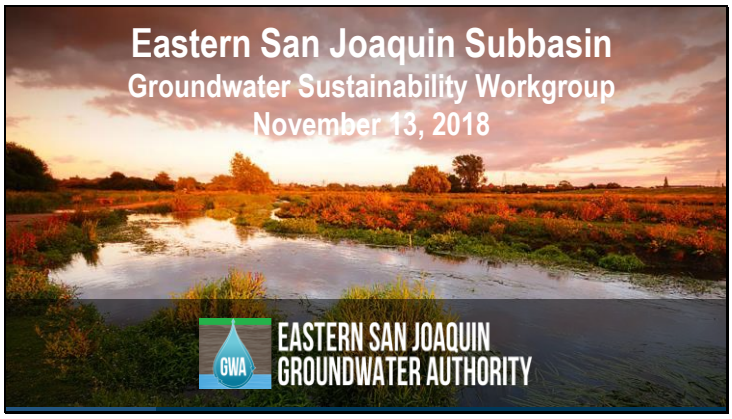
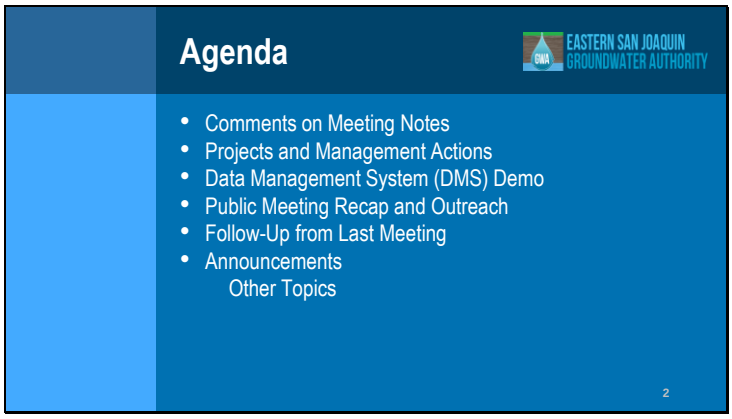
Slide 1

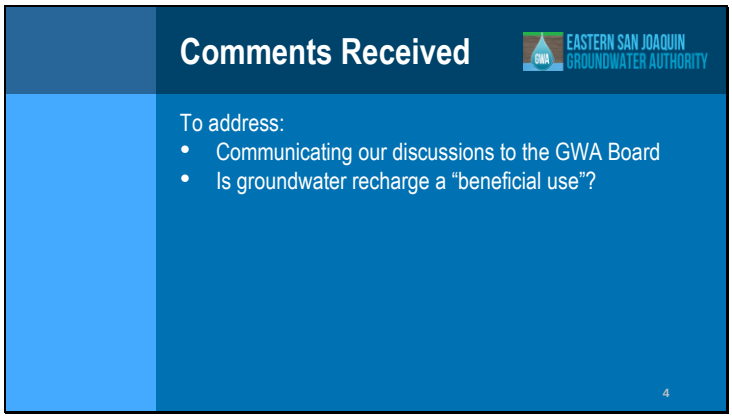

Eastern San Joaquin Subbasin
Groundwater Sustainability Workgroup
November 13, 2018
GWA
EASTERN SAN JOAQUIN
GROUNDWATER AUTHORITY

Slide 2


Agenda
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Comments on Meeting Notes
Projects and Management Actions
Data Management System (DMS) Demo
Public Meeting Recap and Outreach
Follow-Up from Last Meeting
Announcements
Other Topics
2

Slide 3

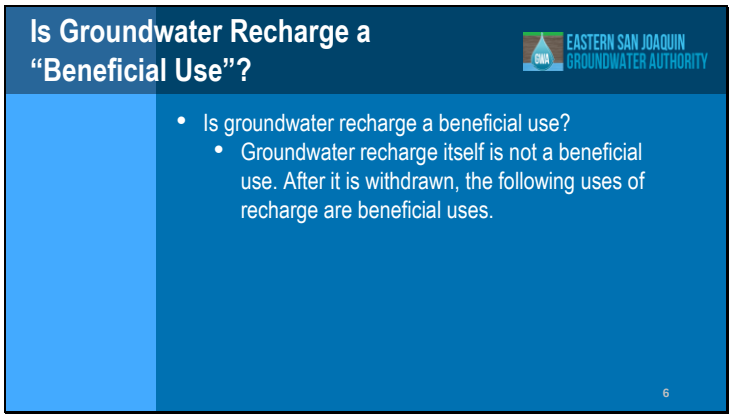
Slide 4


Comments Received
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
To address:
• Communicating our discussions to the GWA Board
• Is groundwater recharge a "beneficial use"?
4

Slide 5

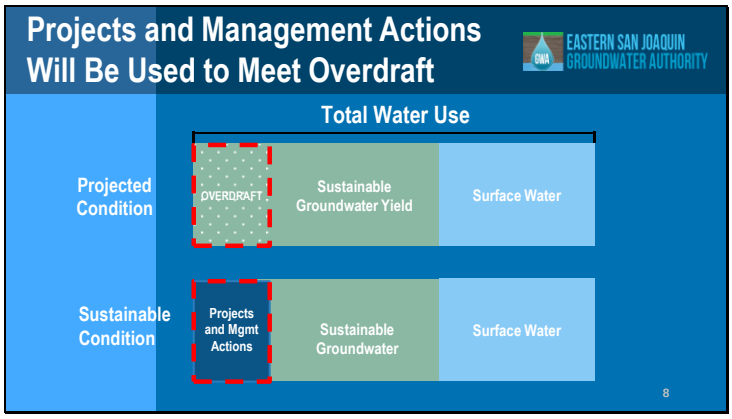

Communicating Our Discussions to the GWA Board
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
GWA
Concerns about communicating Workgroup messages to the GWA Board
Each month at the Board meeting, we give an overview of the Workgroup discussion including attendees, discussion topics, and key takeaways
Meeting summaries are provided in the Board packet
5

Slide 6


Is Groundwater Recharge a "Beneficial Use"?
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
• Is groundwater recharge a beneficial use?
• Groundwater recharge itself is not a beneficial use. After it is withdrawn, the following uses of recharge are beneficial uses.
6

Slide 7

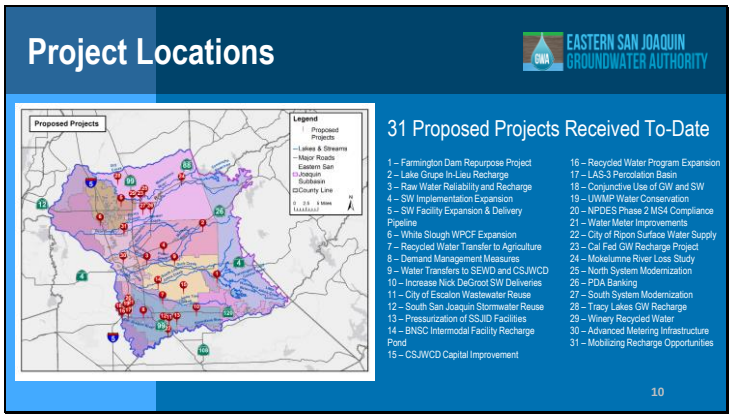
Slide 8


Projects and Management Actions Will Be Used to Meet Overdraft
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Total Water Use
Projected Condition
OVERDRAFT
Sustainable Groundwater Yield
Surface Water
Sustainable Condition
Projects and Mgmt Actions
Sustainable Groundwater
Surface Water
8

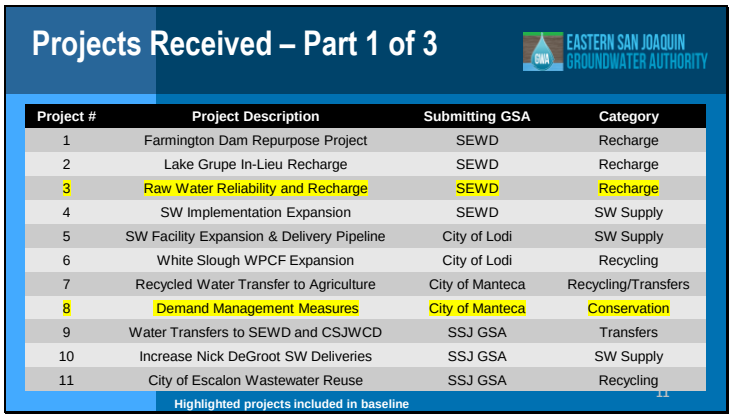
Slide 9


Review – Categories of Projects and Management Actions
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Flood/Stormwater Management
Recycling
Conservation
Recharge
Transfers
9

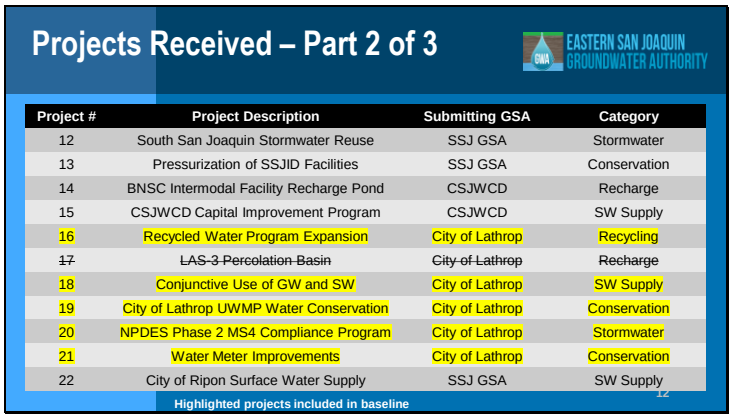
Slide 10


Project Locations
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Proposed Projects
Legend
Proposed Projects
Lakes & Streams
Major Roads
Eastern San Joaquin Subbasin
County Line
31 Proposed Projects Received To-Date
1 – Farmington Dam Repurpose Project
2 – Lake Grupe In-Lieu Recharge
3 – Raw Water Reliability and Recharge
4 – SW Implementation Expansion
5 – SW Facility Expansion & Delivery Pipeline
6 – White Slough WPCF Expansion
7 – Recycled Water Transfer to Agriculture
8 – Demand Management Measures
9 – Water Transfers to SEWD and CSJWCD
10 – Increase Nick DeGroot SW Deliveries
11 – City of Escalon Wastewater Reuse
12 – South San Joaquin Stormwater Reuse
13 – Pressurization of SSJID Facilities
14 – BNSC Intermodal Facility Recharge Pond
15 – CSJWCD Capital Improvement
16 – Recycled Water Program Expansion
17 – LAS-3 Percolation Basin
18 – Conjunctive Use of GW and SW
19 – UWMP Water Conservation
20 – NPDES Phase 2 MS4 Compliance
21 – Water Meter Improvements
22 – City of Ripon Surface Water Supply
23 – Cal Fed GW Recharge Project
24 – Mokelumne River Loss Study
25 – North System Modernization
26 – PDA Banking
27 – South System Modernization
28 – Tracy Lakes GW Recharge
29 – Winery Recycled Water
30 – Advanced Metering Infrastructure
31 – Mobilizing Recharge Opportunities
10

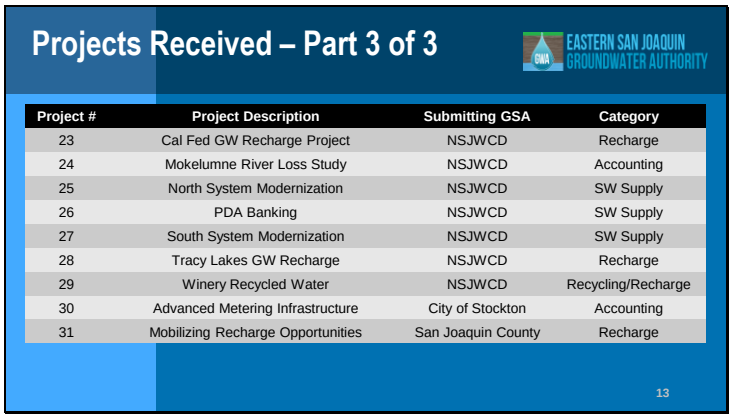
Slide 11


Projects Received – Part 1 of 3
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Project # | Project Description | Submitting GSA | Category
1 | Farmington Dam Repurpose Project | SEWD | Recharge
2 | Lake Grupe In-Lieu Recharge | SEWD | Recharge
3 | Raw Water Reliability and Recharge | SEWD | Recharge
4 | SW Implementation Expansion | SEWD | SW Supply
5 | SW Facility Expansion & Delivery Pipeline | City of Lodi | SW Supply
6 | White Slough WPCF Expansion | City of Lodi | Recycling
7 | Recycled Water Transfer to Agriculture | City of Manteca | Recycling/Transfers
8 | Demand Management Measures | City of Manteca | Conservation
9 | Water Transfers to SEWD and CSJWCD | SSJ GSA | Transfers
10 | Increase Nick DeGroot SW Deliveries | SSJ GSA | SW Supply
11 | City of Escalon Wastewater Reuse | SSJ GSA | Recycling
Highlighted projects included in baseline
11

Slide 12

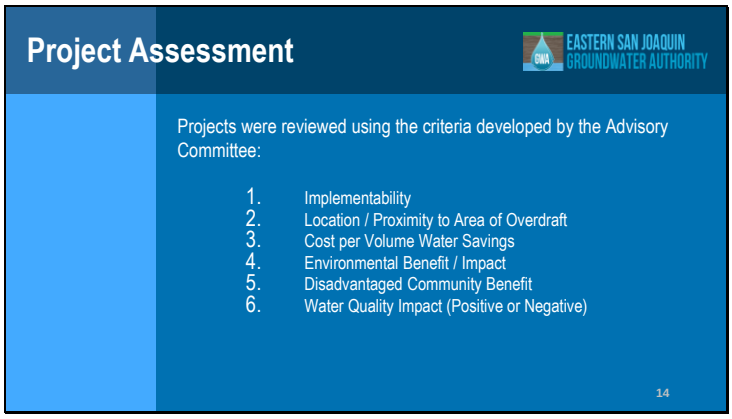

Projects Received – Part 2 of 3
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Project # | Project Description | Submitting GSA | Category
12 | South San Joaquin Stormwater Reuse | SSJ GSA | Stormwater
13 | Pressurization of SSJID Facilities | SSJ GSA | Conservation
14 | BNSC Intermodal Facility Recharge Pond | CSJWCD | Recharge
15 | CSJWCD Capital Improvement Program | CSJWCD | SW Supply
16 | Recycled Water Program Expansion | City of Lathrop | Recycling
17 | LAS-3 Percolation Basin | City of Lathrop | Recharge
18 | Conjunctive Use of GW and SW | City of Lathrop | SW Supply
19 | City of Lathrop UWMP Water Conservation | City of Lathrop | Conservation
20 | NPDES Phase 2 MS4 Compliance Program | City of Lathrop | Stormwater
21 | Water Meter Improvements | City of Lathrop | Conservation
22 | City of Ripon Surface Water Supply | SSJ GSA | SW Supply
Highlighted projects included in baseline
12

Slide 13

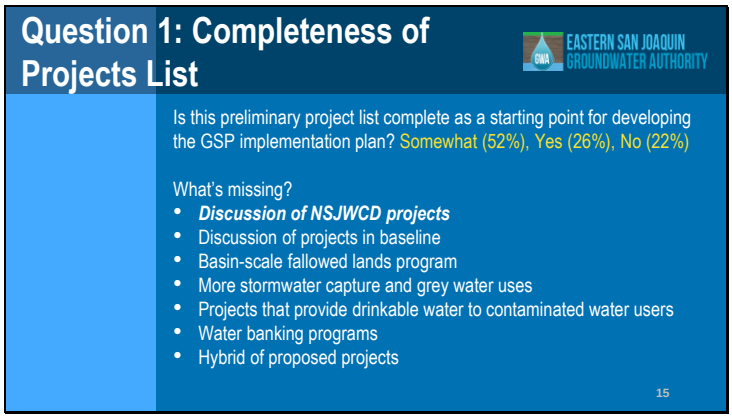



| Project # | Project Description | Submitting GSA | Category |
|---|---|---|---|
| 23 | Cal Fed GW Recharge Project | NSJWCD | Recharge |
| 24 | Mokelumne River Loss Study | NSJWCD | Accounting |
| 25 | North System Modernization | NSJWCD | SW Supply |
| 26 | PDA Banking | NSJWCD | SW Supply |
| 27 | South System Modernization | NSJWCD | SW Supply |
| 28 | Tracy Lakes GW Recharge | NSJWCD | Recharge |
| 29 | Winery Recycled Water | NSJWCD | Recycling/Recharge |
| 30 | Advanced Metering Infrastructure | City of Stockton | Accounting |
| 31 | Mobilizing Recharge Opportunities | San Joaquin County | Recharge |

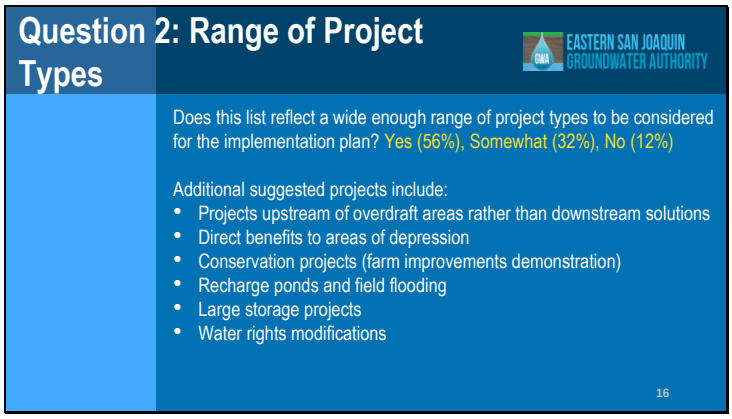
Slide 14


Project Assessment
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Projects were reviewed using the criteria developed by the Advisory Committee:
1. Implementability
2. Location / Proximity to Area of Overdraft
3. Cost per Volume Water Savings
4. Environmental Benefit / Impact
5. Disadvantaged Community Benefit
6. Water Quality Impact (Positive or Negative)
14

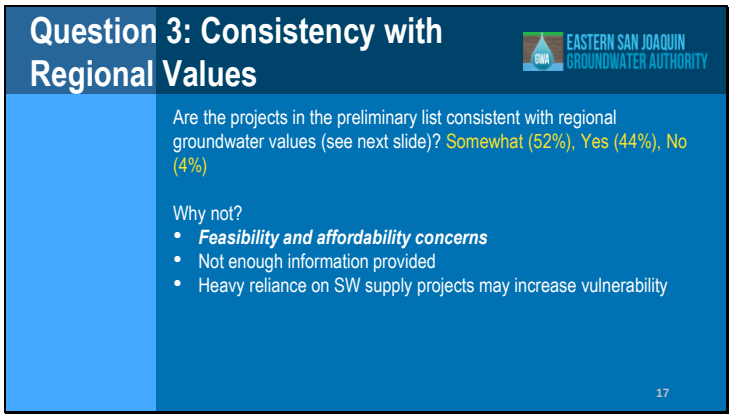
Slide 15


Question 1: Completeness of Projects List
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Is this preliminary project list complete as a starting point for developing the GSP implementation plan? Somewhat (52%), Yes (26%), No (22%)
What's missing?
Discussion of NSJWCD projects
Discussion of projects in baseline
Basin-scale fallowed lands program
More stormwater capture and grey water uses
Projects that provide drinkable water to contaminated water users
Water banking programs
Hybrid of proposed projects
15

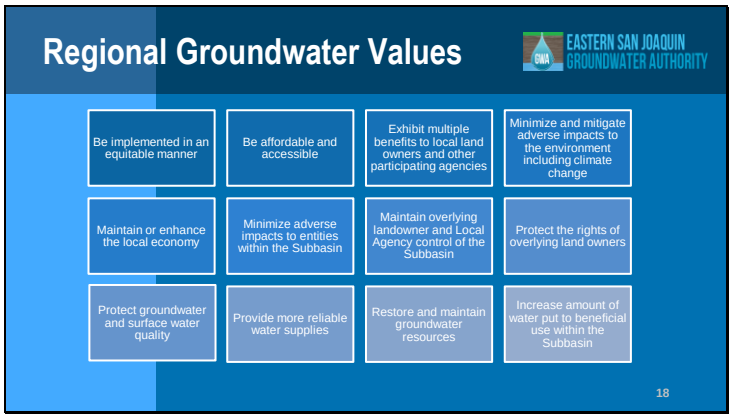
Slide 16


Question 2: Range of Project Types
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Does this list reflect a wide enough range of project types to be considered for the implementation plan? Yes (56%), Somewhat (32%), No (12%)
Additional suggested projects include:
• Projects upstream of overdraft areas rather than downstream solutions
• Direct benefits to areas of depression
• Conservation projects (farm improvements demonstration)
• Recharge ponds and field flooding
• Large storage projects
• Water rights modifications
16

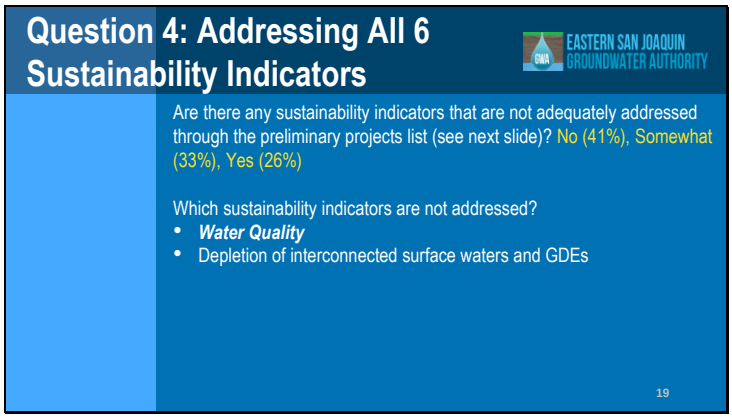
Slide 17


Question 3: Consistency with Regional Values
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Are the projects in the preliminary list consistent with regional groundwater values (see next slide)? Somewhat (52%), Yes (44%), No (4%)
Why not?
Feasibility and affordability concerns
Not enough information provided
Heavy reliance on SW supply projects may increase vulnerability
17

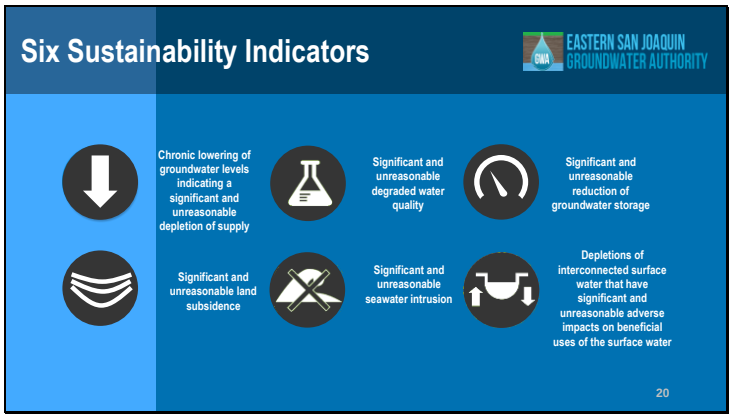
Slide 18


Regional Groundwater Values
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Be implemented in an equitable manner
Be affordable and accessible
Exhibit multiple benefits to local land owners and other participating agencies
Minimize and mitigate adverse impacts to the environment including climate change
Maintain or enhance the local economy
Minimize adverse impacts to entities within the Subbasin
Maintain overlying landowner and Local Agency control of the Subbasin
Protect the rights of overlying land owners
Protect groundwater and surface water quality
Provide more reliable water supplies
Restore and maintain groundwater resources
Increase amount of water put to beneficial use within the Subbasin
18

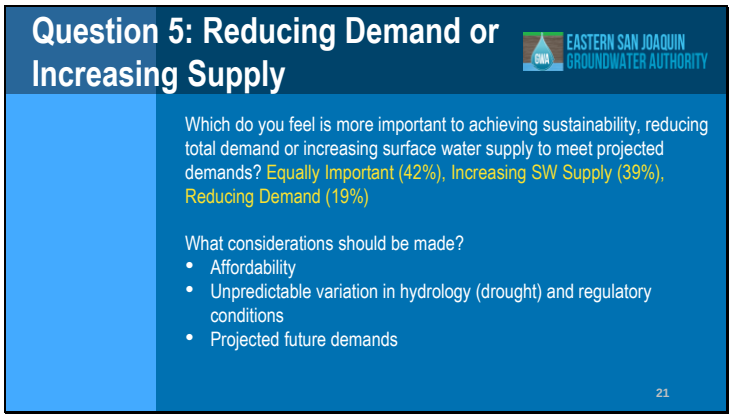
Slide 19


Question 4: Addressing All 6 Sustainability Indicators
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Are there any sustainability indicators that are not adequately addressed through the preliminary projects list (see next slide)? No (41%), Somewhat (33%), Yes (26%)
Which sustainability indicators are not addressed?
Water Quality
Depletion of interconnected surface waters and GDEs
19

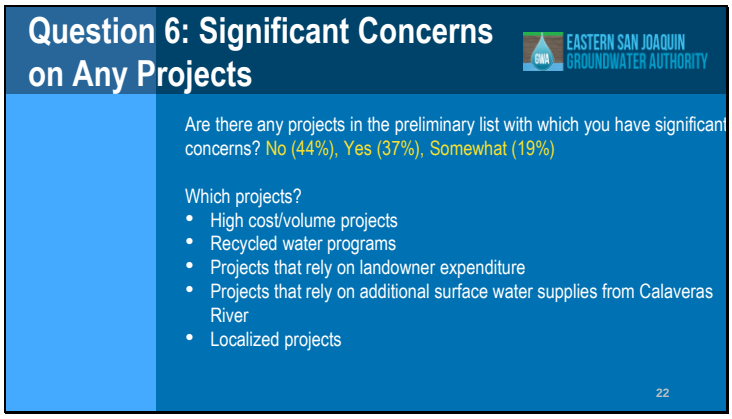
Slide 20


Six Sustainability Indicators
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply
Significant and unreasonable degraded water quality
Significant and unreasonable reduction of groundwater storage
Significant and unreasonable land subsidence
Significant and unreasonable seawater intrusion
Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water
20

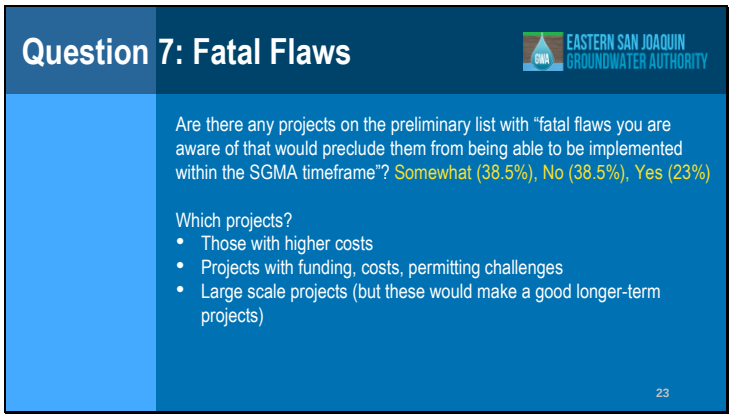
Slide 21


Question 5: Reducing Demand or Increasing Supply
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Which do you feel is more important to achieving sustainability, reducing total demand or increasing surface water supply to meet projected demands? Equally Important (42%), Increasing SW Supply (39%), Reducing Demand (19%)
What considerations should be made?
• Affordability
• Unpredictable variation in hydrology (drought) and regulatory conditions
• Projected future demands
21

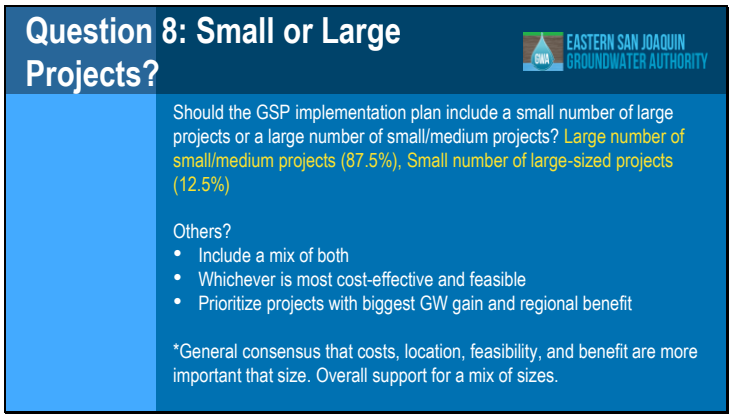
Slide 22


Question 6: Significant Concerns on Any Projects
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Are there any projects in the preliminary list with which you have significant concerns? No (44%), Yes (37%), Somewhat (19%)
Which projects?
• High cost/volume projects
• Recycled water programs
• Projects that rely on landowner expenditure
• Projects that rely on additional surface water supplies from Calaveras River
• Localized projects
22

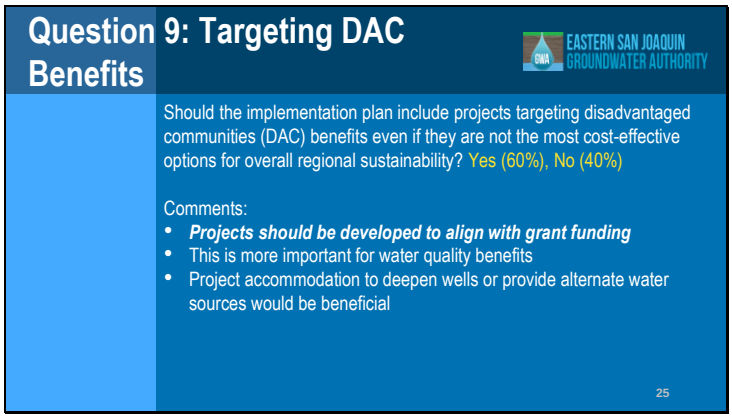
Slide 23


Question 7: Fatal Flaws
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Are there any projects on the preliminary list with "fatal flaws you are aware of that would preclude them from being able to be implemented within the SGMA timeframe"? Somewhat (38.5%), No (38.5%), Yes (23%)
Which projects?
• Those with higher costs
• Projects with funding, costs, permitting challenges
• Large scale projects (but these would make a good longer-term projects)
23

Slide 24

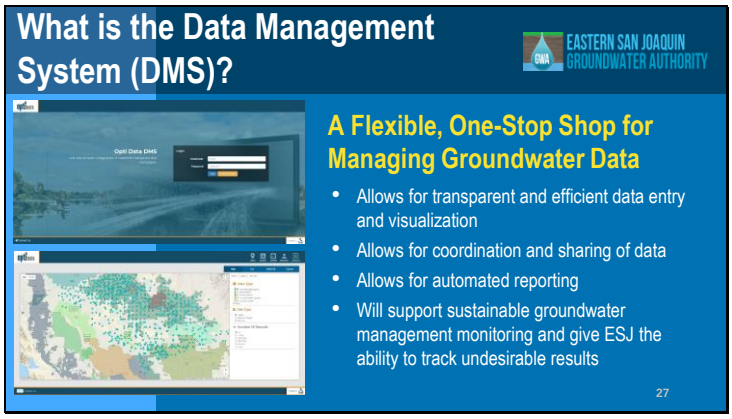

Question 8: Small or Large Projects?
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Should the GSP implementation plan include a small number of large projects or a large number of small/medium projects? Large number of small/medium projects (87.5%), Small number of large-sized projects (12.5%)
Others?
• Include a mix of both
• Whichever is most cost-effective and feasible
• Prioritize projects with biggest GW gain and regional benefit
*General consensus that costs, location, feasibility, and benefit are more important that size. Overall support for a mix of sizes.

Slide 25


Question 9: Targeting DAC Benefits
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Should the implementation plan include projects targeting disadvantaged communities (DAC) benefits even if they are not the most cost-effective options for overall regional sustainability? Yes (60%), No (40%)
Comments:
Projects should be developed to align with grant funding
This is more important for water quality benefits
Project accommodation to deepen wells or provide alternate water sources would be beneficial
25

Slide 26

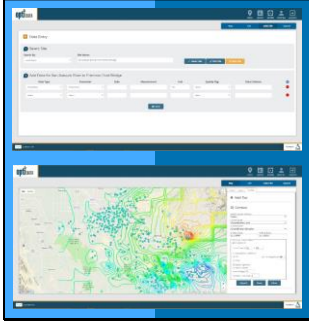
Slide 27


What is the Data Management System (DMS)?
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
A Flexible, One-Stop Shop for Managing Groundwater Data
Allows for transparent and efficient data entry and visualization
Allows for coordination and sharing of data
Allows for automated reporting
Will support sustainable groundwater management monitoring and give ESJ the ability to track undesirable results
27

Slide 28

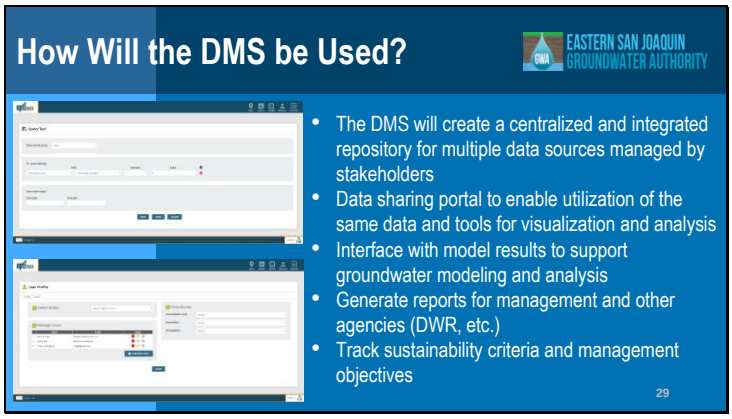
## DMS Features

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

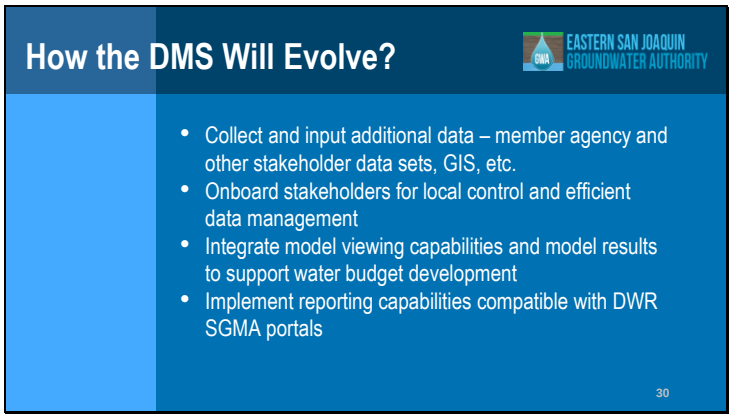


- Web-based, GIS-enabled
- Easy-to-Use
- Flexible Data Structure to Store and Manage Different Datasets
- User and Agency Security/Permissions
- Data Entry and Validation
- Visualization and Analysis
- Query and Reporting
- Framework to Link to other Data Management Systems and Modeling Results
- Viewing capabilities for publicly available information

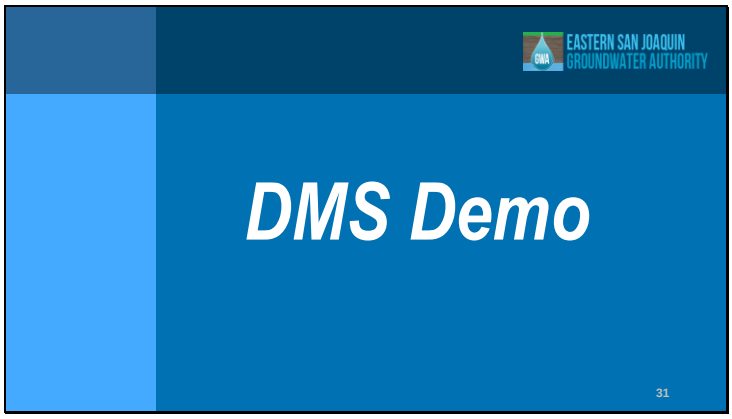
Slide 29


How Will the DMS be Used?
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
The DMS will create a centralized and integrated repository for multiple data sources managed by stakeholders
Data sharing portal to enable utilization of the same data and tools for visualization and analysis
Interface with model results to support groundwater modeling and analysis
Generate reports for management and other agencies (DWR, etc.)
Track sustainability criteria and management objectives
29

Slide 30


How the DMS Will Evolve?
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
• Collect and input additional data – member agency and other stakeholder data sets, GIS, etc.
• Onboard stakeholders for local control and efficient data management
• Integrate model viewing capabilities and model results to support water budget development
• Implement reporting capabilities compatible with DWR SGMA portals
30

Slide 31



Slide 32

Slide 33

## Second Informational Meeting

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

**November 7th, 6:30-8:00 PM**

**Manteca Transit Center**
220 Moffat Blvd.
Manteca, CA 95336

- For those of you who attended, do you have any comments or feedback on the event?

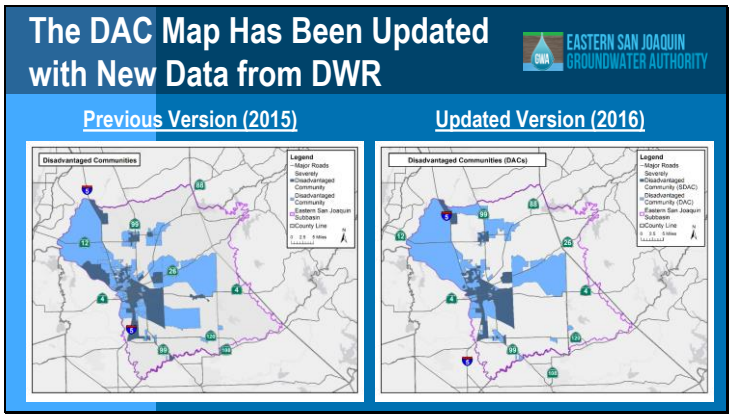
33

Slide 34

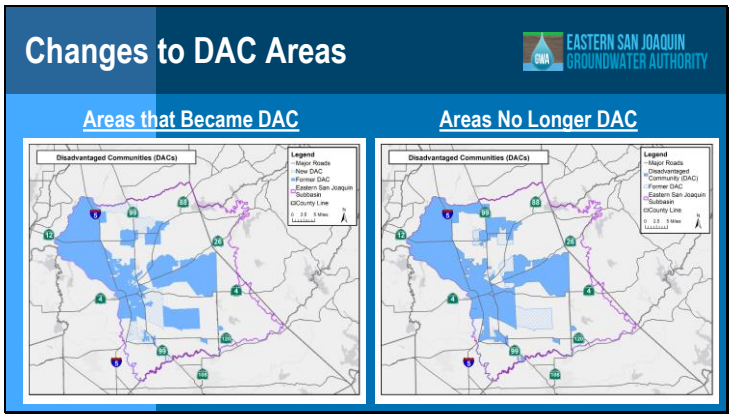

Outreach Update
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
How might sustainable groundwater management affect growers?
The goal of the Groundwater Sustainability Plan is to establish sustainable management of groundwater through local control while meeting state requirements.
What is SGMA?
What does SGMA require?
How do I learn more?
esjgroundwater.org
Get Involved:
Eastern San Joaquin Groundwater Subbasin
Based on feedback from last month's meeting, we have developed a flyer for distribution at the November applicator meetings
34

Slide 35

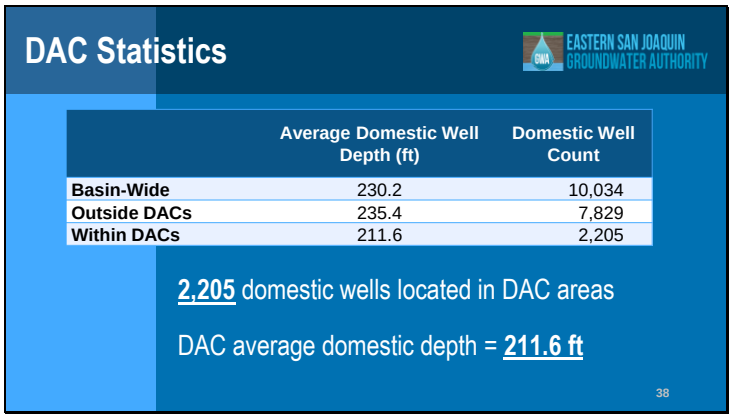
Slide 36


The DAC Map Has Been Updated with New Data from DWR
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Previous Version (2015)
Updated Version (2016)
Disadvantaged Communities
Disadvantaged Communities (DACs)

Slide 37


Changes to DAC Areas
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Areas that Became DAC
Areas No Longer DAC
Disadvantaged Communities (DACs)
Legend
Major Roads
New DAC
Former DAC
Eastern San Joaquin Subbasin
County Line
Disadvantaged Community (DAC)

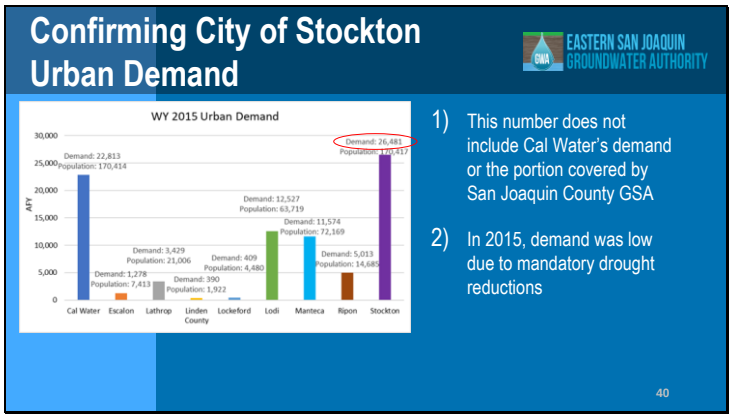
Slide 38


DAC Statistics
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Average Domestic Well Depth (ft)
Domestic Well Count
Basin-Wide 230.2 10,034
Outside DACs 235.4 7,829
Within DACs 211.6 2,205
2,205 domestic wells located in DAC areas
DAC average domestic depth = 211.6 ft
38

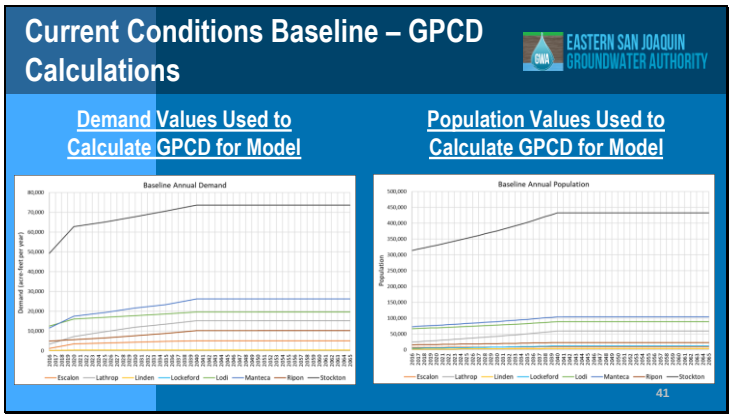
Slide 39

| GSA | % of GSA that is a DAC | % of GSA that is not a DAC |
|---|---|---|
| Lockeford Community Services District | 67% | 33% |
| Linden County Water District | 50% | 50% |
| City of Manteca | 33% | 67% |
| City of Lathrop | 50% | 50% |
| Central San Joaquin Water Conservation District | 50% | 50% |
| North San Joaquin Water Conservation District | 40% | 60% |
| South Delta Water Agency | 33% | 67% |
| South San Joaquin GSA | 30% | 70% |
| Woodbridge Irrigation District | 44% | 56% |
| City of Lodi | 75% | 25% |
| Stockton East Water District | 45% | 55% |
| City of Stockton | 58% | 42% |
| Central Delta Water Agency | 50% | 50% |
| Oakdale Irrigation District | 33% | 67% |
| Eastside San Joaquin GSA | 17% | 83% |
| San Joaquin County | 43% | 57% |
| San Joaquin County No. 2 | 60% | 40% |

Slide 40

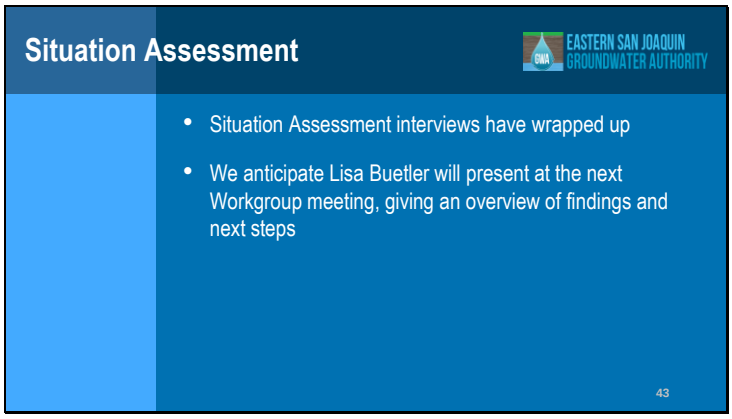

Confirming City of Stockton Urban Demand
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
WY 2015 Urban Demand
AFY
30,000
25,000
20,000
15,000
10,000
5,000
0
Demand: 22,813
Population: 170,414
Demand: 1,278
Population: 7,413
Demand: 3,429
Population: 21,006
Demand: 390
Population: 1,922
Demand: 409
Population: 4,480
Demand: 12,527
Population: 63,719
Demand: 11,574
Population: 72,169
Demand: 5,013
Population: 14,685
Demand: 26,481
Cal Water
Escalon
Lathrop
Linden County
Lockeford
Lodi
Manteca
Ripon
Stockton
1) This number does not include Cal Water's demand or the portion covered by San Joaquin County GSA
2) In 2015, demand was low due to mandatory drought reductions
40

Slide 41

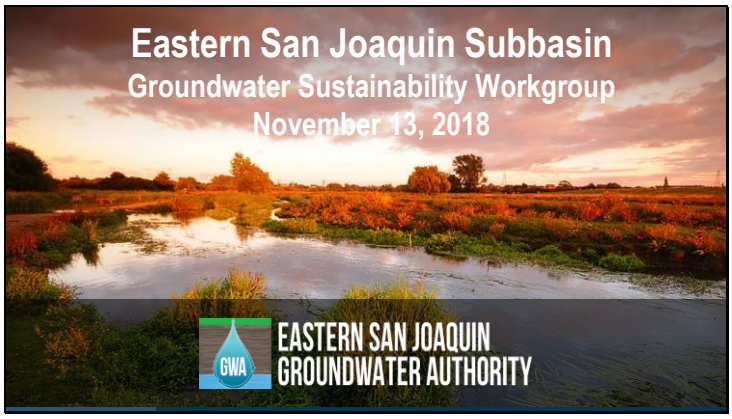

Current Conditions Baseline – GPCD Calculations
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
Demand Values Used to Calculate GPCD for Model
Population Values Used to Calculate GPCD for Model
Baseline Annual Demand
Baseline Annual Population
Escalon
Lathrop
Linden
Lockeford
Lodi
Manteca
Ripon
Stockton
41

Slide 42

Slide 43


Situation Assessment
EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY
• Situation Assessment interviews have wrapped up
• We anticipate Lisa Buetler will present at the next Workgroup meeting, giving an overview of findings and next steps
43

Slide 44


Eastern San Joaquin Subbasin
Groundwater Sustainability Workgroup
November 13, 2018
GWA
EASTERN SAN JOAQUIN
GROUNDWATER AUTHORITY