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## Central Valley Regional Water Quality Control Board

23 December 2014

Agricultural Water Quality Coalitions  
[See Attached List]

### PROVISION OF NITROGEN MANAGEMENT PLAN TEMPLATE

Thank you for your 19 December 2014 submittal of a proposed Nitrogen Management Plan template. Per Section VIII.C. of your respective Third-party Group General Orders under the Irrigated Lands Regulatory Program, I am providing the attached Nitrogen Management Plan template that must be distributed to your Members and used by them to fulfill the applicable requirements of the General Order governing discharge from their irrigated lands. Any proposed changes to the Template instructions or form must be approved by me prior to the change being implemented.

The attached Nitrogen Management Plan template differs from your 19 December 2014 submittal in the following ways:

1. We have clarified in the template that the method to estimate N removed will be provided by the Coalition. Indicating that this information is "Not required at this time" could provide growers with the mistaken impression that this field does not need to be filled out. The Central Valley Water Board expects the Coalitions to provide their growers with guidance on how to calculate N removed, so it can be estimated for the 2015 crop year.
2. The template instructions (Item 13) have been modified to be consistent with the change made to the template as discussed above.
3. In Item 30, a minor edit has been made to clarify that the vulnerability designation is associated with the "Groundwater Quality Assessment Report."

We appreciate the work you and other agricultural stakeholders have put into developing the Nitrogen Management Plan template. We also recognize that the template will need to undergo changes, as we learn about the practical application of the template on-farm and as new information is developed. We look forward to working with you in this important effort to assist growers in minimizing the leaching of nitrate to groundwater, while maintaining the viability of their crop.

If you have any questions regarding this approval, please contact Adam Laputz at (916) 464-4726.

*Original signed by Adam Laputz, for*

Pamela C. Creedon  
Executive Officer

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## Central Valley Regional Water Quality Control Board

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cc: Clay Rodgers, Central Valley Water Board, Fresno  
George Day, Central Valley Water Board, Redding  
Susan Fregien, Central Valley Water Board, Rancho Cordova  
Amrith Gunasekara, California Department of Food and Agriculture

Attachments: Nitrogen Management Plan Worksheet  
Nitrogen Management Plan Worksheet Instructions

R:\RB5\IR5\Sections\Irrigated Lands Assessment Planning\Units\Monitoring Implementation\Coalition Groups\Templates\Nitrogen Management Plan Template

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

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# NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____	4. APN(s):	5. Field(s) ID
2. Member ID# _____		
3. Name: _____		

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
<b>6. Crop</b>		<b>15. Nitrogen Fertilizers</b>		
<b>7. Production Units</b>		16. Dry/Liquid (lbs/ac)		
<b>8. Projected Yield</b> (Units/Acre)		17. Foliar N (lbs/ac)		
<b>9. N Recommended</b> (lbs/ac)		<b>18. Organic Material N</b>		
<b>10. Acres</b>		19. Available N in Manure/Compost (lbs/ac estimate)		
<b>Post Production Actuals</b>				
<b>11. Actual Yield</b> (Units/Acre)		<b>20. Total Available N Applied</b> (lbs per acre)		
<b>12. Total N Applied</b> (lbs/ac)		<b>21. Nitrogen Credits (est)</b>		
<b>13. ** N Removed</b> (lbs N/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
<b>14. Notes:</b>		23. N in Irrigation water (annualized, lbs/ac)		
		<b>24. Total N Credits</b> (lbs per acre)		
		<b>25. Total N Applied &amp; Available</b>		
<b>PLAN CERTIFICATION</b>				
<b>28. CERTIFIED BY:</b>	<b>29. CERTIFICATION METHOD</b>	<b>X</b>		
	30. Low Vulnerability Area, No Certification Needed			
	31. Self-Certified, approved training program attended			
<b>DATE:</b>	32. Self-Certified, UC or NRCS site recommendation			
	33. Nitrogen Management Plan Specialist			

\*\* Your Coalition will provide the method to be used to estimate N Removed.

Provided by the Central Valley Water Board 23 December 2014.

# NITROGEN MANAGEMENT PLAN WORKSHEET

## INSTRUCTIONS

23 December 2014

Complete a Nitrogen Management Plan (NMP) Worksheet for every crop management unit in your membership. A management unit is any field or group of fields with like crops and nitrogen fertilization practices. A NMP Worksheet must be kept on farm for all fields/parcels and available upon request for inspections by the Central Valley Regional Water Quality Control Board. Summary information from this NMP (yet to be determined) must be submitted to the coalition on request.

Each section heading below (all CAPS) corresponds to the section heading on the NMP Worksheet. Each numbered instruction below corresponds to the number on the NMP Worksheet.

### **CROP NITROGEN MANAGEMENT PLANNING**

1. Enter the calendar year for which this report is based upon. Information in NMP Worksheets should be based upon the calendar year a crop is harvested (i.e. winter cereal grains and some citrus should report information based on the year they are harvested even if fertilization is in the previous year). Newly planted trees or vines should report amount of nitrogen applied even if no crop is harvested.
2. Enter the membership identification number (Member ID#) issued by your water quality coalition.
3. Enter the name of the person completing the form. This needs to be the owner or manager of the farm or the individual certifying the plan (if certification is necessary).
4. Enter the Assessor's Parcel Number (APN) and (5.) Field Identification (ID) for each unique management unit; the field ID can be an alpha/numeric, your internal field identifier, or the site number used on your pesticide use permit. If the same crop and same nitrogen application is used on more than one field, enter all APN's and/or field numbers where the information applies.
6. Enter the Crop name (almonds, walnuts, table grapes, wine grapes, raisin grapes, watermelons, canning tomatoes, fresh market tomatoes, etc.).
7. Enter the standard Production Unit. This is the standard unit that is the basis for your nitrogen management planning (tons, pounds, cartons, bales, etc.). For irrigated pasture, use University of California recommended nitrogen rates needed for desired growth.
8. Enter your Projected Yield per acre for the management unit for the upcoming season. Realistic yield expectations will help guide N management decisions.
9. Enter the amount of Nitrogen Recommended (estimated amount needed) to be available to meet your expected yield. Use crop recommendations from CDFA, UCCE, NRCS, commodity organizations or site specific knowledge based on previous experience to appropriately estimate the amount of Nitrogen (N) needed. This should be the same number used in #25, Total N Applied and Available.
10. Enter total Irrigated Acres for the management unit covered by each worksheet.

# NITROGEN MANAGEMENT PLAN WORKSHEET

## INSTRUCTIONS

### POST PRODUCTION ACTUALS

11. Actual Yield is the total amount of crop harvested in units per acre. This total should be an average of the production from a management unit covered by this Nitrogen Management Plan. Compare the Actual Yield to the total amount of N that was available for the crop. Assess if your N applications were appropriate for the yield achieved. Use available resources or site experience to determine the appropriate amount compared to the yield.
12. Total N Applied is the amount of nitrogen applied in pounds per acre.
13. A Technical Work Group is in place to develop tools to better estimate nitrogen removal by a crop. This information will be used to estimate the amount of N being removed each year to assist tracking of nitrogen after application to a crop. Your Coalition will provide you with the most up to date information on how to estimate N removed.
14. Add any notes to the worksheet such as information about circumstances faced during the crop season that impact your recommended nitrogen applications (#8) such as a larger or smaller crop than projected. Application amounts and timing can be adjusted based upon changing conditions (weather, pest damage, expected yield, etc.).

### N APPLICATIONS/CREDITS

15. Nitrogen Fertilizers are any manufactured nitrogen-containing products applied to a field. If no nitrogen is applied, put "0".
16. Enter dry or liquid nitrogen-containing product applied to the field, if any, in pounds per acre.
17. Enter nitrogen containing product applied to the crop canopy or above ground plant parts, if any, in pounds per acre.
18. Organic Material N is any product applied to a crop that is not manufactured.
19. Estimate in pounds per acre the amount of available nitrogen in animal manure or compost that is applied to a field.
20. Total Available N Applied is the sum total of lines #16, #17 and #19.
21. Nitrogen Credits include the estimated amount of nitrogen that will become available for crop uptake during the growing season.
22. Available N carryover in the soil is typically estimated by analyzing a soil sample and/or by tracking prior applications. This estimate should be reported in pounds per acre available to the crop during the growing season.
23. Nitrogen in Irrigation Water is estimated by analyzing an irrigation water sample to determine the nitrogen content. This estimate should be reported in pounds per acre available throughout the crop season based on the amount of irrigation water applied to the crop.
24. Total N Credits is the sum of #22 and #23.

# NITROGEN MANAGEMENT PLAN WORKSHEET

## INSTRUCTIONS

25. Total N Applied and Available is the sum of #20 and #24. This total should be the same number as #9.

26. Numbers in the Recommended/Planned N column are based on amounts determined by individuals described in #30-33. In this column, allocate how much N you plan to have available from each of your various sources, and total each section. Use your Recommended/Planned N totals for each source of N and schedule your applications for the crop year. You can use additional tools/spreadsheets to plan timing for each application. Proper scheduling of N applications is an essential component of a Nitrogen Management Plan.

27. Numbers in this column are from the actual amounts of nitrogen available and should be entered after the crop is harvested. Actual application amounts and timing may vary from the plan based upon unanticipated actual conditions (weather, pest damage, expected yield, etc.).

## PLAN CERTIFICATION

28. Place for the signature of person certifying this plan, if required (see definitions below).

29. Certification Method. Place an "X" in the box below for the method used.

30. If a field is in a low vulnerability as designated by a Groundwater Quality Assessment Report, no certification of this NMP is necessary.

31-33. Parcels/Fields that are in designated High Vulnerability Areas will need to be certified by a Nitrogen Management Specialist. Certification is needed on the Recommended/Planned N plan (column #26) and not for the Actual N (#27). Nitrogen Management Specialists include Professional Soil Scientists, Professional Agronomists, Crop Advisors certified by the American Society of Agronomy (and CDFA/California CCA), or Technical Service Providers certified in nutrient management in California by the National Resource Conservation Service (NRCS); or other specialist approved by the Executive Officer. Self-Certification is also an acceptable method provided the certifying member has attended an approved training course.

## DEFINITIONS

**Crop Year (Harvested)** - The crop year is typically January 1 to December 31. The exception is some winter cereal grains and some types of citrus; their crop year is based on when the crop is harvested. The date of the completion of harvest for the management unit will determine the timing for submission of a Summary Report to the water quality coalition (if required). For example, crops harvested in 2015 will need to be reported to the Coalition in 2016.

**Crop Management Unit** - Each Crop Management Unit is determined by the member. Fields can be grouped together for planning and reporting purposes as long as the crop, field practices, and nitrogen planning decisions are similar.

**High Vulnerability Areas** - High Vulnerability Areas are identified in each coalition's Groundwater Quality Assessment Report and includes areas where known groundwater quality impacts exist for which irrigated agricultural operations are a potential contributor or where conditions make groundwater more vulnerable to impacts from irrigated agricultural activities.