Workshop Outline

• **Presentation**
  - SGMA Overview
    - GSA
    - GSA Formation
    - Neighboring GSA Formations
  - GSP Regulations
  - Article 5 GSP Content
    - Administration Information
    - Basin Settings
      - Hydrogeological Conceptual Model
      - Groundwater Conditions
      - Water Budget
      - Management Area
    - Sustainable Management Criteria

• **Public GSP input & ideas**
SGMA OVERVIEW
• Local Management of the Groundwater Basin
• Requires subbasins to be sustainably managed by 2040
  ▪ “Sustainability” refers to any of the effects caused by groundwater conditions occurring throughout the basin that, when significant and unreasonable, cause undesirable results.
Agency Responsibility

- **Groundwater Sustainability Agency (GSA)**
  - Westlands Board to serve as GSA
- **Counties**
  - Memorandums of Understandings related to the County white areas
- **DWR**
  - Implements regulations
  - Provides technical assistance to GSAs
  - Assesses plans developed by GSAs
- **SWRCB**
  - Intervenes if a GSA is not formed or if basin not managed sustainably
If the SWRCB Steps in:

- Immediately stops pumping in the subbasin
- Seize all groundwater data
- Interim GSPs that **only** evaluates extractions
- Impose fees up to $14 million annually
GSA Responsibility and Authority

- **Develop**
  - Groundwater Sustainability Plan (GSP)
    - Achieve sustainability by 2040
  - Water Budget
  - Groundwater Model

- **Adopt rules, regulations, monitor network and report to the State**

- **Coordinate with adjacent subbasins**

- **GSA Authority**
  - Impose Fees
  - Well Inspections
  - Monitor Wells
Westlands’ GSA Management Area

Legend
- WWD Service Area Boundary
- SGMA Proposed San Joaquin Valley Subbasins
- Proposed Westside Subbasin July 2016
- Proposed Groundwater Sustainability Agency of the Westside Subbasin and Westlands Water District (July 2016)

AFFECTED OR ADJACENT LOCAL AGENCIES
- Water Districts
- Municipal/Jurisdictional Boundaries
  - Disadvantaged Community (DAC)
  - Disadvantaged Unincorporated Community (DUC)
  - Naval Air Station Lemoore
  - City/Community

Proposed Groundwater Sustainability Agency of the Westside Subbasin
July 2016 Revisions

WESTLANDS WATER DISTRICT
3130 W. FRENSNO ST.
FRESNO, CALIFORNIA 93703
PHONE 559-224-1101 FAX 559-224-6777
Neighboring GSA Activities

- San Joaquin River Exchange
- City of Williams GSA
- Aliso Water District GSA
- Farmers Water District GSA
- North Kings GSA
- McMullin Group GSA

Legend:
- Proposed Groundwater Sustainability Agency of the Westside Subbasin and Westlands Water District (July 2016)
- City/Community
- GSA Formations:
  - All Water District
  - Central
  - City of Williams
  - Consolidated Irrigation District
  - Farmers Water District
  - James Irrigation District
  - Madera Irrigation District
  - McMullin Group
  - Mid Kings
  - North Fork Kings
  - North Kings
  - San Joaquin River Exchange
  - Contractors Water Authority
  - South Fork Kings

Scale: 0 - 10 Miles

GSA Formations

WESTLANDS WATER DISTRICT
3130 N. FRESNO ST.
FRESNO, CALIFORNIA 93703
559.224.1523 FAX 559.241.6277
1. Introductory Provisions
2. Definitions
3. Technical & Reporting Standards
4. Procedures
5. **GSP Content**
6. DWR’s Evaluation & Assessment
7. Annual Reports & Periodic Evaluations
8. Interagency Agreements
9. Adjudicated Areas and Alternatives

[Article](http://www.water.ca.gov/groundwater/sgm/pdfs/GSP_Emergency_Regulations.pdf)
• SGMA Overview
  • GSA
    • GSA Formation
    • Neighboring GSA Formations
• GSP Regulations
• **Article 5 GSP Content**
  • Administration Information
  • Basin Settings
    • Hydrogeological Conceptual Model
    • Groundwater Conditions
  • Water Budget
  • Management Area
  • Sustainable Management Criteria
• Public GSP input & ideas
Article 5: GSP Content

1. Administrative Information
2. Basin Setting
3. Sustainable Management Criteria
4. Monitoring Network
5. Projects and Management Actions
§354.2 Introduction
§354.4 Executive Summary
§354.6 GSA Information
§354.8 Description of GSP Area
§354.10 Notice & Communication
Basin Settings

§354.12 Introduction of Basin Settings
§354.14 Hydrogeologic Conceptual Model
§354.16 Groundwater Conditions
§354.18 Water Budget
§354.20 Management Areas
Hydrogeologic Conceptual Model

- Complete in November 2016
- Modeling will summarize:
  - Regional Geology
  - Lateral Boundaries
  - Definable bottom
  - Principal Aquifers
  - Identify Data Gaps
Groundwater Conditions

Historical and Current Conditions

- Groundwater Elevation
- Subsidence
- Groundwater Storage
- Groundwater Quality
- Seawater Intrusion
- Interconnection Surface Water
- Groundwater Dependent Ecosystems
Groundwater Conditions - Confined

Groundwater Elevation - Groundwater Pumping - 10 Year Rolling Pumping Average

Groundwater Pumpage in Acre/Feet

Average Elevation of Piezometric Groundwater Surface in Feet

Year

Groundwater Pumpage in Acre/Feet


Average Elevation of Piezometric Groundwater Surface in Feet

-250 -200 -150 -100 -50 0 50 100 150 200 250

1,000,000 750,000 500,000 250,000 0

§354.16 (a)
Groundwater Pumping
Unconfined Aquifer

Average Elevation of Piezometric Groundwater Surface in Feet

Groundwater Elevation
Groundwater Pumping: Unconfined

End of Year
Well Data Availability

- Quarterly pumping data since 2012 for all Wells

- **No Readings - 8%**
  - **August 2016**
    - 14 Wells - no access (locked site)
    - 25 Wells - not recording
    - 7 Wells - no meter
    - 9 Wells - Water Users denied WWD access
    - 18 Wells - metering issues

- **PROVIDE ACCESS**
- **SERVICE METER**
- **INSTALL METER**
- **NOT PERMITTED**
Subsidence

§354.16 (e)
Water Budget

INFLOW

- Precipitation
- Infiltration from water application
- Infiltration from surface water system
- Groundwater Inflow

OUTFLOW

- Evaporation
- Groundwater Extractions
- Groundwater Discharge to a surface water system
- Subsurface Flow

RESULTS

✓ Annual Groundwater Storage
✓ Overdraft Conditions
✓ Sustainable Yields

§354.18
Article 5: GSP Content

1. Administrative Information
2. Basin Setting
3. Sustainable Management Criteria
4. Monitoring Network
5. Projects and Management Actions
Sustainable Management Criteria

- All Determined the GSA & its Stakeholders
- GSA’s do not have to address Subbasin Conditions prior to Jan 2015
Sustainability Goal

Unconfined Aquifer

Confined Aquifer

Westside Subbasin Sustainable Yield

§354.24
Management Areas
Concepts
Management Actions

- Management Actions designed to optimize the Subbasin's conjunctive use
  - Achieve Sustainability
- Potential Management Actions Developed to achieve sustainability:
  - Supply Enhancement
  - Conjunctive Use
  - In Lieu Recharge
  - PUBLIC INPUT
WWD GSP Development Timeline

- **2016**
  - May
  - Jul
  - Sep

- **2017**
  - Nov
  - 2017
  - Mar
  - May
  - Jul
  - Sep
  - Nov

- **2018**
  - 2018
  - Mar

**Interim GSP Development**
- Notify the County of GSP Adoption
- WWD Board Adopt GSP

**Final GSP Development**

**Public Model**
- Hydrogeologic Conceptual Model
- Flow Model
- Final Model

**Public**
- 15 Focused Stakeholder Workshops
- 1st Workshop
- 2nd Workshop
- Westside Subbasin GSP
• SGMA Overview
  • GSA
    • GSA Formation
    • Neighboring GSA formations

• GSP Regulations

• Article 5 GSP Content
  • Administration Information
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    • Hydrogeological Conceptual Model
  • Groundwater Conditions
  • Water Budget
  • Management Area
  • Sustainable Management Criteria

• Public GSP input & ideas
• District Develop the GSP

OR

• District Develop Minimum Thresholds and Objectives, and Water Users Develop the GSP for Their Management Area
Sustainable Yield

- One AF/Acre Number District-Wide

OR

- Allocation by Management Area
Management Options

- Transfer Sustainable Yield Allocation—Water User Managed

OR

- Land Fallowing with Compensation—District Managed
Groundwater Credit Opportunities

- Build a Sustainable Yield Credit
  AND/OR
- Develop an ASR Project
  AND/OR
- Groundwater Banking Project
GSP IDEAS?
QUESTIONS