



# Preparing recommendations for April 2019 deadline: Status update

October 9, 2018  
Semi-Annual Public Stakeholder Meeting  
Regional Water Quality Control Board  
Ranch Cordova, CA

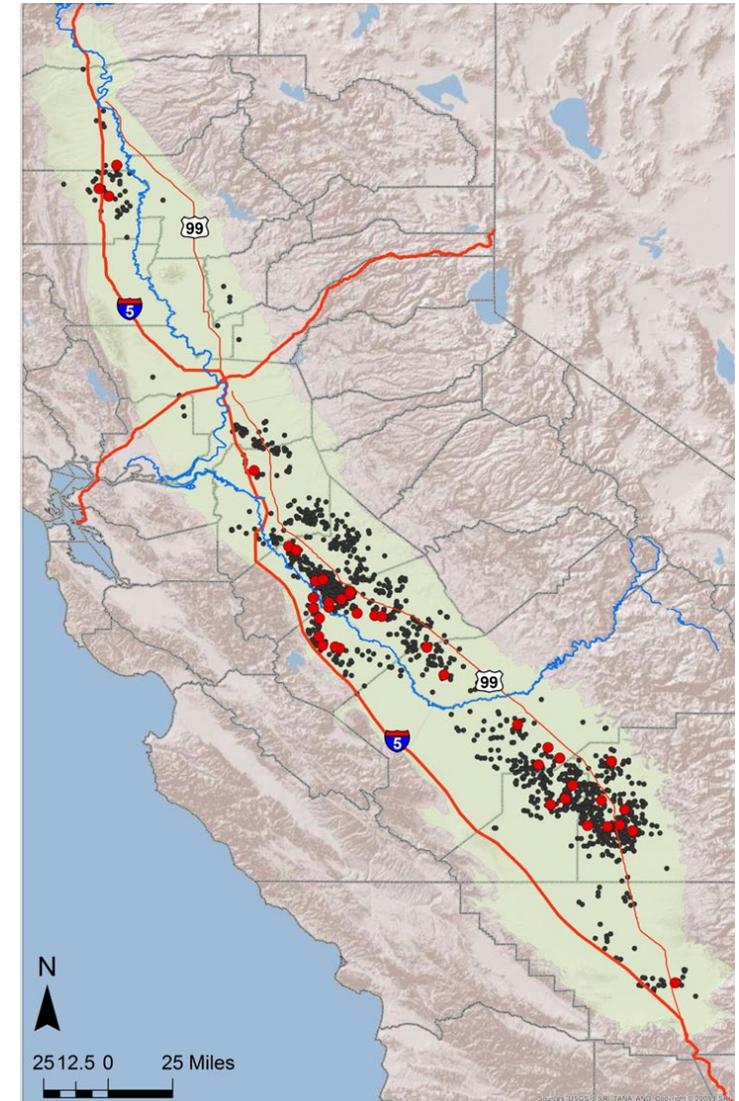


# Topics for today

- Background and purpose of CVDRMP
- High-level overview of our draft recommendations so far; walk through proposed plan elements

# CVDRMP background and purpose

- A regulatory compliance monitoring program
- Alternative to site-by-site monitoring of ~1,100 dairies
- Collects data on a subset of dairies representative of the industry and pertinent site conditions
- 42 monitored dairies, 443 dedicated monitoring wells at 279 well sites
- Phased approach started Jan. 2012 (18 dairies)
- Fully implemented Jan. 2013 (+24 dairies)
- Monthly GW level monitoring
- Groundwater quality monitoring
  - quarterly: 9 constituents
  - annual: 22 constituents



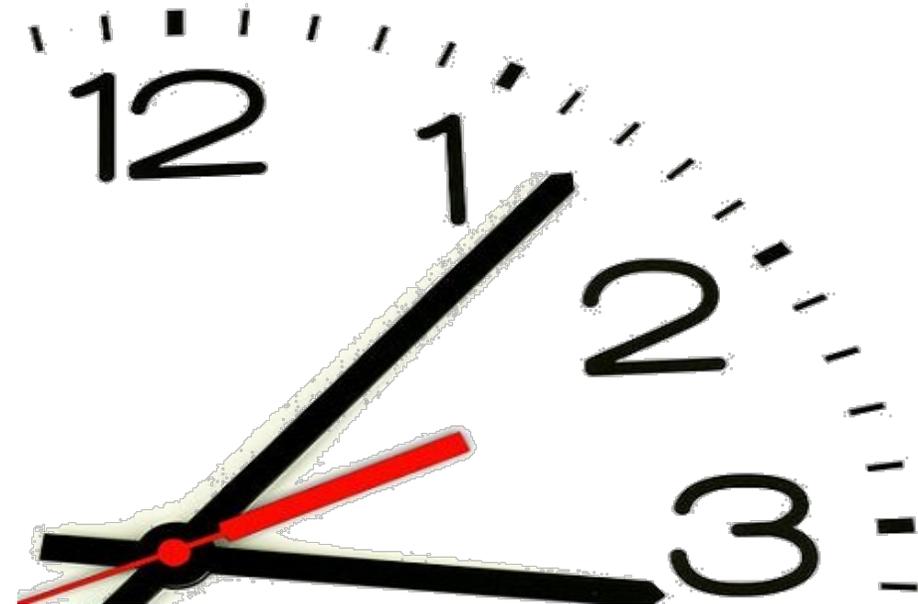
# April 2019 Summary Representative Monitoring Report (SRMR)

1. Identify management practices (MPs) that are protective of groundwater quality for the range of conditions found at dairies covered by the RMP
  - RWQCB: protective = meeting drinking water quality objectives; for nitrate as N, 10 mg/L
2. If currently required/used MPs are found not to be protective of groundwater quality, propose solutions and upgrades that will result in compliance
3. Provide implementation schedules for MPs that are as short as practicable, supported with appropriate technical or economic justification, not to exceed 10 years from SRMR approval



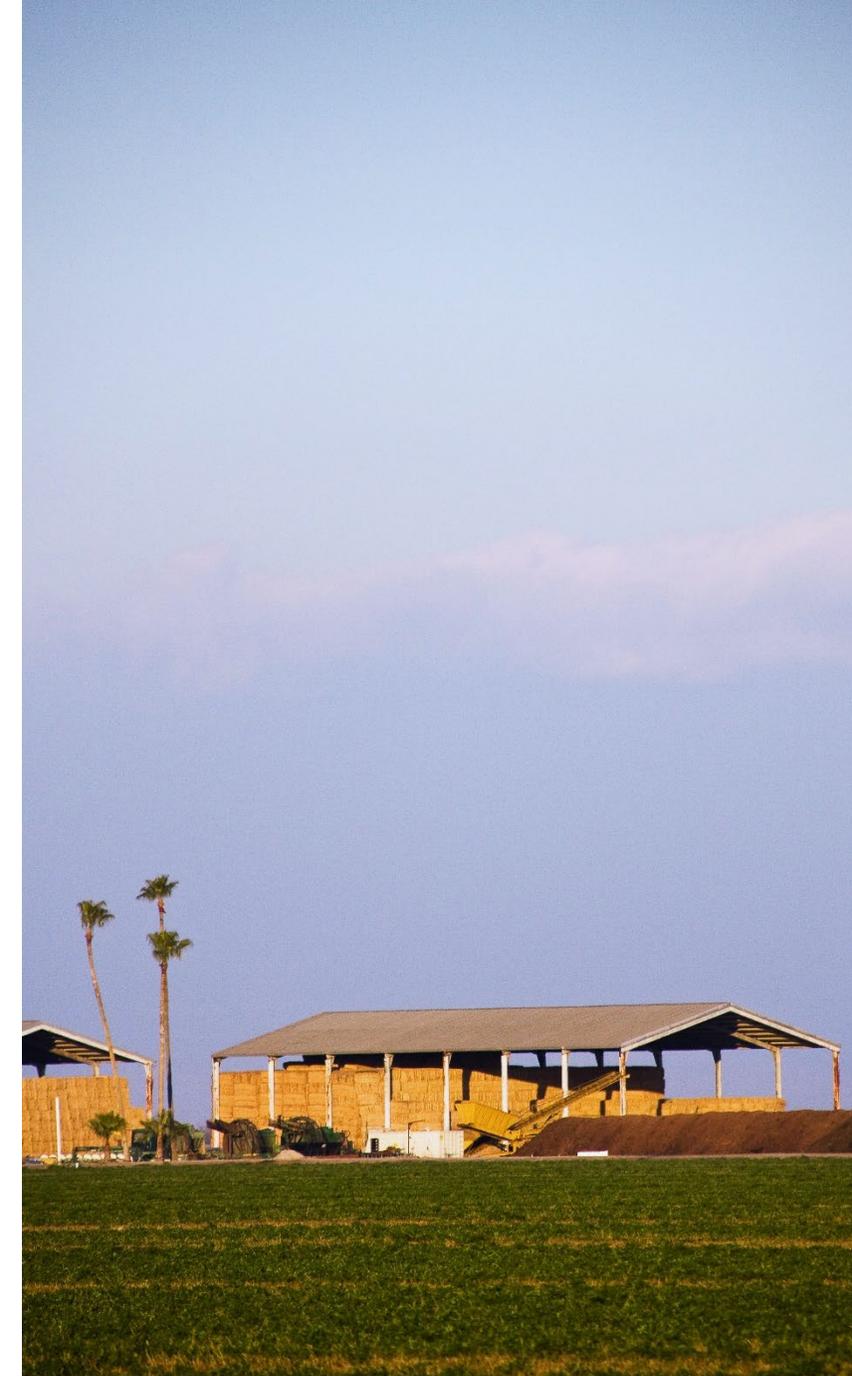
# Timing is critical

- Major work so far has been to understand the data and try to translate raw facts and analysis into coherent policy and technical recommendations and a proposed action plan
- Discussion and outreach beyond the board has occurred to develop broader industry understanding of the magnitude of the challenges and muster support for a major effort moving forward
- Achieving consensus has been a significant challenge because of the difficulty of the problem we are addressing



# Plan walk-through (highlights)

- **CENTRAL/GUIDING GOAL:** Improve groundwater quality by working towards whole-farm nutrient balance and increasing nutrient use efficiency industry-wide
- Build capacity to export/transform manure N to positive uses through focused, collaborative partnerships and consistent effort over a reasonable time frame
- Education requirement for dairy operators + greatly increased education offerings
- Flow meters required for manure process water
- Technical improvements to refine nutrient estimates and measurements at different scales
- Improved N accounting to identify unaccounted-for nutrients toward targeting them for export



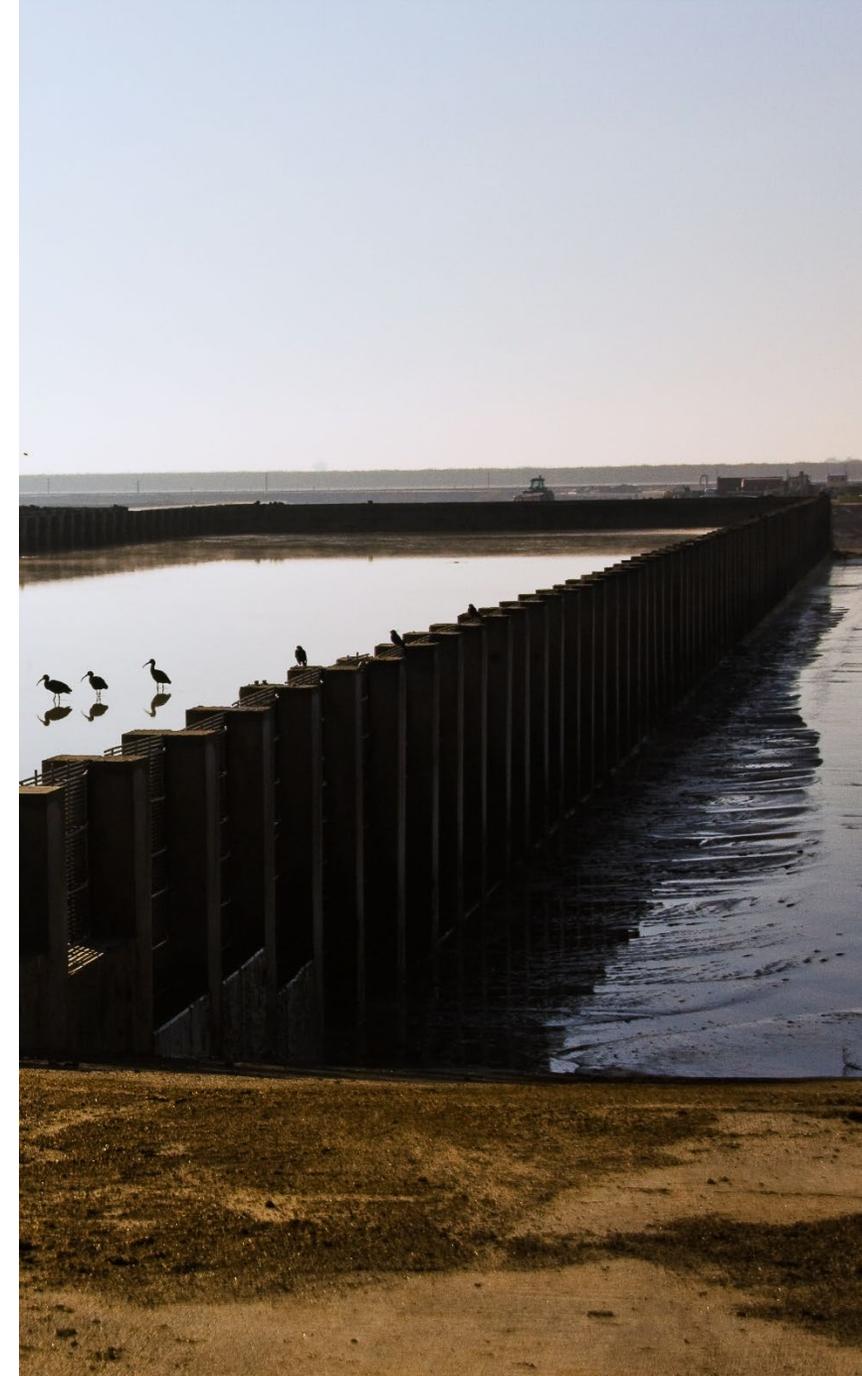
# Plan walk-through (highlights)

- Continue representative groundwater monitoring as needed to meet requirements and monitor trends
- Coalition general order, similar to ILRPs, in addition to continuing with a modified general order for individuals
- Range of expanded duties for CVDRMP/coalition around reporting on industry trends in exporting excess N, progress toward achieving necessary technologies, markets and incentives, and providing practical assistance to members



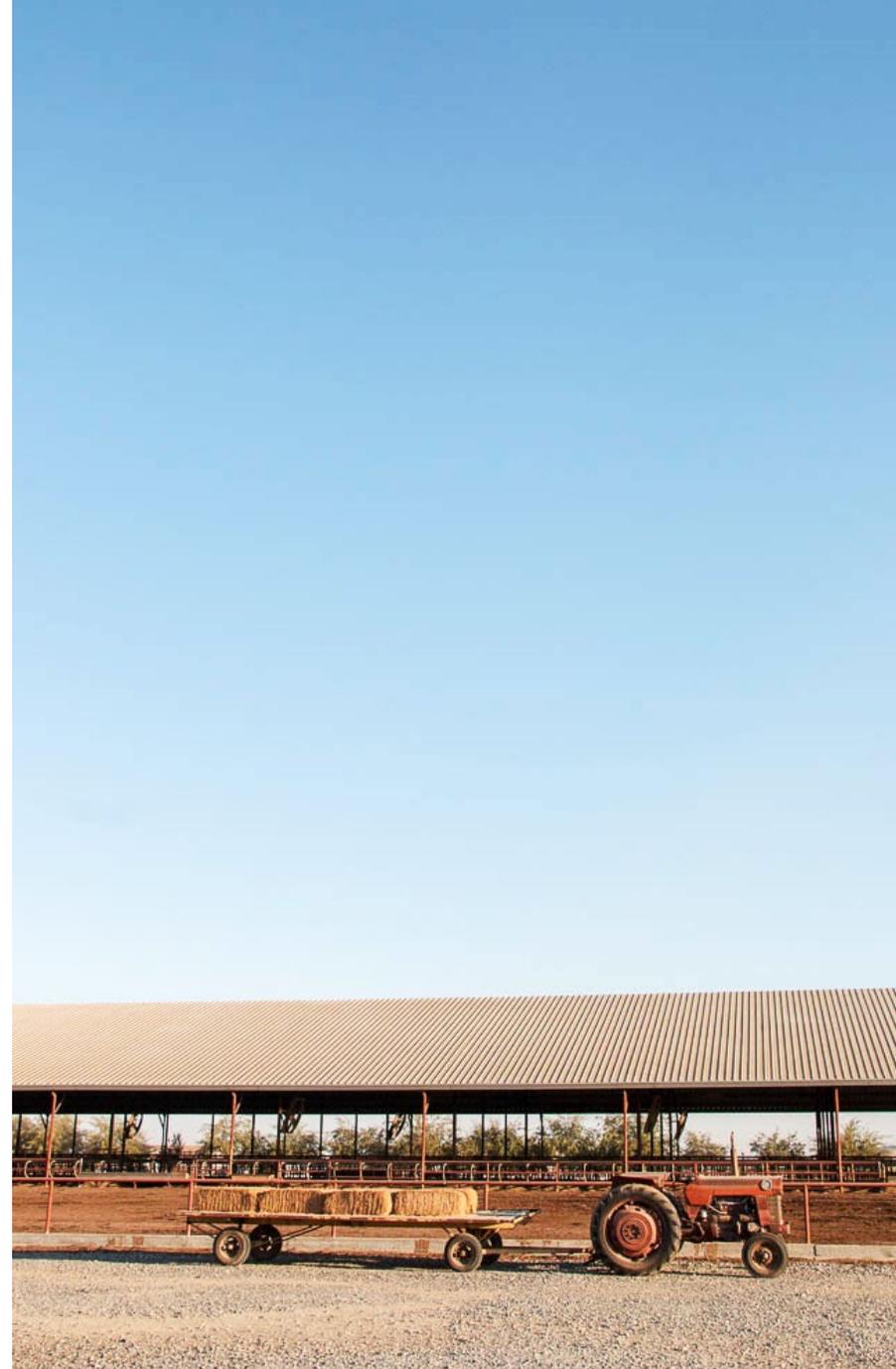
# Plan specifics – build exports

- **Recommend that dairy industry (including but not limited to CVDRMP), government, academia and others work together to create conditions needed to achieve industry-wide increased manure N exports, toward achieving an average whole-farm balance after exports**
  - *Requires addressing several interlocking challenges:*
    - *Markets (understand and develop markets and demand for manure and manure-based products to facilitate export of excess N)*
    - *Develop and advance appropriate technologies to process manure in a way that facilitates exports of N in an environmentally beneficial and cost-effective manner*
    - *Develop incentives and funding that encourage investment in necessary infrastructure and operational changes to facilitate export of N and/or manure products (or transformation of N) – such funding and incentives do not currently exist, but they worked well in climate and air quality protection efforts on dairies*
    - *Continuous outreach and education to promote understanding of solutions as they become available*



# Plan specifics – increase education

- Modify general order to require a minimum amount of dairy operator or key dairy staff education in area of reducing N leaching (via UCCE, CDQAP or other approved outlet); curriculum approved by CDQAP/CVDRMP with input from RB5
- Ramp up educational offerings for dairy operators; focus on NUE, facilitating exports, familiarizing producers with solutions, existing technology and research. *Serve in advisory role as to what/how much needed.*
- As solutions, programs and funding become available, it is paramount that information and outreach about these be made available to producers



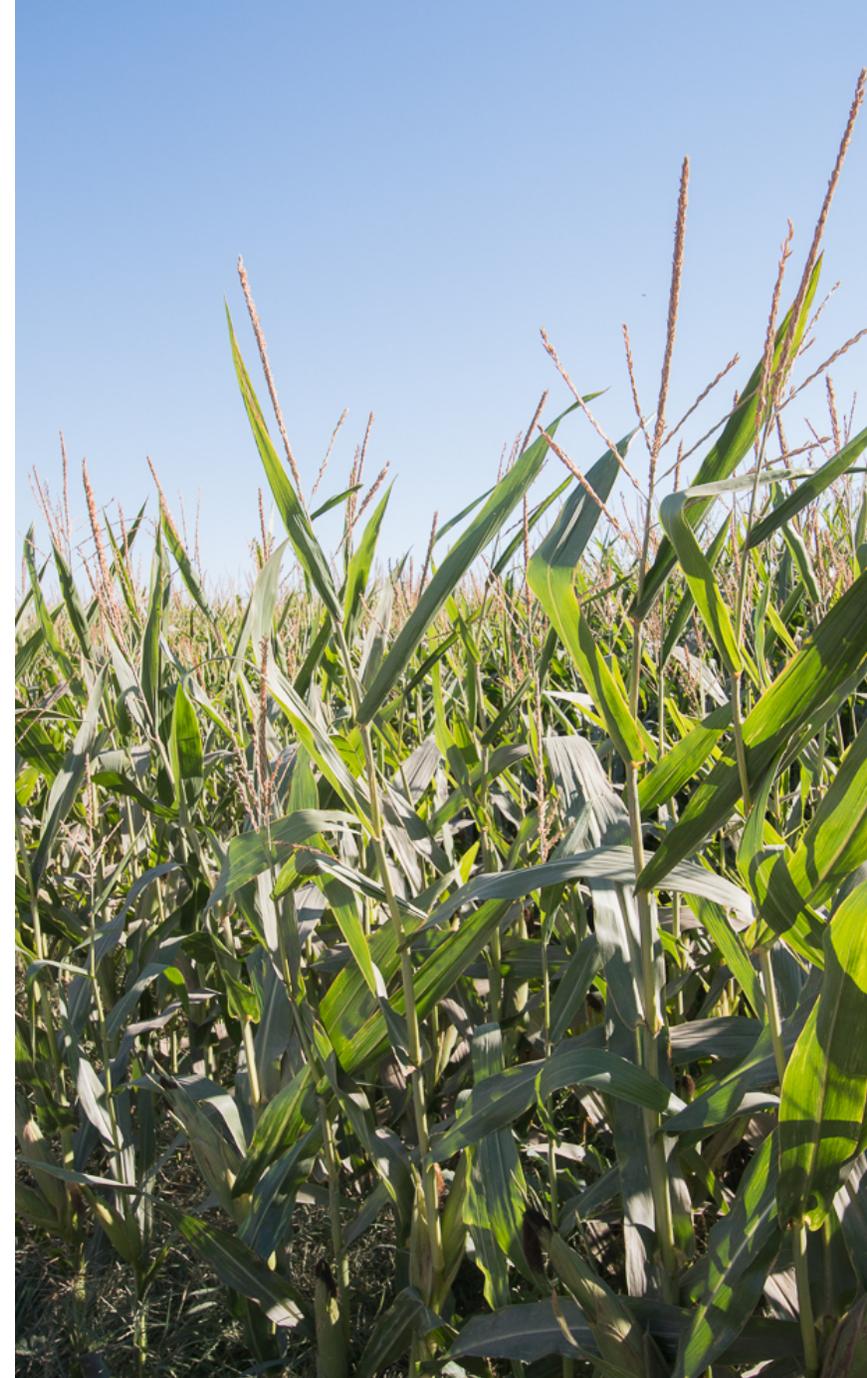
# Plan specifics – enhanced technical requirements

- Improve accounting of excreted/applied/exported manure N
- Regional Board and CVDRMP/coalition would utilize new forms for annual reports
- Require use of flow meters to measure liquid manure applications
- Modify testing requirements for manure samples, irrigation water, plant tissue to minimize laboratory testing, and maximize use of real-time field testing and/or book values
- Recommend allowing single liners for new lagoons (still developing recommendation related to existing lagoons)



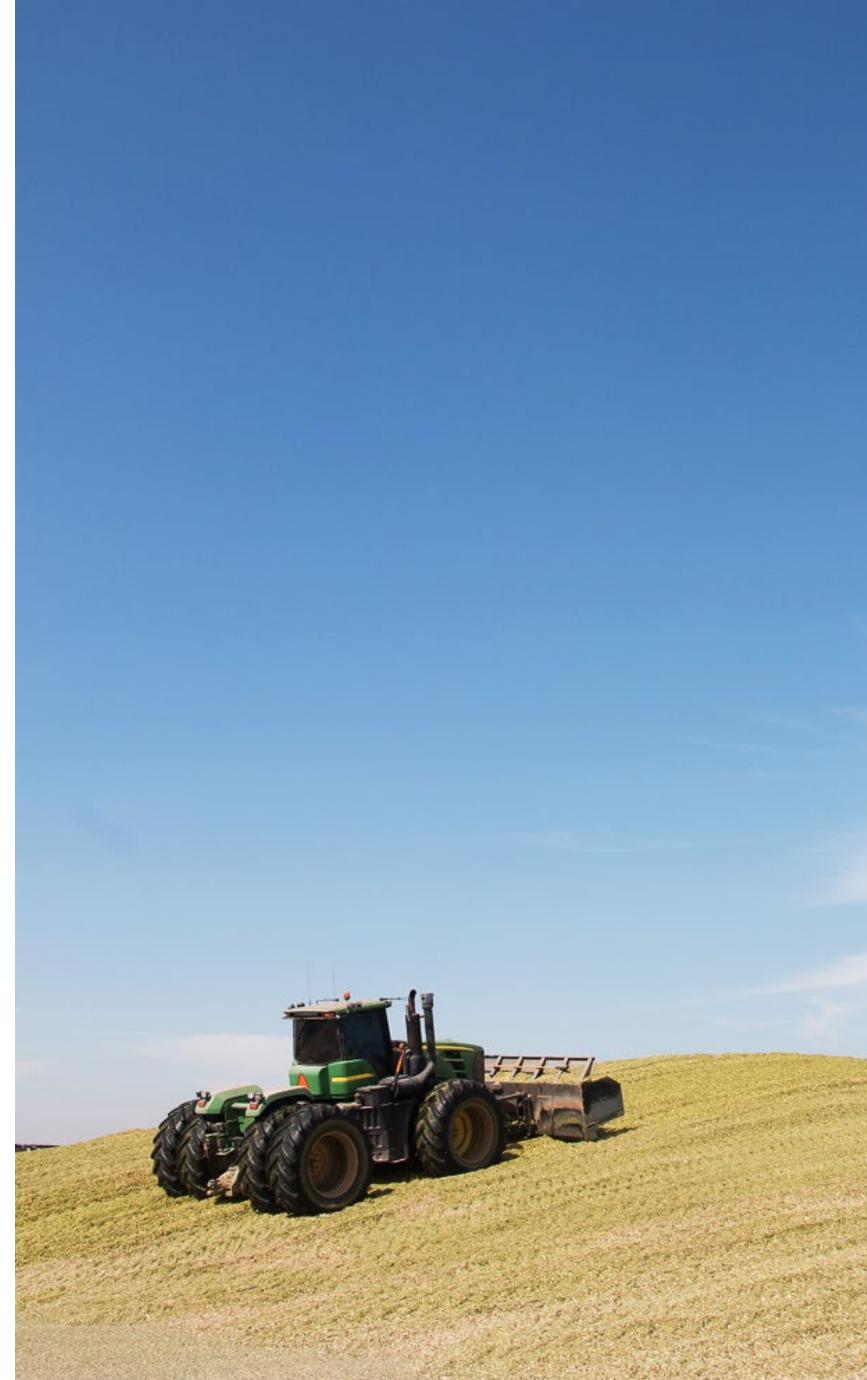
# Plan specifics – new coalition organization and responsibilities

- Add a 'coalition general order' as a compliance option while keeping a modified general order for individual reporting where needed
- Continue to offer representative groundwater monitoring for members to the degree needed to meet ongoing requirements and track trends
- Allow coalition to accept annual reports for irrigation/nutrient management from members instead of submitting directly to RB
- Allow coalition to provide aggregate data report to Regional Board, including groundwater quality data and manure N export trends
- Include with aggregated data report: Status and availability of technologies, practices and markets to facilitate manure N export, latest research and development, statistics on adoption of technologies and practices, status of funding and incentives



# Plan specifics – coalition responsibilities

- Supplement/modify CVDRMP staff to add agronomy, on-farm technical expertise to assist in analyzing annual reports, tracking progress. Main duties would be to assist in preparing annual report to RB and providing assistance to members on identifying solutions and funding
- As part of its ongoing annual review, CVDRMP/coalition will consider the development and availability of solutions to facilitate export; and determine whether to adopt minimum standards for whole-farm nutrient balance for members



## Next steps

- Refine recommendations and add detail
- Develop and submit formal report of recommendations
- Industry communications to build awareness of approach
- Marshal resources and implement program



THANK YOU

