Irrigated Lands Regulatory Program (ILRP) Kern County Coalitions Joint Meeting

Member Meeting

Coalition Leads & John Schaap

December 7, 2015 - Bakersfield

December 8, 2015 - Wasco

December 14, 2015 – Bakersfield

December 15, 2015 – Buttonwillow

Kern River Watershed Coalition Authority

Kern ILRP Coalitions

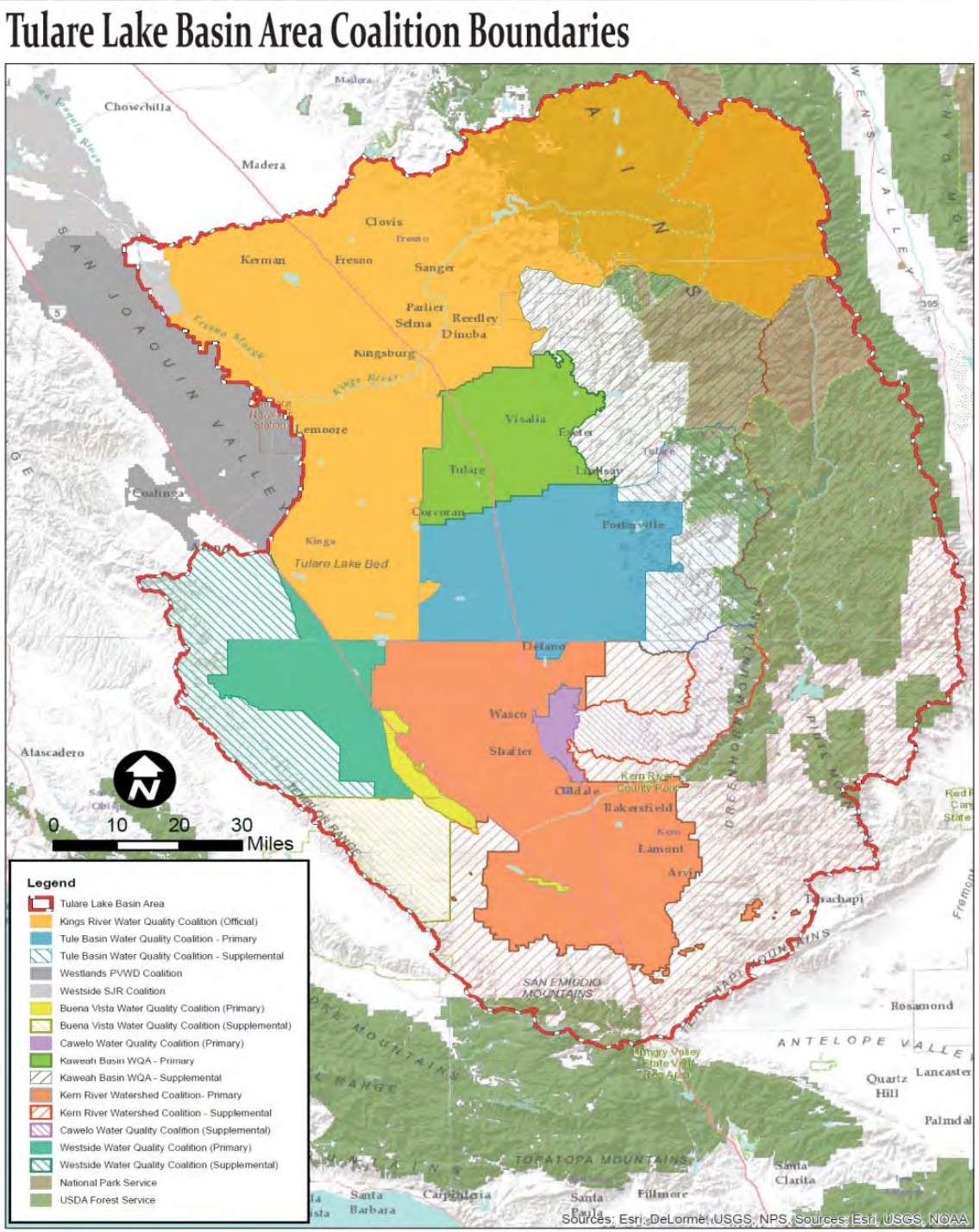
Buena Vista Coalition

Cawelo Water District Coalition

Kern River Watershed Coalition Authority

Westside Water Quality Coalition

Tulare Lake Basin Coalition Boundary Map



Buena Vista Coalition

Tim Ashlock

Buena Vista Coalition

P. O. Box 756

Buttonwillow, CA 93206

Tel: (661) 206-1101

Fax: (661) 764-5053

E-mail: tim@bvh2o.com

Website: www.bvh2o.com

CWDC

David Hampton, ILRP/Coalition Coordinator
Cawelo Water District Coalition
17207 Industrial Farm Road
Bakersfield, CA 93308

Tel: (661) 393-6072
Fax: (661) 393-6073
E-mail: dhampton@cawelowd.org
Website: www.cawelowd.org

WWQC

Greg Hammett, Coordinator
Westside Water Quality Coalition
21908 7th Standard Rd
McKittrick, CA 93251

Tel: (661) 762-7316
Fax: (661) 762-7223
E-mail: ghammett@belridgewsd.com
Website: www.wwqc.org

WWQC
WESTSIDE WATER QUALITY COALITION

KRWCA

Nicole Bell, Manager

Kern River Watershed Coalition Authority

P.O. Box 151

Bakersfield, CA 93302

Tel: (661) 616-6500

Fax: (661) 616-6550

E-mail: admin@krwca.org

Website: www.krwca.org

Kern River Watershed Coalition Authority

Meeting Attendance Required

- Did you sign in for all of your memberships, with each of the Coalitions?
- Annual attendance at an ILRP Coalition sponsored meeting is required as a condition of membership if any of your parcels are in:
  - a designated high vulnerability area (HVA); or,
  - are governed by a Surface Water Quality Management Plan (SQMP) or Groundwater Quality Management Plan (GQMP)

Meeting Attendance Required, Cont'd.

The member shall:

- Register at each meeting attended for each Membership #;
- Review outreach materials to become informed of any water quality problems to be addressed and the management practices that are available to address those issues; and,
- Provide each Coalition with Annual Certification of the above.

OVERVIEW

Farm Evaluation Template

Due to coalition by March 1, 2016 for most growers.

Nitrogen Management Plan Template

- Certification is Required by March 1, 2016 for high vulnerability, large farms
- Remains on farm

Member Reports

Member reports required:

- **Farm Evaluation Plan**
- **Sediment and Erosion Control Plans:** Affected growers will be notified. Triggered by coalition analysis or Farm Evaluation.
- **Nitrogen Management Plan (NMP)**
- **NMP Summary Report**

Due Dates for Required Reports

Report	Vulnerability	Farm Size	Due Date	Renewal Frequency
Farm Evaluation	High	All	**March 1, 2016**	Annually
	Low	Large (≥ 60 ac)	**March 1, 2016**	Five Years
		Small (< 60 ac)	March 1, 2018	Five Years
Sediment and Erosion Control Plans	Locations identified in Sediment Discharge and Erosion Assessment Report (SDEAR) or Farm Evaluation	Large (≥ 60 ac)	180 days from Approval of SDEAR	As conditions change
		Small (< 60 ac)	1 Year from Approval of SDEAR	As conditions change
Nitrogen Management Plans	High	Large (≥ 60 ac)	March 23, 2015 **March 1, 2016 (certified)**	Annually
		Small (< 60 ac)	March 1, 2017 (certified)	Annually
	Low	All	March 1, 2017	Annually
Nitrogen Management Plan Summary Report	High	Large Farm	March 1, 2017	Annually
		Small Farm	March 1, 2018	Annually
	Low	Does not apply		

John Schaap, PE

Provost & Pritchard Consulting Group

Agricultural & Civil Engineer

Consultant to KRWCA

Farm Evaluation Template

- A “census” of practices within the coalition area;
- Will be used in Management Practices Evaluation Program (MPEP) and other aspects;
- Will create a record of practices being used over time;
  - Crops grown;
  - Irrigation practices;
  - Nitrogen management practices;
  - Wellhead protection practices;
  - Sediment and erosion control practices.
- Data will be aggregated and a summary will be reported to the CVRWQCB on a township basis.

Farm Evaluation Template

Five part template:

- Parts A and B cover all lands in the membership (whole farm) and is completed once per report;
- Part C is field/crop specific practice information: one copy for each unique combination of crop/management practices represented on a field or group of fields;
- Part D is a grower-produced map to be kept on farm, available for inspection;
- Part E is sediment & erosion control practice information: one copy for each unique combination of practices represented on a field or group of fields.

Farm Evaluation Template

Part A: General Farm Practices. Fill out once for whole farm.

- Pesticide application practices: what safeguards to water quality are being used?
- Nutrient management plan preparation: who assists you?
- Does your farm have the potential to discharge sediment to off-farm surface water?
  - Does not include on-farm recirculation infrastructure.
  - Will trigger Sediment and Erosion Control Plan (SECP).

Check all boxes that apply to your operation.

Farm Evaluation Template

Part B: Irrigation well information (wellhead protection practices).

- Fill out once for membership/farm.
- List well ID's shown on Part D Farm Map.
- Note protective practices employed on each well.
- For abandoned wells, respond as appropriate.
- Note year converted to monitoring well, if applicable.

Check all boxes that apply.

Farm Evaluation Template

Part C: Field specific evaluation: survey of crops and management practices

- Irrigation methods: primary, secondary
- Irrigation efficiency practices
- Nitrogen management practices used to minimize leaching past the root zone

Submit one page for each field or management unit; report data for all parcels in membership.

Management unit: group of fields with same combination of crop/management practices.

Farm Evaluation Template

Part D: Farm Map: kept on-farm and used for RWQCB inspection purposes.

- Parcel layout
- Crops grown
- Irrigation infrastructure
  - Active wells
  - Abandoned wells
  - Ditches
  - Pipelines
- Monitoring wells
- Potential surface water discharge points

Farm Evaluation Template

Part E: Sediment & Erosion Control Practices

- Note all sediment and erosion control practices in use on your land.
- Mark all that are in use or are in the process of being implemented.
- If no practices are used, mark the appropriate boxes.
- Provide one sheet for every field or group of fields with a different combination of practices.

Farm Evaluation Template

- Report crops and practices for the previous calendar year (crop/harvest year);
- Forms may be audited by CVRWQCB inspection. Keep a copy of Farm Evaluation on-farm;
- Submittal by March 1, 2016:
  - Cawelo, Westside, Buena Vista: Return a copy to coalition (except Part D) for tabulation and reporting.
  - KRWCA: Submit online via link to "ILRP Farm" on www.krwca.org. System to go live in January. Login credentials and instructions will be mailed to members.

Kern River Watershed Coalition Authority

ILRP Farm
Irrigated Lands Regulatory Program

Log In

Existing User?

Username:

Password:

Log In

Forgot Password

New User?

Create Account

ILRP Data Management

Coalitions need to manage data for:

- Grower membership management
- Water quality data management
- Reporting to RWQCB

Goal is to manage member information and farming data efficiently

- Reduce office support staff, reduce cost
- Reduce errors in data collection/interpretation
- User friendly- easy to navigate and understand

ILRP Farm

ILRP Farm Access – 3 Types of Users

1. Coalition
   - Access everything to support members
   - Produce reports from member information to satisfy ILRP requirements
2. Members
   - Access your membership information and change field info
   - Fill out required templates online (Farm Evaluation, NMP Summary)
   - Track compliance with requirements and outreach/event attendance
3. Consultants (authorized)
   - Can efficiently access multiple client members data
   - Data changes to management, templates, field/parcel info – not membership info

ILRP Farm Features

For farming operations with in-house data management systems:

- KRWCA application will allow “back door” bulk data input for submitting farming data with defined templates, bypassing the user’s web interface.
- Call KRWCA for more information in January.

Farm Evaluation Online Submittal

Online input is likely to be different than paper form (more streamlined):

- Define membership first:
  - APNs
  - Fields associated with APNs
  - Then enter cropping and practice information associated with fields
- Tools to speed up data entry: copy functions from field to field and from year to year, etc.
- QA/QC checks: i.e. data must be reported for all APNs before submittal is allowed.

Nitrogen Management Plan (a review)

John Schaap, PE

Provost & Pritchard Consulting Group

- Agricultural & Civil Engineer
- I'm NOT a
  - Certified Crop Advisor (CCA)
  - NRCS or UCCE staff member
  - Professional Soil Scientist or Agronomist
  - NRCS Technical Service Provider (TSP)
  - Certified, experienced farmer

NMP Certification Required

NMPs with High Vulnerability Area (HVA) parcels require certification by professionals listed in the WDR, or Grower Self Certification.

List of Certified Crop Advisors (CCA's):

https://www.certifiedcropadviser.org/certifications/professional-search/

Note that CCA's must have a CA nitrogen management specialty certification.

Grower NMP Self Certification Training

Kern County ILRP Coalitions Joint Grower Self Certification Training Meeting Scheduled:

Kern Ag Pavilion
3300 East Belle Terrace, Bakersfield
January 5, 2016
8:30 a.m. to 1:30 P.M.

Advanced Registration is REQUIRED by December 29, 2015!! Register at www.krwca.org and use the *NMP Registration* link.

Other meetings by other coalitions:

http://www.curesworks.org/growerTrainings.asp

Nutrient Management

4 R's:

- Right source
- **Right rate – matches amount of fertilizer to crop needs**
- Right time
- Right place

http://www.nutrientstewardship.com/what-are-4rs

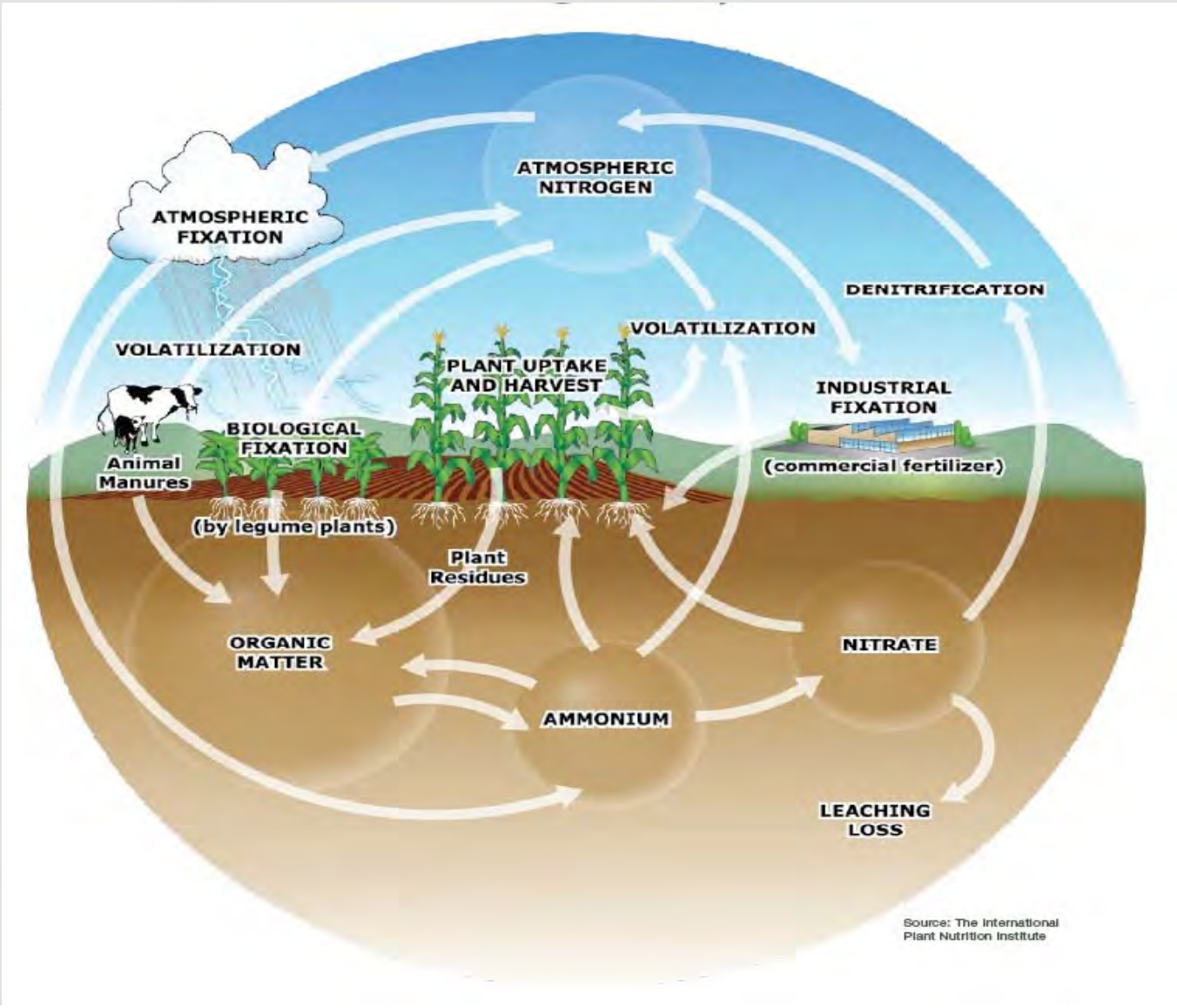
N Budgeting

In = Out (ideally, but not quite that simple)

A = B + C + D + E + F

N Recommended = (Dry or Liquid N) + (Foliar N) + (Manure or Compost N) + (Soil N) + (Irrigation Water N)

Nitrogen Cycle



Definitions

Unambiguous terms:

- N applied
- N uptake (or consumption or absorption)
- N removed

Ambiguous terms:

Crop N requirement or demand or need can refer to either:

- N applied to achieve desired yield
- N uptake to achieve desired yield

Usually N applied > N uptake > N removed

Definitions

N applied: N that is applied to a field.

N available: N forms that can be taken up by the plant.

N uptake: Amount of N taken up or absorbed by plants during a specified time period (also crop N consumption or absorption).

N removed: Amount of N in harvested parts.

NMP Worksheet

For growers in high vulnerability areas (HVA) :

- Complete for every crop management unit in your membership.
- Management unit: any field or group of fields with the same crop and nitrogen fertilization practices.
- Must be kept on farm for all fields/parcels and available upon request for CVRWQCB inspections.
- Summary information from this NMP (yet to be determined) must be submitted to the coalition.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name: _____

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

1. Year: Based upon the calendar year a crop is harvested
2. Member ID# issued by KRWCA.
3. Name: Member name.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested):
2. Member ID#
3. Name:

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING	
6. Crop	
7. Production Units	
8. Projected Yield (Units/Acre)	
9. N Recommended (lbs/ac)	
10. Acres	
Post Production Actuals	
11. Actual Yield (Units/Acre)	
12. Total N Applied (lbs/ac)	
13. ** N Removed (lbs N/ac)	
14. Notes:	

N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
15. Nitrogen Fertilizers		
16. Dry/Liquid (lbs/ac)		
17. Foliar N (lbs/ac)		
18. Organic Material N		
19. Available N in Manure/Compost (lbs/ac estimate)		
20. Total Available N Applied (lbs per acre)		
21. Nitrogen Credits (est)		
22. Available N carryover in soil; (annualized lbs/acre)		
23. N in Irrigation water (annualized, lbs/ac)		
24. Total N Credits (lbs per acre)		
25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

4. Assessor's Parcel Number (APN)

5. Field Identification (ID) for each unique management unit. Can be:
   - alpha/numeric,
   - internal field identifier, or
   - site number used on 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.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____
2. Member ID# _____
3. Name: _____

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		15. Nitrogen Fertilizers		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		18. Organic Material N		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		20. Total Available N Applied (lbs per acre)		
11. Actual Yield (Units/Acre)		21. Nitrogen Credits (est)		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		24. Total N Credits (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

Projected Yield:
3 bales/ac
or 1500 lbs lint / ac

Recommended N:
45-55 lbs N/bale x 3 bales/ac
= 135 to 165 lbs N/ac

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name:

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

Setting a Realistic Yield Goal

- Maximum yield – often overestimates N
- Average yield
  - Using a rolling average
  - Adjusting the past average by dropping exceptional years
  - Adjusting the past average by a fixed percentage
- Using yields from variety trials or county averages

When multiple applications are made during the growing season, N rate can be adjusted, if needed.

Credits and Adjustments

- Residual soil nitrogen (various forms)
- Nitrate-N in irrigation water
- N mineralized during growing season
  - From soil organic matter
  - From this year's cover crop, manure and compost applications

NMP Worksheet

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.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name: _____

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		15. Nitrogen Fertilizers		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		18. Organic Material N		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		20. Total Available N Applied (lbs per acre)		
11. Actual Yield (Units/Acre)		21. Nitrogen Credits (est)		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		24. Total N Credits (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

N Credits in Soil

Description	mg/kg			Available N, lb/(ac*ft)	Available Org-N, lb/(ac*ft)	Total N, lb/(ac*ft)
	NO3-N	NH4-N	% OM			
Field 6 SE 1'	10	2	1.2	48	8	56
Field 6 SE 2'	5	1	0.4	24	0	24
Field 6 SE 3'	2	0.3	0.2	9.2	0	9.2

89 lb N/ac total

Example, 1st foot of soil:

NO_3 and NH_4-N: 10+2 = 12 mg/kg (or ppm) total

$$\frac{4\times10^6 \text{ lb soil}}{\text{ac*ft soil}} \left| \frac{12 \text{ lb N}}{1\times10^6 \text{ lb soil}} \right. = \frac{48 \text{ lb N}}{\text{ac*ft soil}}$$

Estimate 40 lb N/ac for every 1% over 1% OM:

0.2 x 40 = 8 lbs N/ac

Total = 48 + 8 = 56 lb N/ac in top 1 ft of soil

Annual N Mineralization Rate Estimates

Year	Oregon [1]	Appendix D [2] Table D1 - 1.5%	Appendix I [3] Table 1.1	Western Fertilizer Handbook [4] A	B	Max	Min
1	30	35	30	35	35	35	30
2	15	15	15	15	15	15	15
3	7	10	8	10	10	10	7
4	3	5	4	7.5	5	7.5	3
5	2			4		4	2
6	2						
7	2						
8	2						
9	2						
10	2						
Total % =	67	65	57	71.5	65	71.5	57

[1] Estimating Plant Available Nitrogen from Manure - Oregon State University Extension Service
Managing Dairy Manure in the Central Valley of California - UC Committee of Experts on Dairy Manure Management

[2] Appendix D - Mineralization - Conceptual Model and Field Studies

[3] Appendix I - California Biosolids Mineralization Research

[4] Western Fertilizer Handbook 7th Edition - Table 8-2 for 1.5% N

NMP Worksheet

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 taken up by the crop.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name:

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

N in Irrigation Water

Count only the NO_3-N contained in water transpired by the crop

Cotton in Kern transpires about 36 inches (3 ft) of water: http://www.itrc.org/etdata/irrsched.htm

If irrigation water NO_3-N is 10 ppm (or mg/l), the 'fertilizer credit' would be:

$$\frac{10 \text{ lb } NO_3^-\text{-N}}{1\text{x}10^6 \text{ lb } H_2O} \left| \frac{2.72\text{x}10^6 \text{ lb } H_2O}{\text{acre*ft } H_2O} \right| \frac{3 \text{ ft } H_2O}{} = \frac{81.6 \text{ lb } NO_3^-\text{-N}}{\text{acre}}$$

NMP Worksheet

After credits are quantified, plan your nitrogen applications.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name: _____

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

25. Total N Applied and Available is the sum of #20 and #24. This total should closely match #9.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name: _____

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION

28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

Preliminary plan: This roughly balances numerically, but does it work considering the rest of the 4 R's?

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): 2015

2. Member ID# 123456

3. Name: John Schaap

4. APN(s):	5. Field(s) ID	
111-222-3333	Field 6 SE	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop	Cotton	15. Nitrogen Fertilizers		
7. Production Units	Bales	16. Dry/Liquid (lbs/ac)	0	
8. Projected Yield (Units/Acre)	3 bales/ac	17. Foliar N (lbs/ac)	0	
9. N Recommended (lbs/ac)	165 lb/ac	18. Organic Material N		
10. Acres	100	19. Available N in Manure/Compost (lbs/ac estimate)	0	
Post Production Actuals		20. Total Available N Applied (lbs per acre)	0	
11. Actual Yield (Units/Acre)		21. Nitrogen Credits (est)		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)	89	
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)	82	
14. Notes:		24. Total N Credits (lbs per acre)	171	
		25. Total N Applied & Available	171	

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

Certification, where applicable

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name:

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Worksheet

11. Actual Yield: total crop harvested in units per acre.

12. Total N Applied: nitrogen applied in pounds per acre.

Compare Actual Yield to the total N that was available for the crop. Assess if N applications were appropriate for the yield achieved.

13. N Removed – likely estimated at coalition level based on reported A/Y from NMP Summary Report.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year (Harvested): _____

2. Member ID# _____

3. Name:

4. APN(s):	5. Field(s) ID	

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop		**15. Nitrogen Fertilizers**		
7. Production Units		16. Dry/Liquid (lbs/ac)		
8. Projected Yield (Units/Acre)		17. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		**18. Organic Material N**		
10. Acres		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		**20. Total Available N Applied** (lbs per acre)		
11. Actual Yield (Units/Acre)		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac)		22. Available N carryover in soil; (annualized lbs/acre)		
13. ** N Removed (lbs N/ac)		23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)		
		25. Total N Applied & Available		

PLAN CERTIFICATION		
28. CERTIFIED BY:	**29. CERTIFICATION METHOD**	**X**
	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	
DATE:	32. Self-Certified, UC or NRCS site recommendation	
	33. Nitrogen Management Plan Specialist	

NMP Summary Reporting

- NMP Summary Report not yet approved.
  - Coalitions working with CVRWQCB to develop the NMP Summary Report Template and reporting requirements.
  - Applied/Yield (A/Y) proposed as reporting metric instead of Applied/Removed (A/R)
- State Board may take action to standardize reporting statewide

NMP Summary Report, Cont'd.

- NMP Summary Report will be due to coalition March 1, 2017 (HVA, large).
- Coalitions propose to aggregate and report A/Y data to CVRWQCB by crop/township.
- Coalitions will study outliers, and provide feedback to growers and agronomists.
- Future ILRP Coalition Outreach and Education topic once NMP Summary Report is approved by the CVRWQCB.

Questions?