## Bird's eye view of manure N management in California

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#### Overview

Where we are
Where we're going
How we will get there







## May 2007 General Waste Discharge Requirements

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Nitrogen Applied: Nitrogen Removed

A:R = 1.4

- CVDRMP created
- Monitoring wells installed

EXISTING MILK COW DAIRIES

FOR

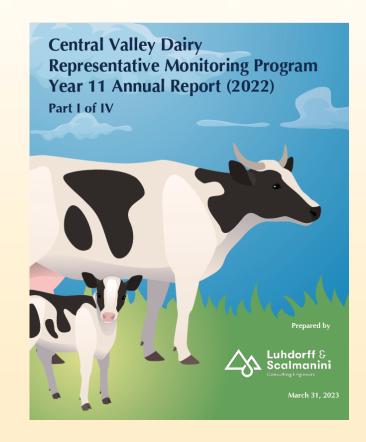




### Monitoring wells

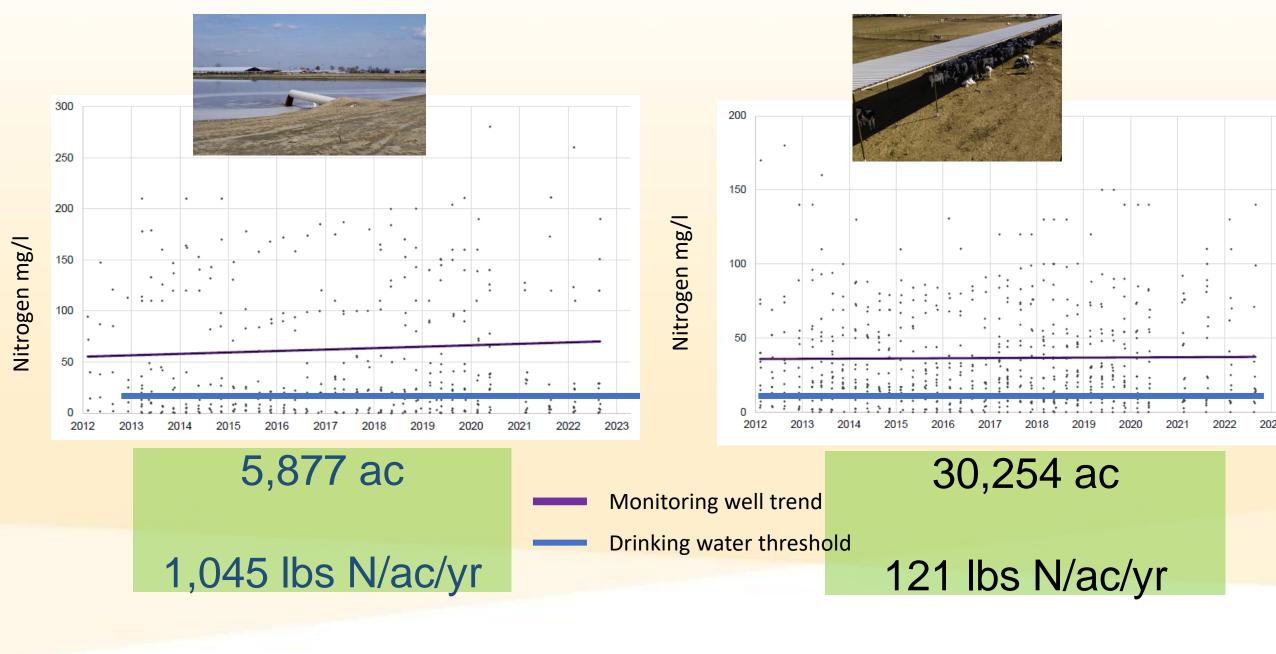


423 wells 10 years



4.5 x standard





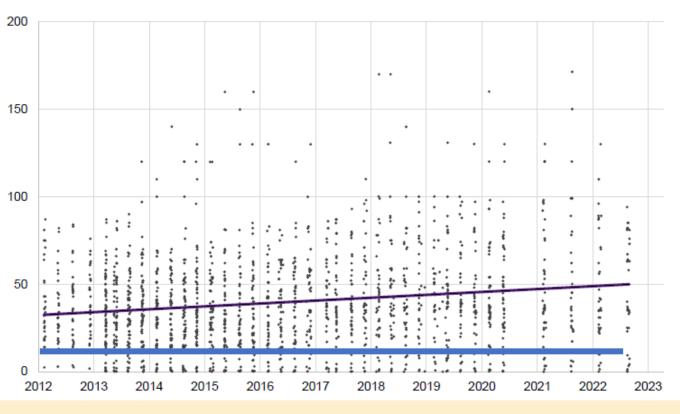




429,424 acres

368 lbs N/ac/year

Nitrogen mg/l



Graph source: Central Valley Dairy Representative Monitoring Program Year 11 Annual Report (2022) Part I of IV

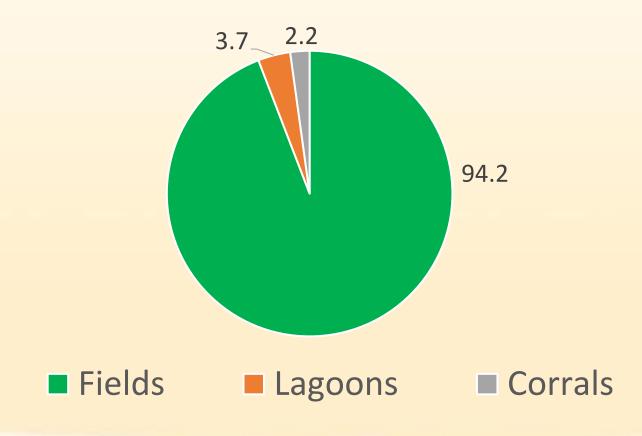


Monitoring well trend
Drinking water threshold

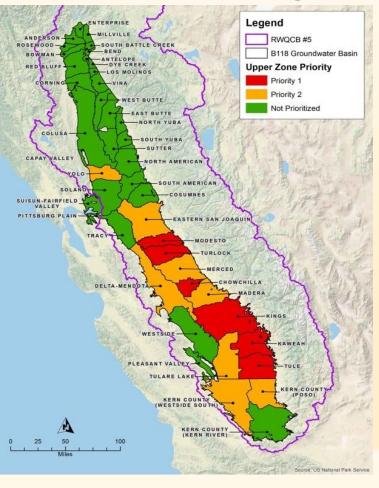




### 167M lbs N/yr Percent nitrate contribution by source



#### Nitrate management



Join Nitrate Management Zone

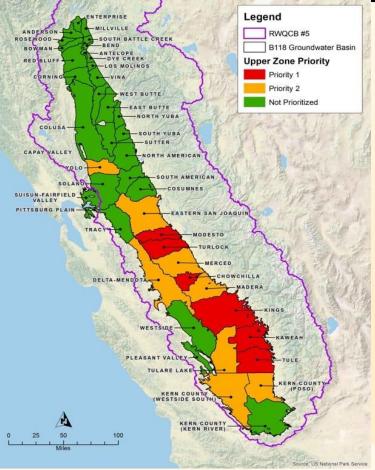
Operate AND improve nitrogen management

Provide bottled water





2024 and beyond



Document progress toward interim milestones and improved water quality







#### Long process

Identify and implement improvements

# Less nitrogen leaching



## Reduced nitrate

2060 JANUARY						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
28	29	31	31	1	2	
4	5	ı	1	8	9	
11	2	1	и	15	16	1
8	19	21	21	n	73	10
25	26	n	28	29	30	1

JANUARY	FEBRUARY	MARCH		
Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr 1		
7 8 9 10 11 12 13 14 15 16 17 18 19 20	4 5 6 7 8 9 10 11 12 13 14 15 16 17	3 4 5 6 7 8 10 11 12 13 14 15		
21 22 23 24 25 26 27	18 19 20 21 22 23 24	17 18 19 20 21 22		
28 29 30 31	25 26 27 28 29	24 25 26 27 28 29 31		
APRIL	MAY	JUNE		
Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr		
1 2 3 4 5 6	1 2 3 4 5 6 7 8 9 10 11	2 3 4 5 6 7		
14 15 16 17 18 19 20	12 13 14 15 16 17 18	9 10 11 12 13 14		
21 22 23 24 25 26 27 28 29 30	19 20 21 22 23 24 25 26 27 28 29 30 31	16 17 18 19 20 21 23 24 25 26 27 28		
25 30	10 10 10 00 01	30		
JULY	AUGUST	SEPTEMBER		
	Su Mo Tu We Th Fr Sa			
1 2 3 4 5 6	4 5 6 7 8 9 10	1 2 3 4 5 6		
14 15 16 17 18 19 20	11 12 13 14 15 16 17	15 16 17 18 19 20		
21 22 23 24 25 26 27 28 29 30 31	18 19 20 21 22 23 24 25 26 27 28 29 30 31	22 23 24 25 26 27		
		-		
OCTOBER	NOVEMBER	DECEMBER		
Su Mo Tu We Th Fr Sa	Su Mo Tu We Th Fr Sa	So Mo To We Th Fr		
6 7 8 9 10 11 12	3 4 5 6 7 8 9	1 2 3 4 5 6 8 9 10 11 12 13		
13 14 15 16 17 18 19	10 11 12 13 14 15 16	15 16 17 18 19 20		
20 21 22 23 24 25 26 27 28 29 30 31	17 18 19 20 21 22 23 24 25 26 27 28 29 30	22 23 24 25 26 27		

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## October 1, 2024

#### STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD DRAFT ORDER WQ 2024-00xx

IN THE MATTER OF REVIEW OF

WASTE DISCHARGE REQUIREMENTS GENERAL ORDER NO R5-2013-0122 FOR MILK COW DAIRIES IN THE CENTRAL VALLEY REGION ISSUED BY THE CALIFORNIA REGIONAL WATER QUALITY BOARD,

'ALLEY REGION Comments due 12/6 ; FILES A-2283(b)

## Nitrogen management

"...improve quantification of excretion rate, aid the partitioning of solid and liquid manure, improve samples for solid and liquid manure and improve estimates of the nitrogen in the harvest removed from fields. These measures are critical for dairies to develop more accurate accounting of the amount of nitrogen they are generating, as well as its fate."

### **Precedential = statewide**





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Where we are

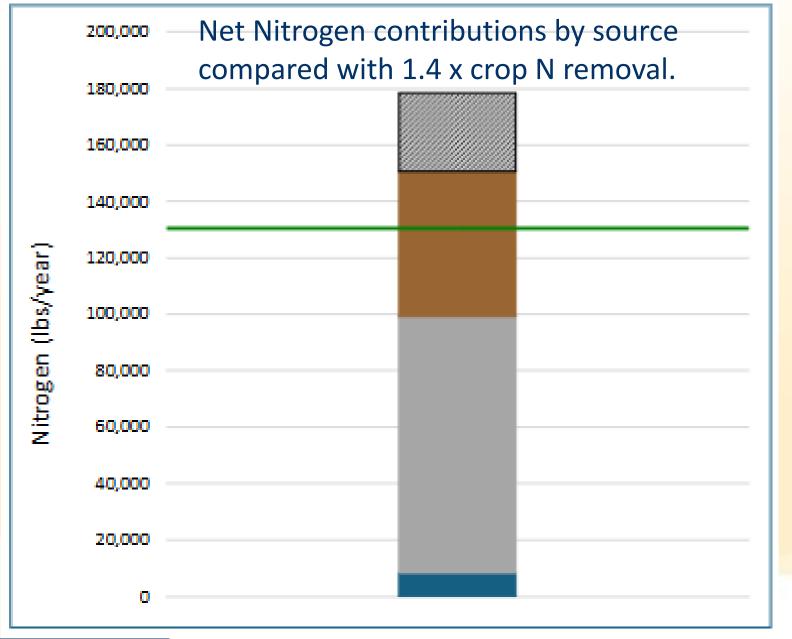
Where we are going

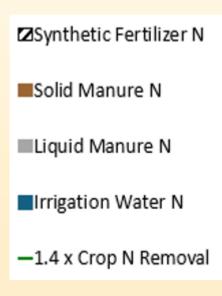
How we will get there



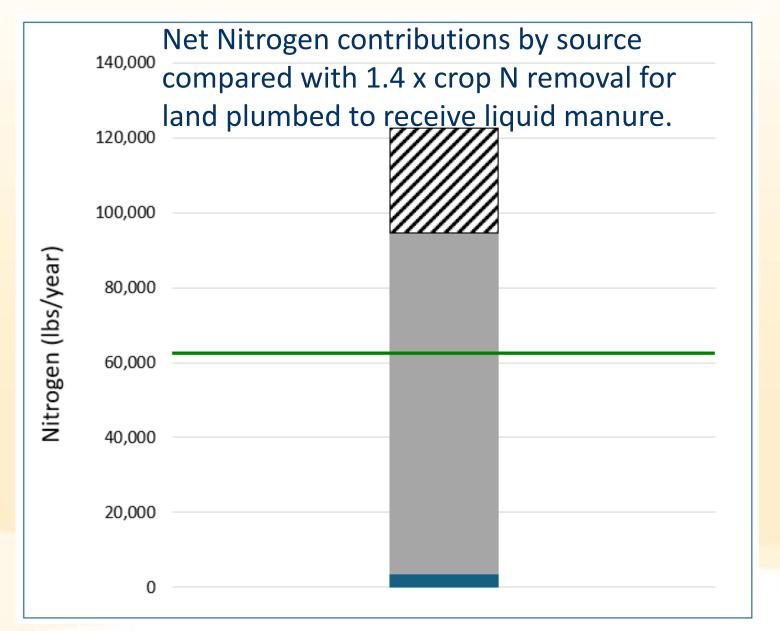


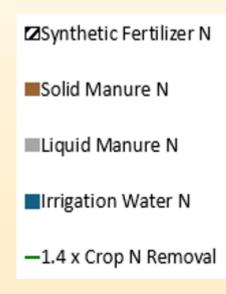




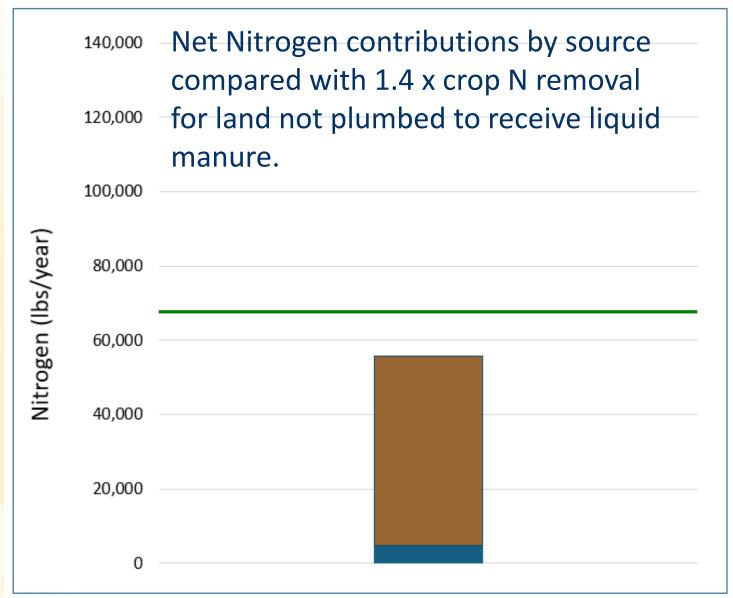












☑Synthetic Fertilizer N

■Liquid Manure N

■Solid Manure N

■Irrigation Water N

-1.4 x Crop N Removal





#### Read newsletters





#### **MPC WEEKLY FRIDAY REPORT**

