

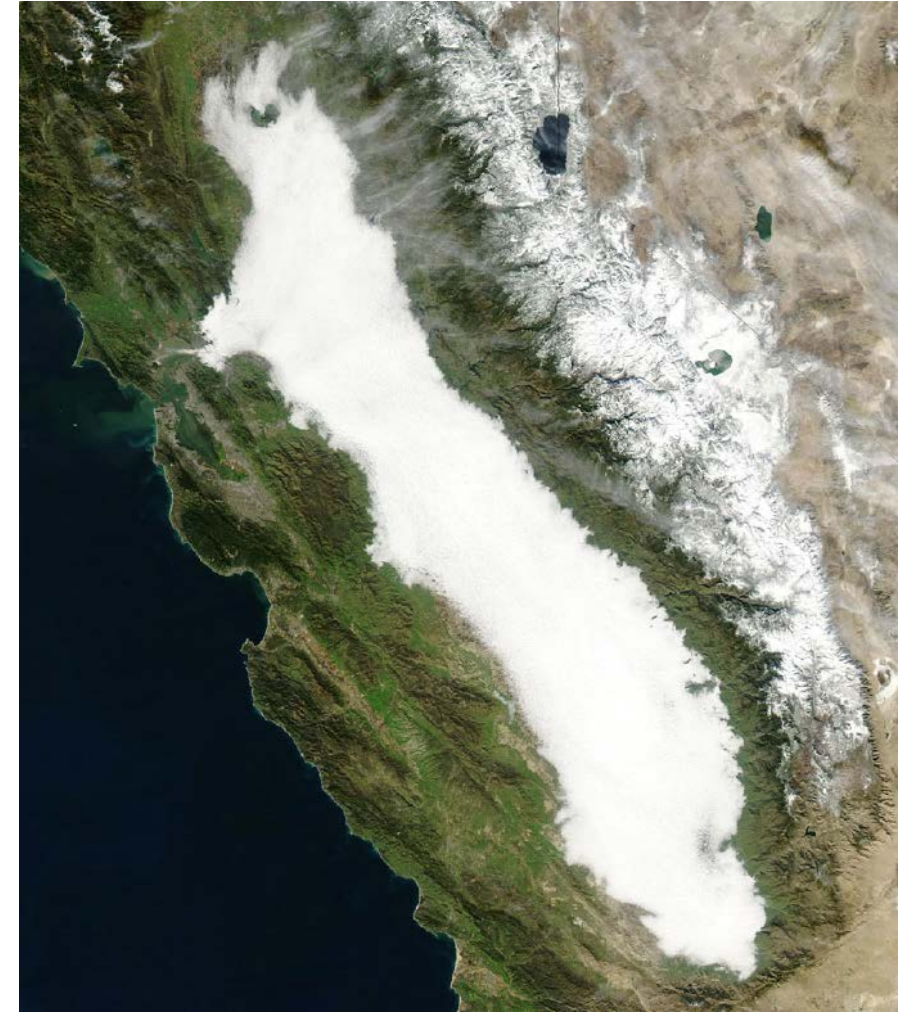
**Public Workshop for
Potential Amendments to
District Rule 4550
(Conservation Management Practices)**

November 7, 2022

webcast@valleyair.org

Valley's Air Quality Challenges

- Valley's challenges in meeting federal air quality standards unmatched due to unique geography, meteorology, and topography
- Valley designated as “Extreme” non-attainment of the 8-hour Ozone NAAQS; “Serious” non-attainment of federal standards for fine particulate matter (PM_{2.5})
 - Substantial emission reductions needed to achieve federal standards – need to go beyond already strict control limits
- Comprehensive strategy in *2018 PM_{2.5} Plan* includes commitment to reduce emissions from mobile sources and number of stationary and area sources, including agricultural operations addressing:
 - Direct PM_{2.5} sources
 - NO_x emissions (primary precursor to PM_{2.5})



Current District Rule 4550 Overview

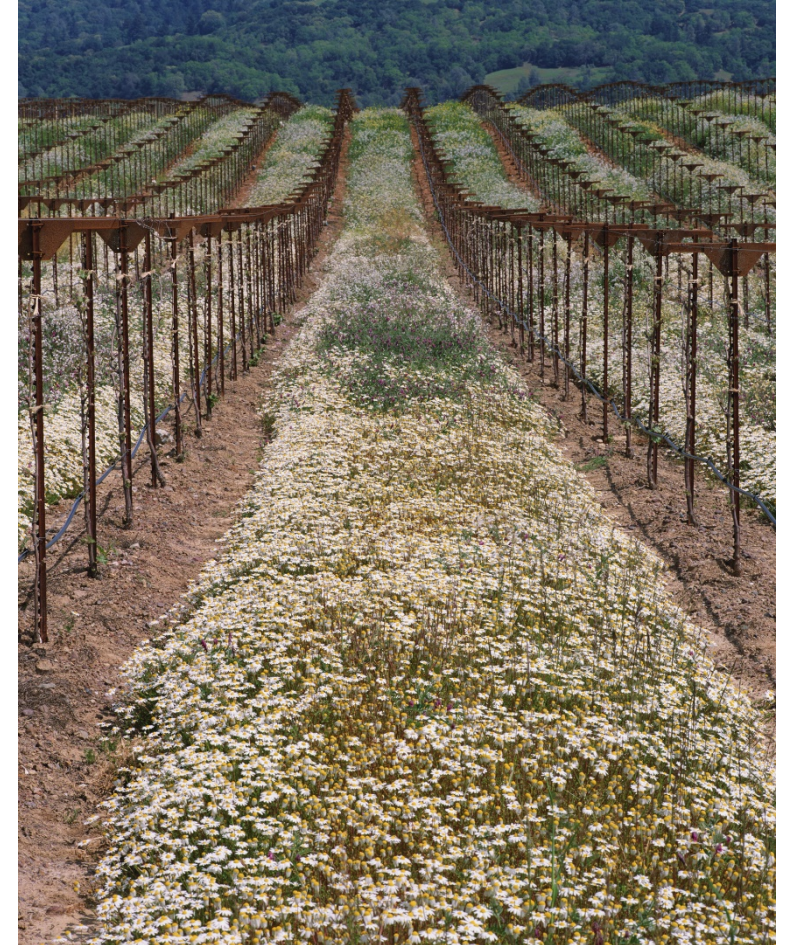
- Rule 4550 first adopted August 19, 2004 as PM10 control measure
 - First rule of its kind in nation
- Environmental Protection Agency (EPA) finalized approval of Rule 4550 in Feb. 2006, and determined rule to meet Best Available Control Measure (BACM) requirements
- Rule established unique menu approach of control techniques to accommodate wide variability of agricultural industries found in Valley
 - Selected CMPs are listed on application forms that are submitted to District for approval as CMP Plan
 - Approved CMP plans enforced through onsite inspections
 - Operators required to submit applications to modify plans when changing CMPs

Rule 4550 Overview (cont'd)

- Rule 4550 is applicable to on-field farming and agricultural operation sites within San Joaquin Valley
- CMP plans are required for the following operations:
 - Farms with 100 acres or more
 - Dairies with 500 or more mature cows
 - Cattle feedlots with 190 or more cows
 - Turkey ranches with 55,000 or more turkeys
 - Chicken ranches with 125,000 or more chickens
 - Chicken egg ranches with 82,000 or more laying hens
- Operations required to maintain records verifying use of approved CMPs
- Rule requirements have reduced PM10 emissions by 35 tpd, representing a 24% reduction from source category to date

CMP Examples

- Practices that reduce or eliminate the need to disturb the soil or manure
- Practices that protect the soil from wind erosion
- Equipment modifications to physically produce less PM10
- Applying water or dust suppressants to reduce emissions entrained by moving vehicles and equipment
- Reducing speed or access on unpaved roads and equipment areas
- Alternative practices to open burning



District Success in Implementing CMP Strategy

- Upon adoption, District implemented strategy and worked extensively with stakeholders to ensure compliance and program success
- District created special CMP application form with simplified checklists to ensure streamlined application process for operators
- District hosted number of workshops to assist sources to comply
- District has made notable achievements since adoption:
 - District has received over 8,500 CMP Plans since 2005, in addition to over 7,000 CMP Plan modification applications
 - Practices encompass 3.23 million acres of farmland
 - CMP program received EPA Region IX’s “2005 Environmental Award for Outstanding Achievement”

SGMA and Other Resource Management Considerations

- Groundwater regulated in California for decades, however state's assessment concludes that groundwater overdrafted in recent years
- California's Sustainable Groundwater Management Act (SGMA) enacted in 2014 to establish framework ensuring long-term reliability of groundwater supplies
 - Groundwater Sustainability Agencies (GSAs) to implement Groundwater Sustainability Plans (GSPs) for groundwater sustainability by 2040 for "critically overdrafted basins"
 - Majority of Valley considered "critically overdrafted basin"
- Williamson Act preserves farmland through contracts between landowners and government agencies
- Federal Endangered Species Act impacts management of fallowed lands
 - "Safe Harbor Agreements" available, not widely utilized



Working Together to Understand and Address SGMA Impacts

- Ongoing severe drought, SGMA implementation pose severe challenges to the San Joaquin Valley and concerted effort necessary at local, state, federal level to support transitions (water storage/recharge, working land maintenance, economic impacts, etc.)
- As a local component of tremendous challenges facing our region, District currently working with ag researchers, stakeholders, and agency partners (NRCS, CDFA) to evaluate feasibility/effectiveness of conservation practices on fallowed lands to mitigate potential PM impacts from disturbed acreage through amendments to Rule 4550
 - Additional research in close coordination with agencies and stakeholders essential in continuing to identify Valley-specific and sustainable solutions
 - New strategies must be supported by strong education and outreach efforts
 - New strategies must be supported by new state/federal funding given vast amounts of land anticipated to be fallowed and significant costs

Potential CMPs Under Consideration for Fallow Land

- **Cross Wind Ridges (NRCS Code 588):** Establish stabilized ridges by normal tillage and planting equipment, perpendicular with direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands)
- **Cross Wind Trap Strips (NRCS Code 589):** Provide a cover of erosion-resistant herbaceous plants established in one or more strips, typically perpendicular to the most erosive wind events
- **Cover Crop (NRCS Code 340):** Use seeding or natural vegetation/regrowth of plants to cover soil surface
- **Woody Residue Treatment (NRCS Code 384):** Treatment of residual woody material created due to management activities or natural disturbances
- **Crop Residue Management (NRCS Codes 345 and 329):** Maintain crop residue from previous crops until tilling for the next crop

Potential Conservation Management Practices Under Consideration for Fallow Land (Cont'd)

- **Surface Roughening (NRCS Code 609):** Produce and maintain stable clods or aggregates on the land surface by bedding, rough discing, or tillage that leaves the surface covered by stable clods
- **Range Planting (NRCS Code 550):** The seeding and establishment of herbaceous and woody species for the improvement of vegetation composition and productivity of the plant community to meet management goals
- **Conservation Cover (NRCS Code 327):** Establish and maintain permanent vegetative cover
- **Conservation Tillage (NRCS Codes 345 and 329):** Types of tillage that reduce loss of soil and water in comparison to conventional tillage

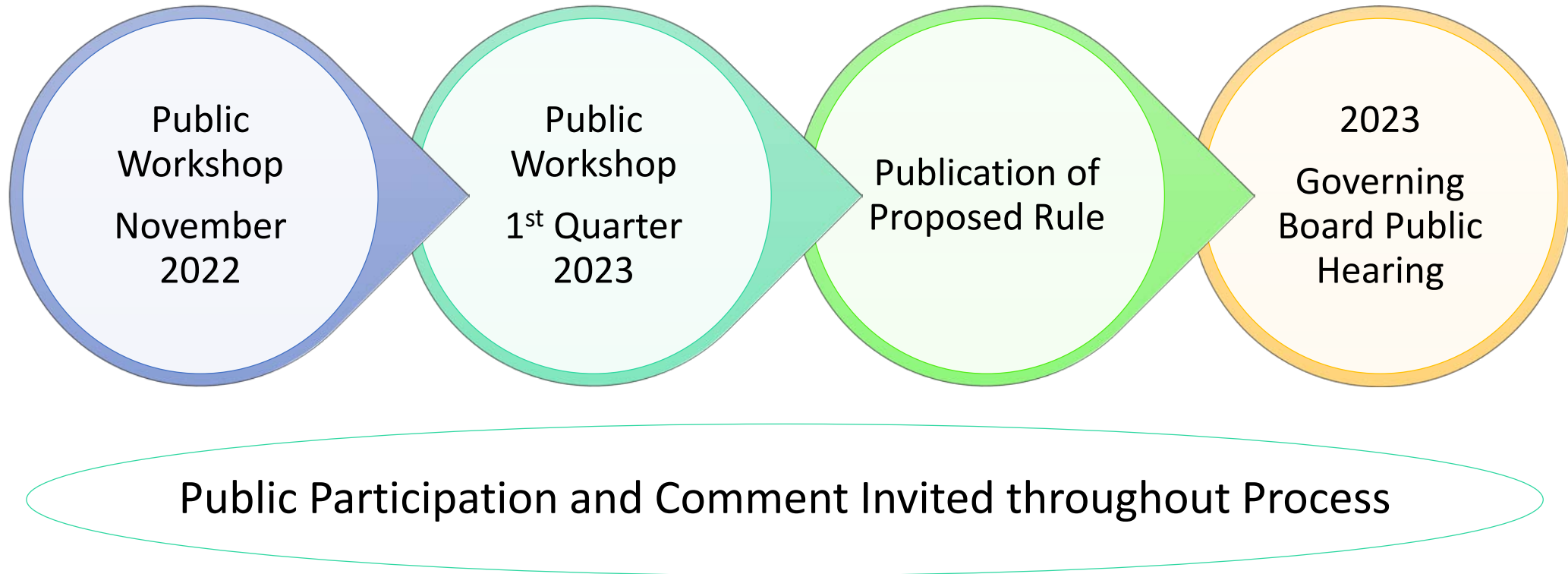
Other Potential CMPs Under Consideration

- **Field Windbreaks (NRCS Code 380):** Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practicable with the direction of erosive winds
- **Wind Barrier (NRCS Code 603):** Plant or maintain perennial or annual plants in rows or narrow strips interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds
- **Conservation Reserve Program (CRP):** Farm Service Agency land conservation program. Offers yearly rental payment to remove environmentally sensitive land from ag production and plant species that will improve environmental health and quality (10-15 year contracts)
- **Stripcropping (NRCS Code 585):** Establish crops in parallel strips across prevailing wind erosion direction alternated with strips having a protective cover that is resistant to wind erosion

Next Steps

- District staff analyzing technological and economic feasibility of these practices, taking into account costs, cost-effectiveness, and considerations depending on specific conservation management practices
 - Costs and feasibility of most effective practices available
 - Review of requirements in other air districts
- Socioeconomic Impact Analysis being conducted by third-party consultant to evaluate regional economic impacts of proposed amendments
- Public scoping meeting held December 16, 2021
- Ongoing opportunities for public input throughout rule development process:
 - Regular updates are provided at Citizens Advisory Committee (CAC), Environmental Justice Advisory Group (EJAG), and District Governing Board meetings

Public Engagement Process for Rule 4550 Amendments



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Comments/Questions

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