



GEI

Consultants


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Consulting Engineers

Alta Irrigation District Area Management Zone Pilot Study

Steering Committee Meeting

Alta Irrigation District
MARCH 7, 2019



MEETING AGENDA

- Introductions/Agenda Review
- Participant Outreach
- Preliminary Identification of Permitted Dischargers
- Initial Groundwater Assessment - Update
- Areas With Wells Exceeding Nitrate Objective – Update
- Early Action Plan – Process to Identify Domestic Well Residents
- Project Schedule
- Posting Pilot Study Materials
- Review Action Items
- Scheduling Future Meetings





PARTICIPANT OUTREACH

Discussion

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IDENTIFICATION OF PERMITTED DISCHARGERS

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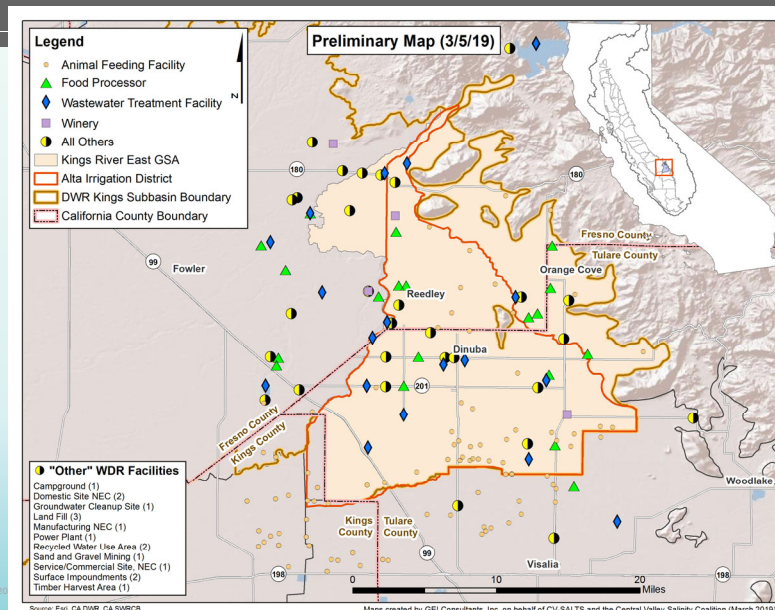
IDENTIFICATION OF PERMITTED DISCHARGERS: PURPOSE

- Preliminary Management Zone Proposal must include the following:
 - Identification of other dischargers and stakeholders in the Management Zone area that the initiating group is in contact with regarding participation in the management zone
 - Identification/summary of current treatment and control efforts, or management practices

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LOCATION OF KEY DISCHARGERS



PRELIMINARY DISCHARGER IDENTIFICATION: INITIAL FINDINGS

- Handouts – Preliminary List of Dischargers within Management Zone Boundary; Source: California Integrated Water Quality System Project (CIWQS)
- List is preliminary only; generated by overlaying GIS coordinates of facilities with GSA boundaries
- Next Steps
 - Work with the Regional Board staff on refining the list
 - Conduct additional outreach where needed
 - For dischargers interested in Management Zone participation, obtain information on current nitrate management practices

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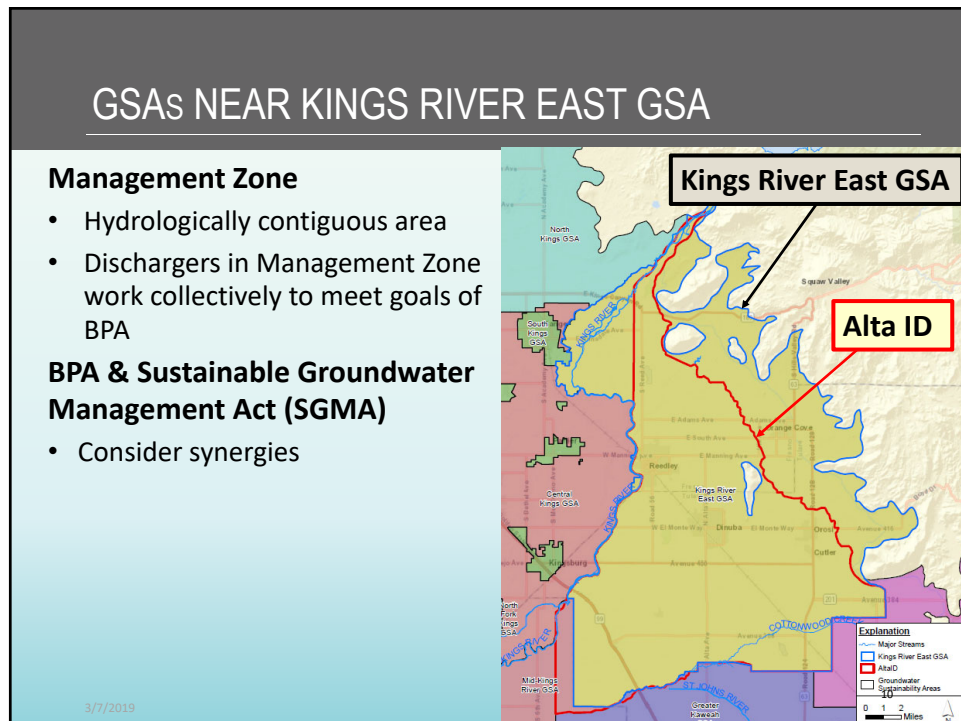
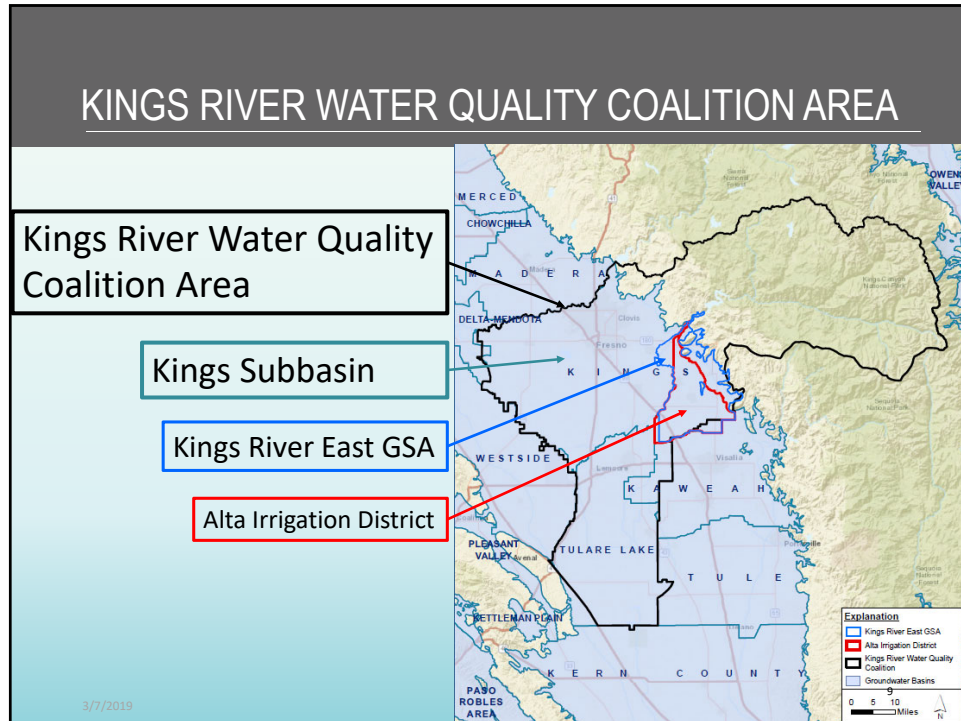


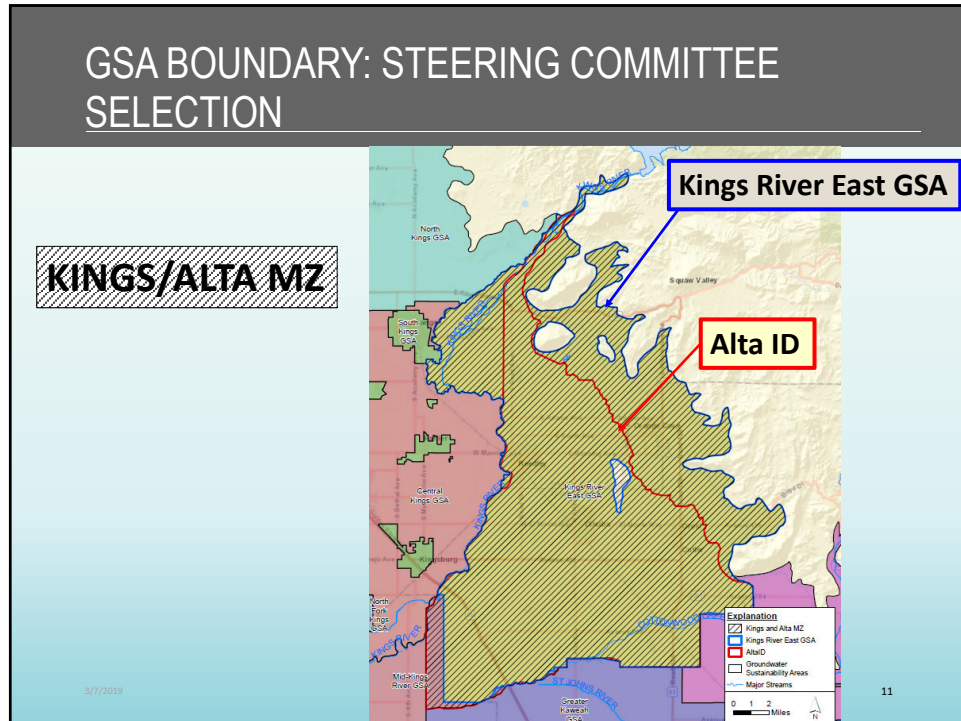
DATA ANALYSIS - UPDATE

- Initial Groundwater Quality Assessment
- Wells Exceeding Nitrate Objective

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ADDITIONAL DATA INQUIRIES

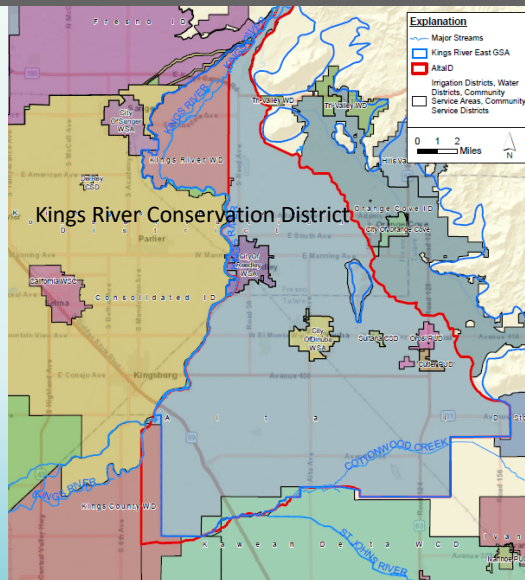
- DACs/DUCs/Related
 - Policy Link: DUC polygon information (2013 data; 2014 published)
- Domestic Wells
 - Fresno Co. Env. Health has domestic well data; would have to go to their office to look up info for each well of interest (not all sampled)
 - Tulare Lake Bed (Mike Hickey Tulare Co.): provided very large database
- Groundwater quality (Seeking data not available on public websites)
 - Fresno Co. State Smalls: list of 23 state smalls; have NO₃ data on most for recent years; website has a lookup utility (individual docs/not tabulated)
 - Tulare Co. State Smalls: list of 30 state smalls (provided as PDFs)
 - Tulare Lake Bed (Mike Hickey Tulare Co.): provided very large database
 - Kings County: indicate 8 state smalls; no info on location yet
 - Hydrogeologic Conceptual Model (including GW quality)
- Permitted discharge sites
 - Regional Board update

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OTHER AGENCIES IN KINGS EAST RIVER GSA (INCLUDING ALTA ID)

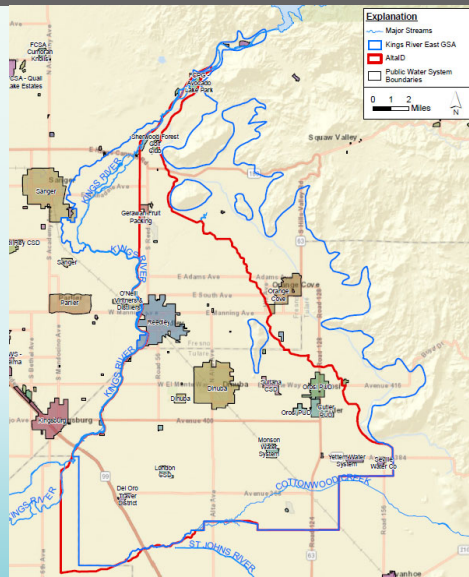
Kings River East GSA

- Kings River Conservation District
- Alta ID
 - City of Reedley
 - City of Dinuba
 - Sultana
 - Cutler
 - Orosi
- Tri Valley WD
- Hills Valley ID
- City of Orange Cove
- Orange Cove ID



PUBLIC WATER SYSTEMS

- City of Reedley
- City of Dinuba
- Sultana
- Cutler
- Orosi
- Monson Water System

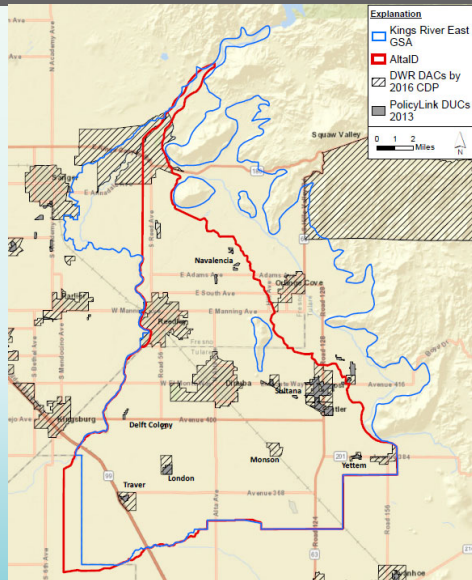


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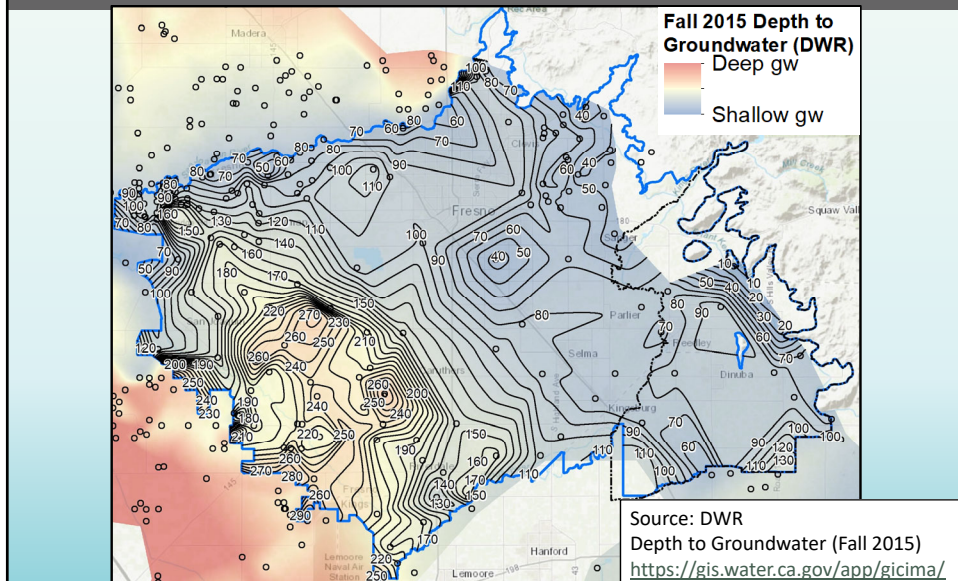
PRELIMINARY MAP OF DISADVANTAGED COMMUNITIES

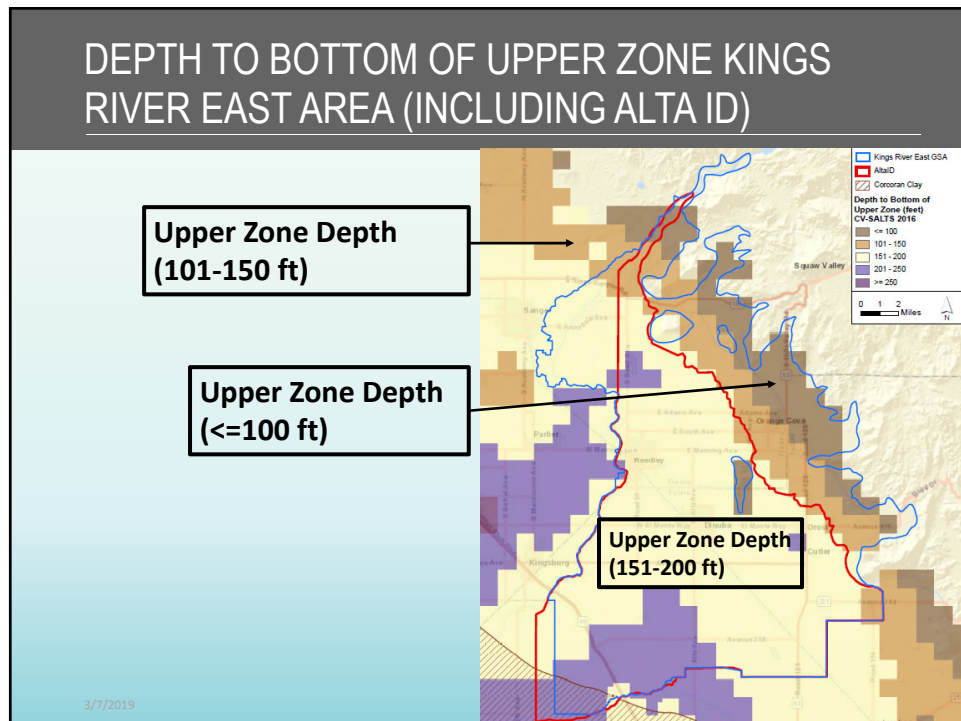
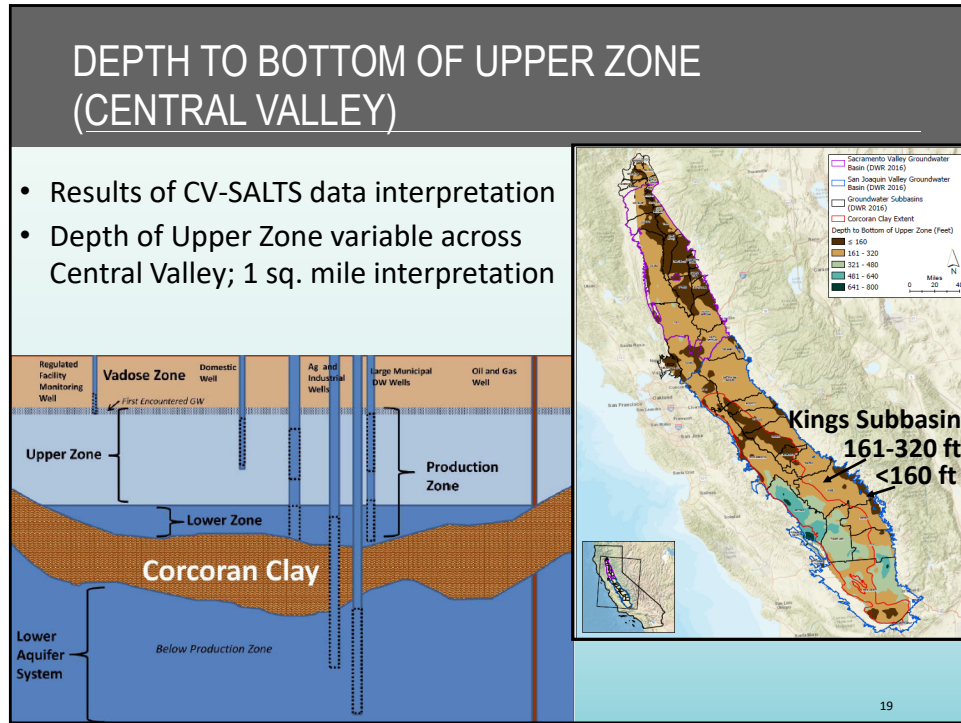
-  Disadvantaged Communities (DWR CDP Data 2016)
-  Disadvantaged Unincorporated (Policy Link 2014)

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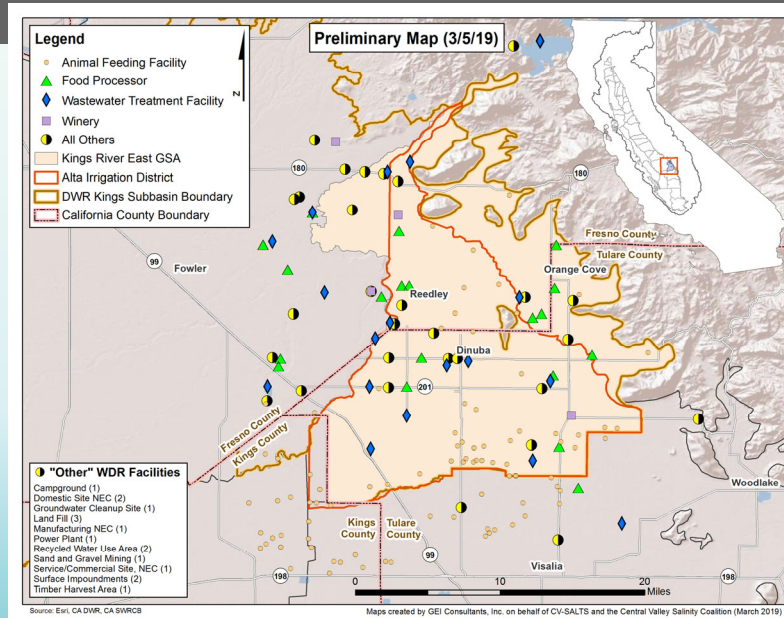


GROUNDWATER DEPTHS: KINGS SUBBASIN



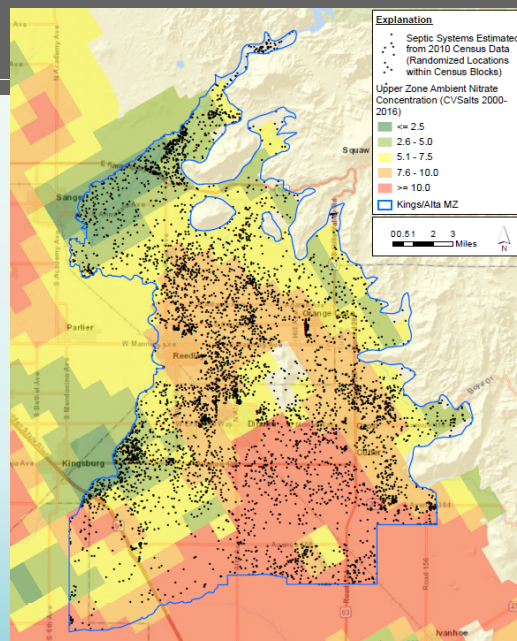


LOCATION OF KEY DISCHARGERS



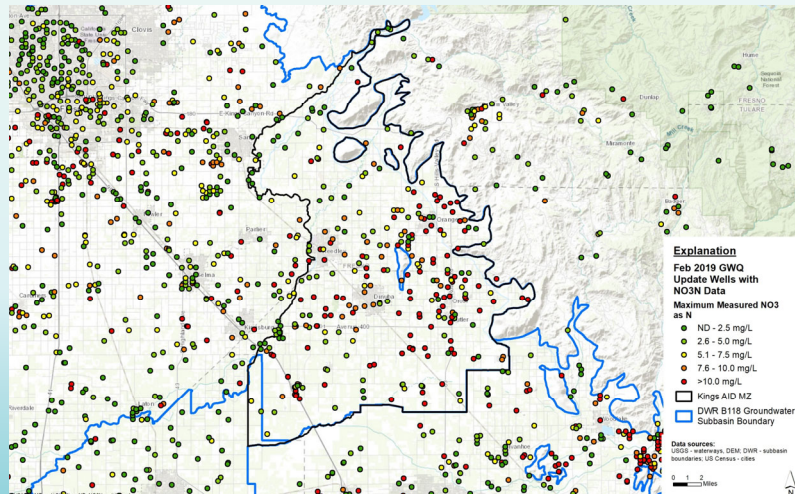
SEPTIC SYSTEMS

Septic system density estimated from 2010 census data; shown on CV-SALTS Upper Zone Nitrate-N concentration map



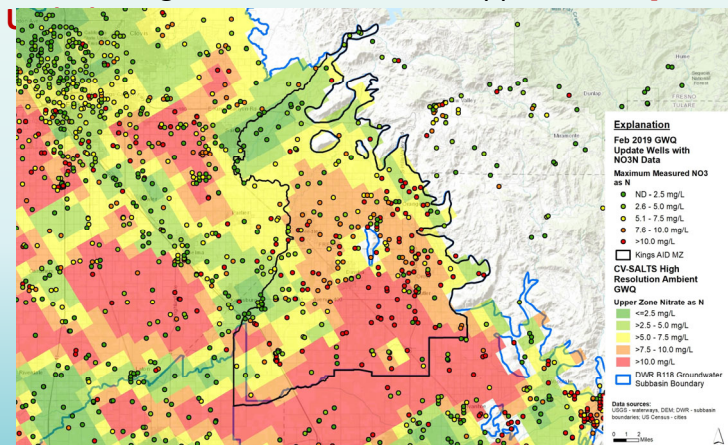
NITRATE GROUNDWATER DATA UPDATE (PUBLICLY AVAILABLE DATA)

- Maximum Nitrate Concentrations in Groundwater Wells:
All Publicly Available Data



NITRATE DATA (PUBLICLY AVAILABLE): 1942-2018

- Maximum Nitrate Concentrations Measured in Groundwater Wells (1942-2018) **[Well Point Data Shown Below]**
- CV-SALTS High Resolution Ambient Upper Nitrate **[Color]**



NITRATE DATA WELL DEPTH CATEGORIZATION

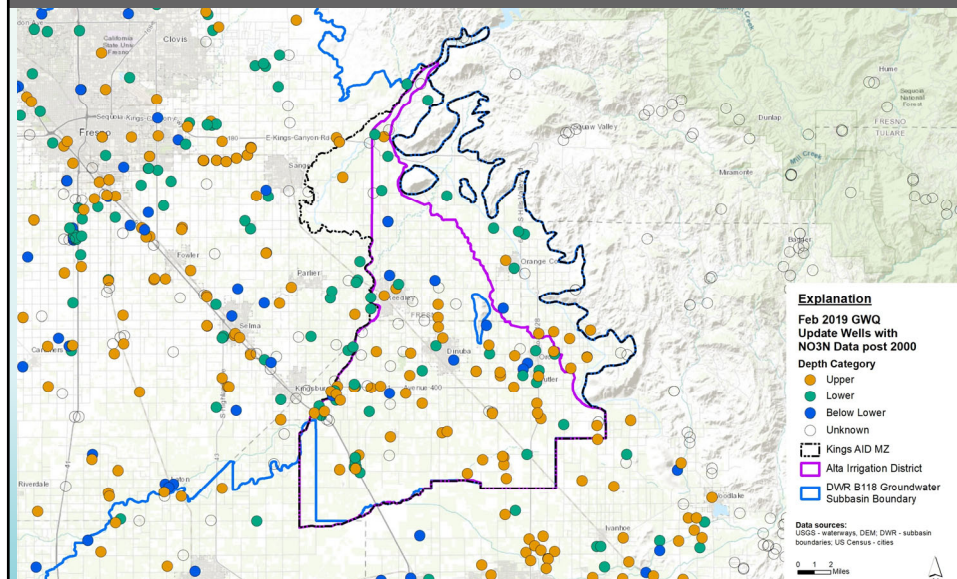
- First by Well Depth, if available
- Second (if no well depth info is available) by Well Type
 - Monitoring Wells (regulated facility) = Upper
 - Domestic Wells = Upper
 - Municipal Wells: use DWR's Well Completion Report statistics for township/range-sections mean well depth
 - Unknown Well Type = Unknown Well Type

Wells with Nitrate Data in Kings/AID MZ (all dates):

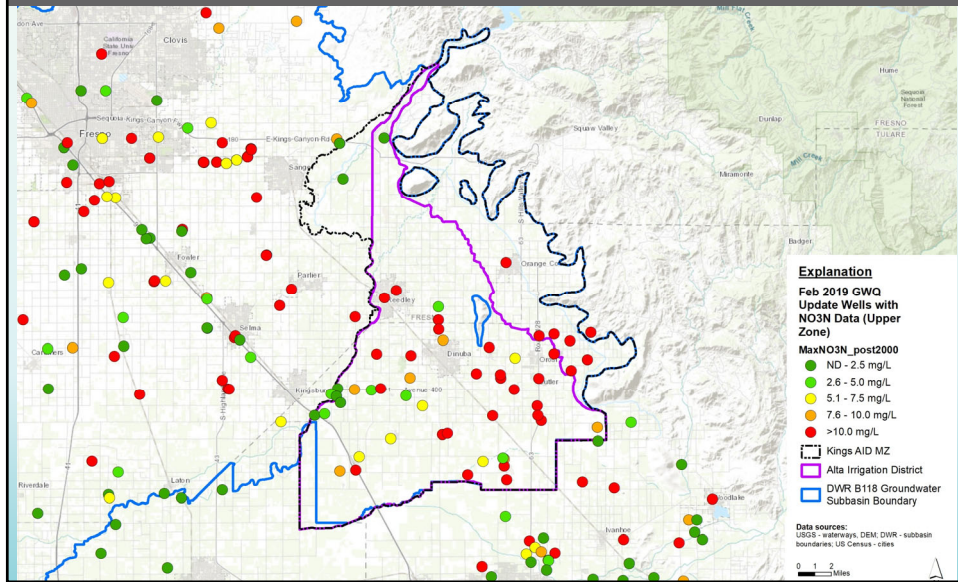
Wells with Depth Info	38 (14%)
Wells without Depth Info	230 (86%)
Total Number of Wells in MZ	268

Depth Category	Number of Wells
Upper	88 (33%)
Lower	42 (42%)
Below Lower	9 (3%)
Outside Valley Floor	7 (3%)
Unknown	122 (46%)
Total	268

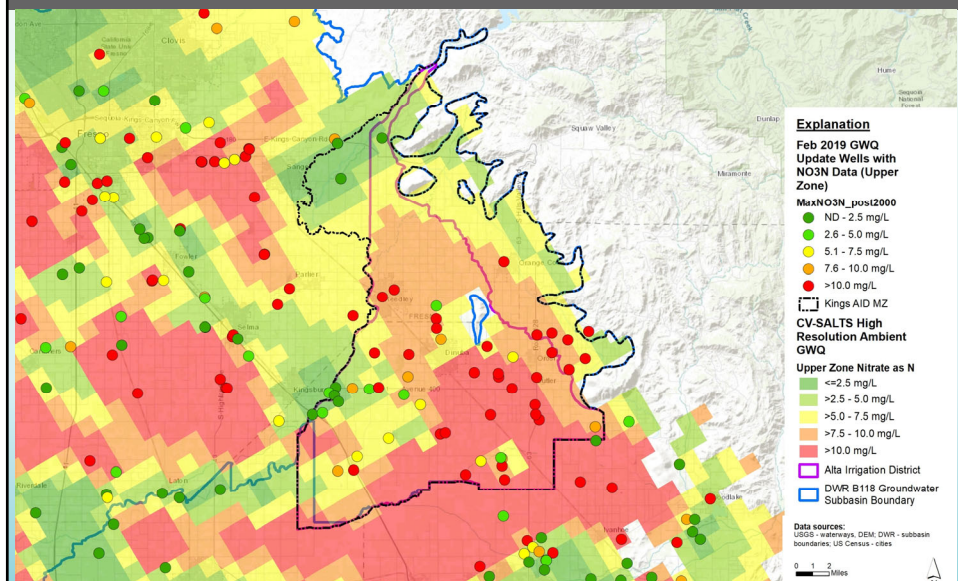
POST-2000 NITRATE WELL DATA & DEPTH CATEGORIZATION



PRELIMINARY UPDATED UPPER ZONE NITRATE (POST-2000 MAXIMUM)





PRELIMINARY UPDATED UPPER ZONE WELLS WITH CV-SALTS AMBIENT UPPER ZONE NITRATE



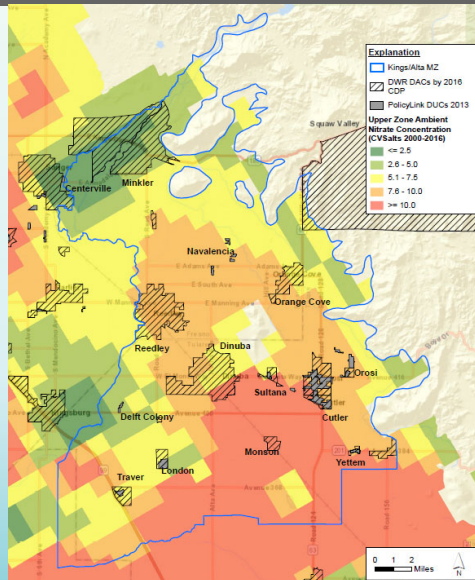
DACs/DUCs AND NITRATE CONCENTRATIONS, UPPER ZONE

CV-SALTS High Resolution Nitrate Mapping with Overlay:

-  Disadvantaged Communities (DWR CDP Data 2016)
-  Disadvantaged Unincorporated (Policy Link 2014)

Most DACs and DUCs located in or near areas where nitrate as N concentrations estimated to be ≥ 7.5 mg/L

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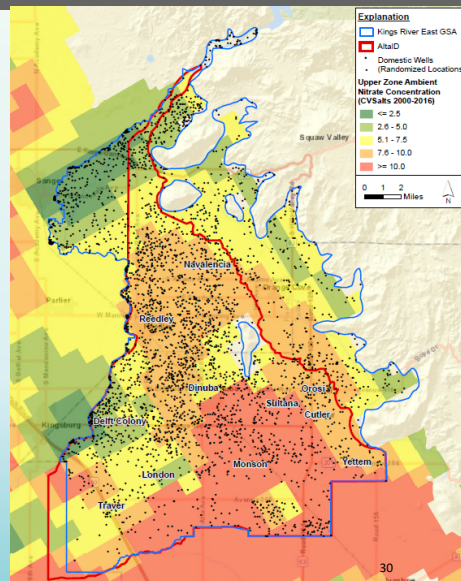


NITRATE CONCENTRATIONS AND ESTIMATED LOCATIONS OF DOMESTIC WELLS

CV-SALTS High Resolution Nitrate Mapping with Overlay:

- Approximate locations of domestic wells (locations in DWR database are generally located to the centroid of 1-sq. mile section)

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EARLY ACTION PLAN

Process to Identify Residents with Domestic Wells

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POTENTIAL APPROACHES TO IDENTIFY AREAS FOR EARLY ACTION PLAN

1. ID areas most likely served by community water system groundwater source
 - Identify PWS service areas
 - Identify state small water system locations (wells; service areas if known)
 2. Domestic wells
 - Focus on wells likely located outside of areas most likely served by community water system
 3. Nitrate exceeding Drinking Water Standard
 4. Other? (e.g., update information with future domestic well WQ data)
- Intersect subset of Domestic wells with Nitrate areas where groundwater likely to exceed 10 mg/L as NO₃-N

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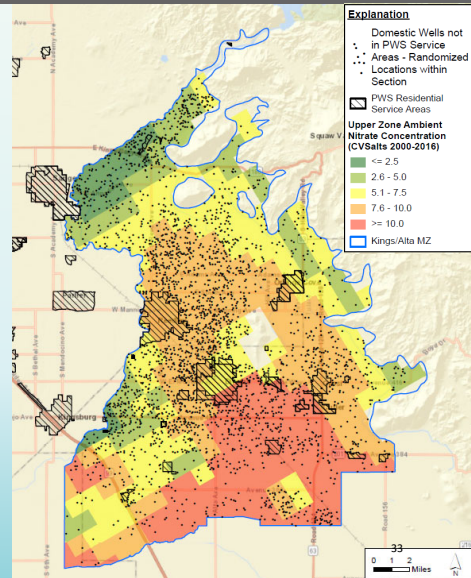
INTERSECTION OF PWS, DOMESTIC WELL AND ELEVATED NITRATE DATASETS (PRELIMINARY EXAMPLE)

- Estimated number of domestic wells located in areas where $\text{NO}_3\text{-N}$ concentrations (outside of PWS service areas) appear to be elevated

■ 472 Wells
■ 1,189 Wells

NOTE: This preliminary example uses the CV-SALTS Ambient $\text{NO}_3\text{-N}$ Concentration mapping; the $\text{NO}_3\text{-N}$ concentrations in the updated well data through 2018 show more wells exceeding 10 mg/L.

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EXAMPLE OF A DOMESTIC WELL IDENTIFICATION PROCESS

- Presentation – Coalition for Urban Rural Environmental Stewardship



IDENTIFICATION OF RESIDENCE WELLS ON THE CENTRAL COAST




Coalition for Urban Rural Environmental Stewardship

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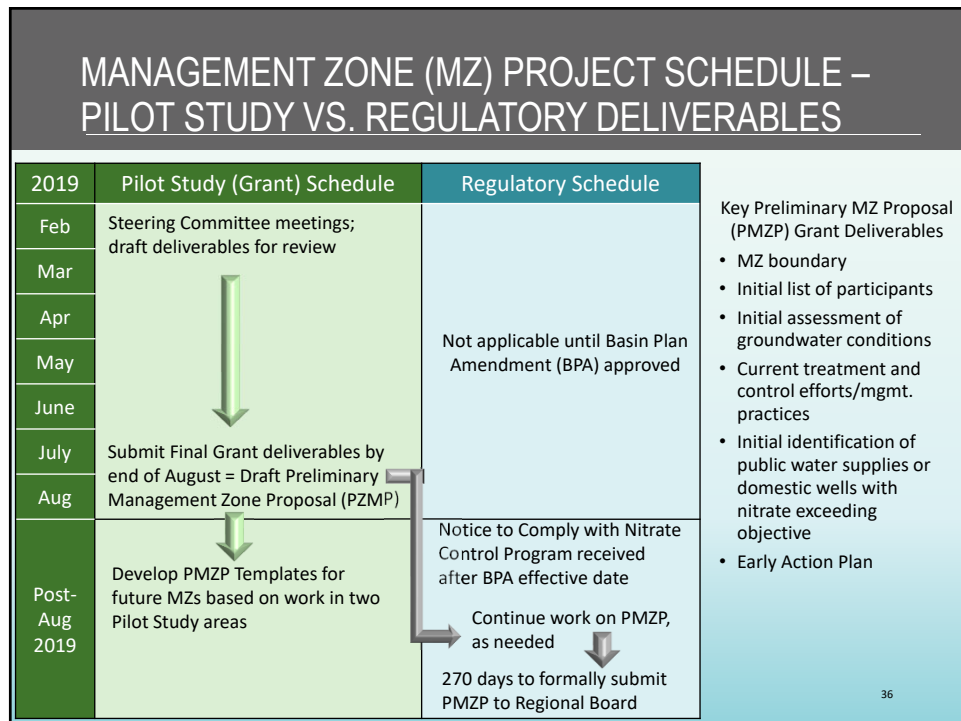
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PROJECT SCHEDULE

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FINAL AGENDA ITEMS

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FINAL AGENDA ITEMS

- Posting Pilot Study Materials
- Review of Action Items
- Scheduling Future Meetings

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