbidity = TBD NTU (WARM)</p> <p>Cultivation on ranches with impermeable surfaces on slopes greater than TBD% is not covered by this order. Ranches may apply for individual waste discharge requirements.</p> <p>No discharge of sediment due to erosion events may occur.</p> <p>No discharge may cause or contribute to altering the receiving water channel through scour, bank failure, downcutting, or sediment accumulation.</p> <p>No stormwater discharge may occur for any storm up to and including the design storm. Design storm TBD.</p> <p><i>Ranches that repeatedly exceed</i> the numeric discharge limits per the time schedule may be prohibited from discharging irrigation water.</p> <p><i>Relatively lower limits</i></p>
<b>Time Schedule to Achieve Numeric Limits*</b>	None	<p><b><u>Discharge Limit</u></b>  TBD NTU by 20XX (COLD &amp; WARM)  TBD NTU by 20XX (COLD &amp; WARM)  Discharge Limit by 20XX (COLD &amp; WARM)</p> <p><i>Relatively longer time schedule</i></p>	<p><b><u>Discharge Limit</u></b>  TBD NTU by 20XX (COLD &amp; WARM)  TBD NTU by 20XX (COLD &amp; WARM)  Discharge Limit by 20XX (COLD &amp; WARM)</p> <p><i>Relatively shorter time schedule</i></p>

TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
<b>Monitoring and Reporting*</b>	<p><b><u>Annual Compliance Form</u></b>  <i>All Tier 2 and Tier 3 ranches must monitor and report the following.</i></p> <p>a. Irrigation, stormwater, and tile drain discharge characteristics  b. Sediment and erosion management practices  c. Irrigation management practices</p> <p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>  Not required.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>A subset of Tier 3 ranches must submit information on the following.</i></p> <p>a. Discharge flow rate and volume  b. Discharge turbidity</p>	<p><b><u>Sediment &amp; Erosion Management Plan</u></b>  <i>All ranches must monitor the following. Report submittal based on phase.</i></p> <p>a. Irrigation, stormwater, and tile drain discharge characteristics  b. Sediment and erosion management practices  c. Irrigation management practices  d. Stormwater management practices  e. Proper sizing, design, and maintenance of sediment and erosion control measures, e.g. sediment retention basins</p> <p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed</i> water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in a subset of watershed areas that repeatedly exceed</i> water quality objectives may be assigned individual discharge monitoring.</p> <p>a. Discharge flow rate and volume  b. Discharge turbidity</p> <p><i>Relatively more estimates are accepted in monitoring and reporting.</i></p>	<p><b><u>Sediment &amp; Erosion Management Plan</u></b>  <i>All ranches must monitor the following. Report submittal for all ranches concurrently.</i></p> <p>a. Irrigation, stormwater, and tile drain discharge characteristics  b. Sediment and erosion management practices  c. Irrigation management practices  d. Stormwater management practices  e. Proper sizing, design, and maintenance of sediment and erosion control measures, e.g. sediment retention basins</p> <p><b><u>Surface Water Quality Trends</u></b>  <i>All ranches</i> must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program.</p> <p><b><u>Follow-Up Receiving Water Monitoring</u></b>  <i>Ranches in all watershed areas that repeatedly exceed water</i> quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program.</p> <p><b><u>Individual Discharge to Surface Water</u></b>  <i>Ranches in all watershed areas that repeatedly exceed</i> water quality objectives must perform individual discharge monitoring.</p> <p>a. Discharge flow rate and volume  b. Discharge turbidity</p> <p><i>Relatively more measurements are required in monitoring and reporting.</i></p>
<b>Incentives</b>	Sustainability Certification	TBD	TBD
<b>Definitions</b>	<p>-<b>NTU</b>: nephelometric turbidity unit  -<b>COLD</b>: beneficial use designation for cold fresh water habitat; <b>WARM</b>: beneficial use designation for warm fresh water habitat  -<b>Design storm</b>: the storm intensity and volume that management measures such as sediment retention basins are designed to accommodate  -<b>TBD</b> means "to be determined" and is used as a placeholder for the value of the numeric limits  -<b>Impermeable surfaces</b> include materials such as plastic mulch and hoop houses; here, impermeable surfaces do not refer to soils  *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input</p>		

TABLE 5: RIPARIAN HABITAT MANAGEMENT FOR WATER QUALITY PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
<b>Phasing or Prioritization</b>	<u>Tiers</u> are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	<u>Phases</u> are based on location-specific conditions including water quality impairment, high quality surface water, critical habitat, and beneficial use designations.	<u>No prioritization or phasing</u> . All requirements apply to all ranches concurrently.
<b>Numeric Limits*</b>	<p><b><u>Buffer Width</u></b>  <i>A subset of Tier 3 ranches must comply with the numeric limit.</i></p> <p>Buffer width = 30 feet  <b>OR</b>  Functional equivalent.</p> <p><b><u>Prohibition</u></b>  The removal of existing riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</p>	<p><b><u>Setback Width and Native Vegetative Cover</u></b>  Ranch-level setback width and percent native vegetative cover requirements are based on a stream classification system.</p> <p>Class X width = TBD feet  Class X native grasses = TBD%  Class X native shrubs = TBD%  Class X native trees = TBD%  <b>OR</b>  Participate in an approved watershed restoration program.</p> <p><b><u>Prohibition</u></b>  The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</p>	<p><b><u>Setback Width and Native Vegetative Cover</u></b>  Setback width and percent native vegetative cover requirements for each ranch are based on a functional riparian assessment (such as pHab or RipRAM).</p> <p><b><u>Prohibition</u></b>  The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</p>
<b>Time Schedule to Achieve Numeric Limits*</b>	None	<p><b><u>Setback Width Establishment</u></b>  Phase 1 by 20XX  Phase 2 by 20XX  <i>etc.</i></p> <p><b><u>Native Vegetative Cover Establishment</u></b>  Phase 1 by 20XX  Phase 2 by 20XX  <i>etc.</i></p>	<p><b><u>Setback Width Establishment</u></b>  All ranches by 20XX</p> <p><b><u>Native Vegetative Cover Establishment</u></b>  All ranches by 20XX</p>
<b>Monitoring and Reporting*</b>	<p><b><u>Water Quality Buffer Plan</u></b>  <i>A subset of Tier 3 ranches must develop a Water Quality Buffer Plan and report on the following.</i>  a. Buffer width, in feet</p>	<p><b><u>Riparian Management Reporting</u></b>  <i>Based on phase, all ranches adjacent to surface waterbodies must monitor and report the following.</i>  a. Buffer width, in feet</p>	<p><b><u>Riparian Management Reporting</u></b>  <i>Concurrently, all ranches adjacent to surface waterbodies must monitor and report the following.</i>  a. Buffer width, in feet</p>

TABLE 5: RIPARIAN HABITAT MANAGEMENT FOR WATER QUALITY PROTECTION

	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
	<p>b. Total vegetative cover, in percent</p> <p>c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated)</p> <p>d. Vegetative shading of active water channel, in percent</p> <p>e. Photomonitoring of current average riparian condition</p> <p><b><u>Individual Riparian Assessment</u></b> Not required.</p> <p><b><u>Surface Water Quality Trends</u></b> <i>All ranches</i> must conduct regional bioassessment trend monitoring, either individually or through a cooperative program.</p>	<p>b. Total native vegetative cover, in percent</p> <p>c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated)</p> <p>d. Digital map of farm and setback boundaries</p> <p><b><u>Individual Riparian Assessment</u></b> Not required.</p> <p><b><u>Surface Water Quality Trends</u></b> <i>All ranches</i> must conduct regional bioassessment trend monitoring, either individually or through a cooperative program.</p> <p><i>Relatively more estimates are accepted in monitoring and reporting.</i></p>	<p>b. Total native vegetative cover, in percent</p> <p>c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated)</p> <p>d. Digital map of farm and setback boundaries</p> <p><b><u>Individual Riparian Assessment</u></b> <i>All ranches</i> adjacent to surface waterbodies must score the functional riparian setback annually using a method such as pHab or RipRAM.</p> <p><b><u>Surface Water Quality Trends</u></b> <i>All ranches</i> must conduct regional bioassessment trend monitoring, either individually or through a cooperative program.</p> <p><i>Relatively more measurements are required in monitoring and reporting.</i></p>
<b>Incentives</b>	Sustainability Certification	TBD	TBD
<b>Definitions</b>	<p><i>-Riparian is defined as vegetation, habitat, or ecosystems that are associated with bodies of water (creeks, streams, or lakes) or are dependent on the existence of perennial, intermittent, or ephemeral surface or subsurface water drainage</i></p> <p><i>-Riparian areas include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence)</i></p> <p><i>-pHab is an index of physical habitat condition incorporating channel morphology, flow, patch types, substrate, riparian complexity, and energy</i></p> <p><i>-RipRAM is a rapid riparian assessment method designed to score the overall health of a riparian area</i></p> <p><i>-TBD means "to be determined" and is used as a placeholder for the value of the numeric limits</i></p> <p><i>*Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input</i></p>		