Revised September 10, 2018

GWA Advisory Committee
September 12, 2018

Agenda

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

- Approval of August Meeting Minutes
- Open House Recap
- Thresholds Status
- Projected Water Budget
- Sustainable Yield
- Projects and Management Actions
- October Agenda Items

Open House Recap

Open House Recap

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- Thank you for participating!
- ~50 members of the public in attendance
- Thank you GSAs for sending representatives!
- Open House materials will be posted to the website

Next Informational Meeting

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The second Informational Meeting will occur in the Nov./Dec. timeframe (four are planned in total)

Action Item: Identify potential locations for future informational meetings


Thresholds Status

Six Sustainability Indicators to be Addressed

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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

Review – GW Elevation Threshold Development

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- Mapped lowest elevation of 1992 or 2015
- Met with GSAs to confirm understanding
- Developed alternative methodology with high/stable groundwater elevations (variance of last 5 years of data applied to lowest level recorded as a buffer)
- Identified monitoring locations for groundwater thresholds
- Pausing threshold development until projects and management actions identified

GW Elevation Thresholds: What Comes Next?

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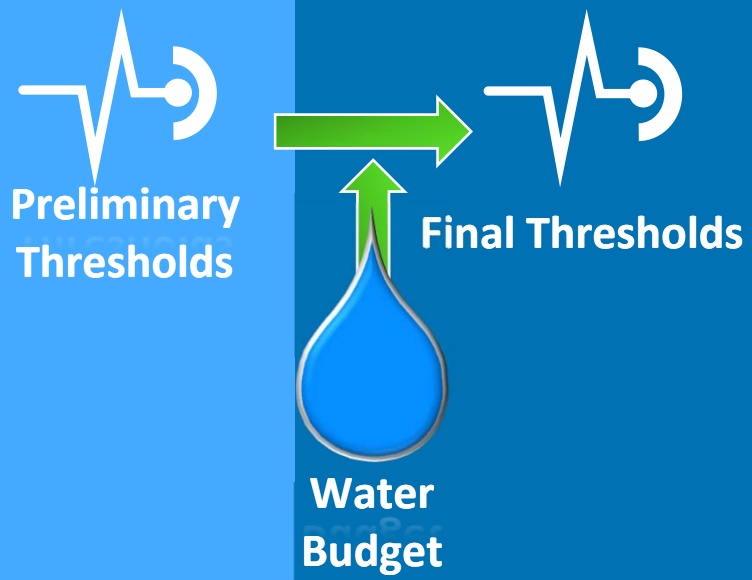

- Projected Water Budget will be used to understand average sustainable pumping rates basin-wide
- Projects and Management Actions need to be identified to include supply and demand-side measures to achieve sustainability
- Depending on rate of project implementation, groundwater elevation thresholds may need to be adjusted

Rate of Plan Implementation May Necessitate Changes in GW Elevation Thresholds

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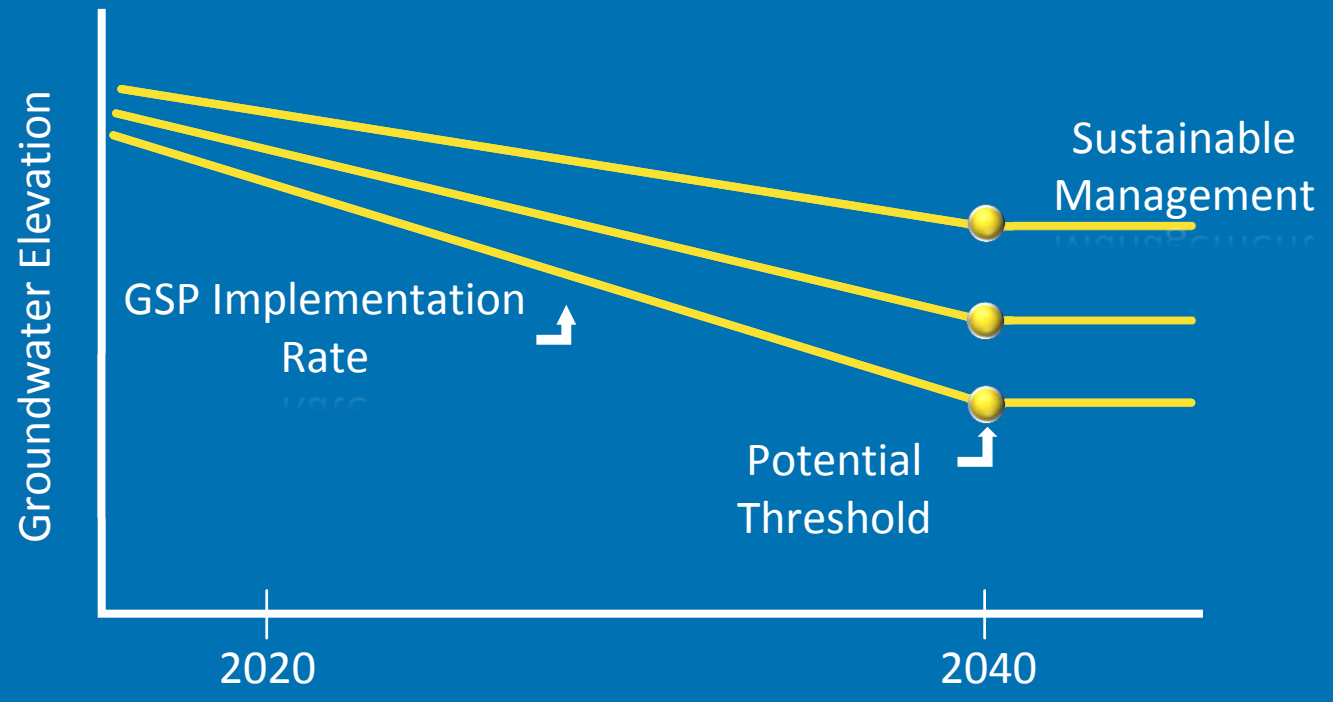

Projected Water Budget

Water Budget: Defining Time Frames

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Historical

Uses historical information for hydrology, precipitation, water year type, water supply and demand, and land use going back a minimum of 10 years.

Current Conditions

Holds constant the most recent or “current” data on population, land use, year type, water supply and demand, and hydrologic conditions.

Future Conditions

Uses the future planning horizon to estimate population growth, land use changes, climate change, etc.

Projected Conditions
Baseline Assumptions

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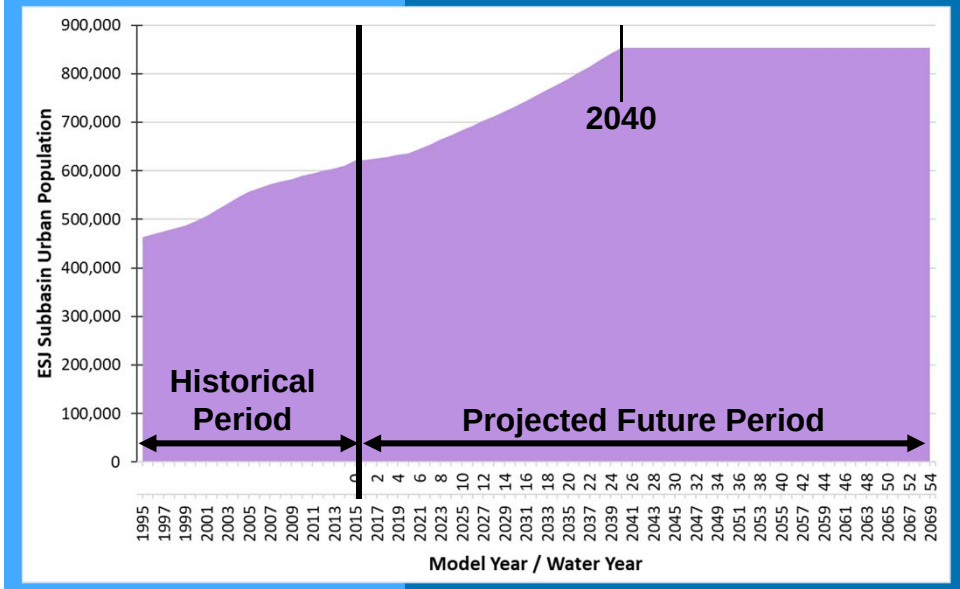
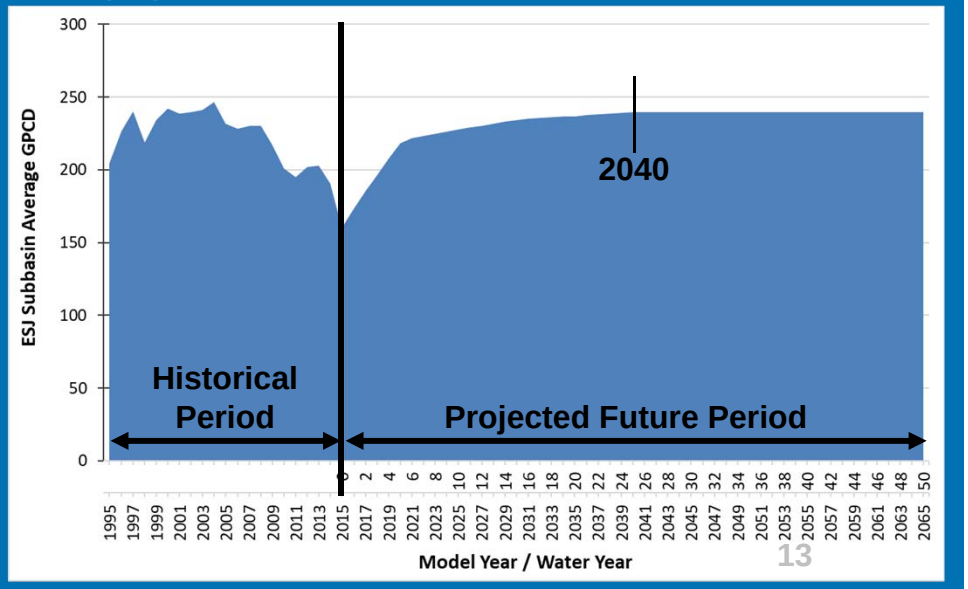
Urban Demand:

- Population growth based on San Joaquin Council of Governments
- Urban Demand growth based on data from agencies (UWMPs)
- GPCD calculated based on population and demand





Projected Conditions Baseline L&WU: Urban Water Use

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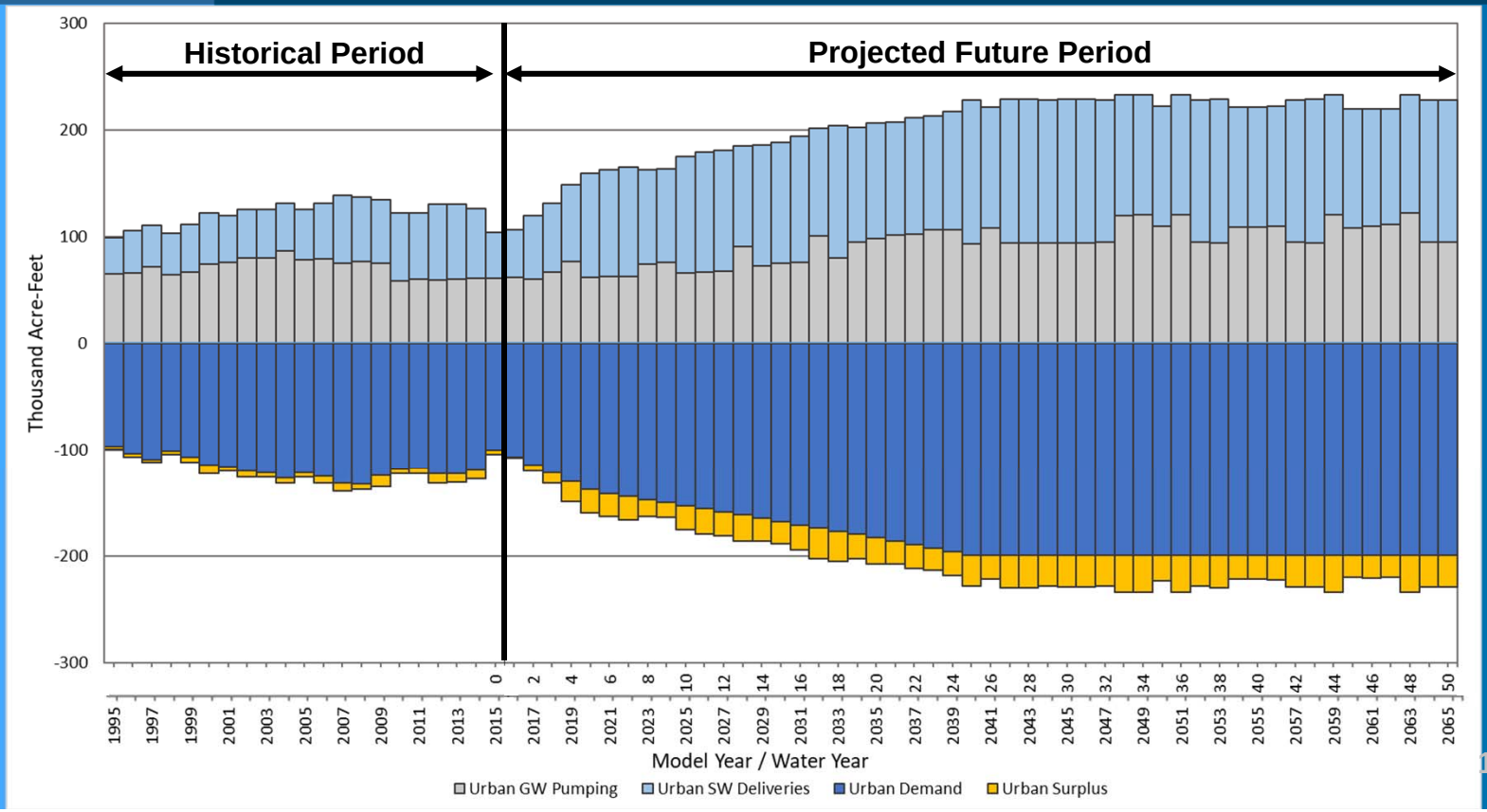

Projected Conditions
Baseline Assumptions

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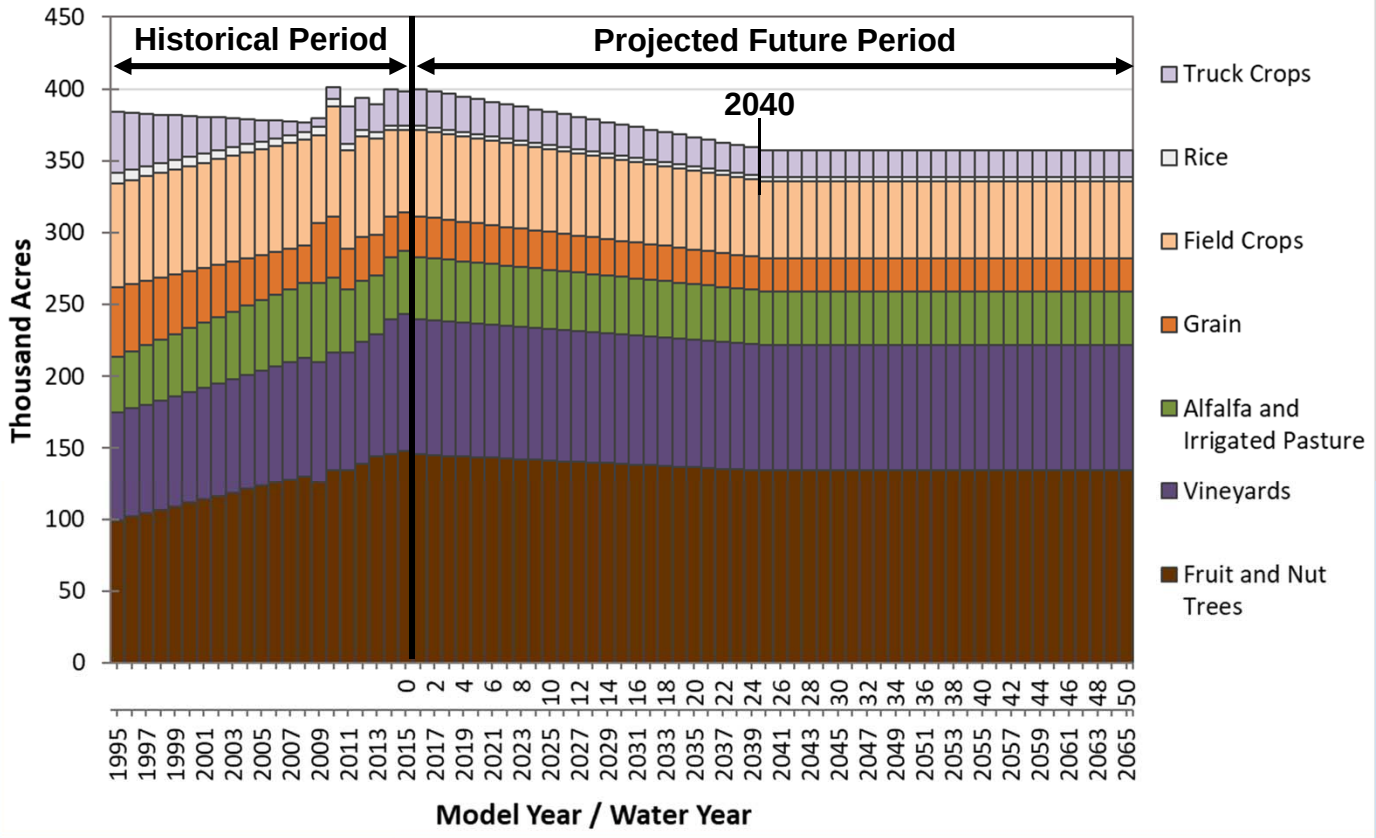
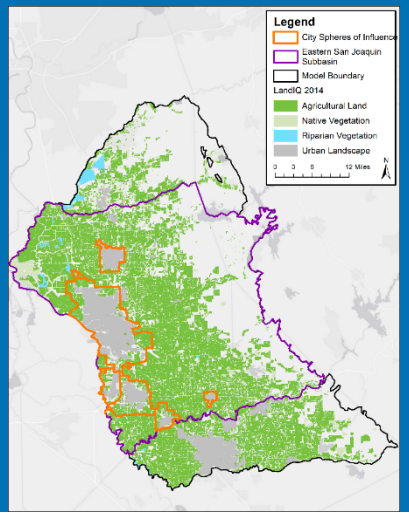


- Land Use and Cropping Pattern: 2014 DWR (LandIQ)
- Urban growth at SOI



Projected Conditions Baseline L&WU: Agricultural Water Use

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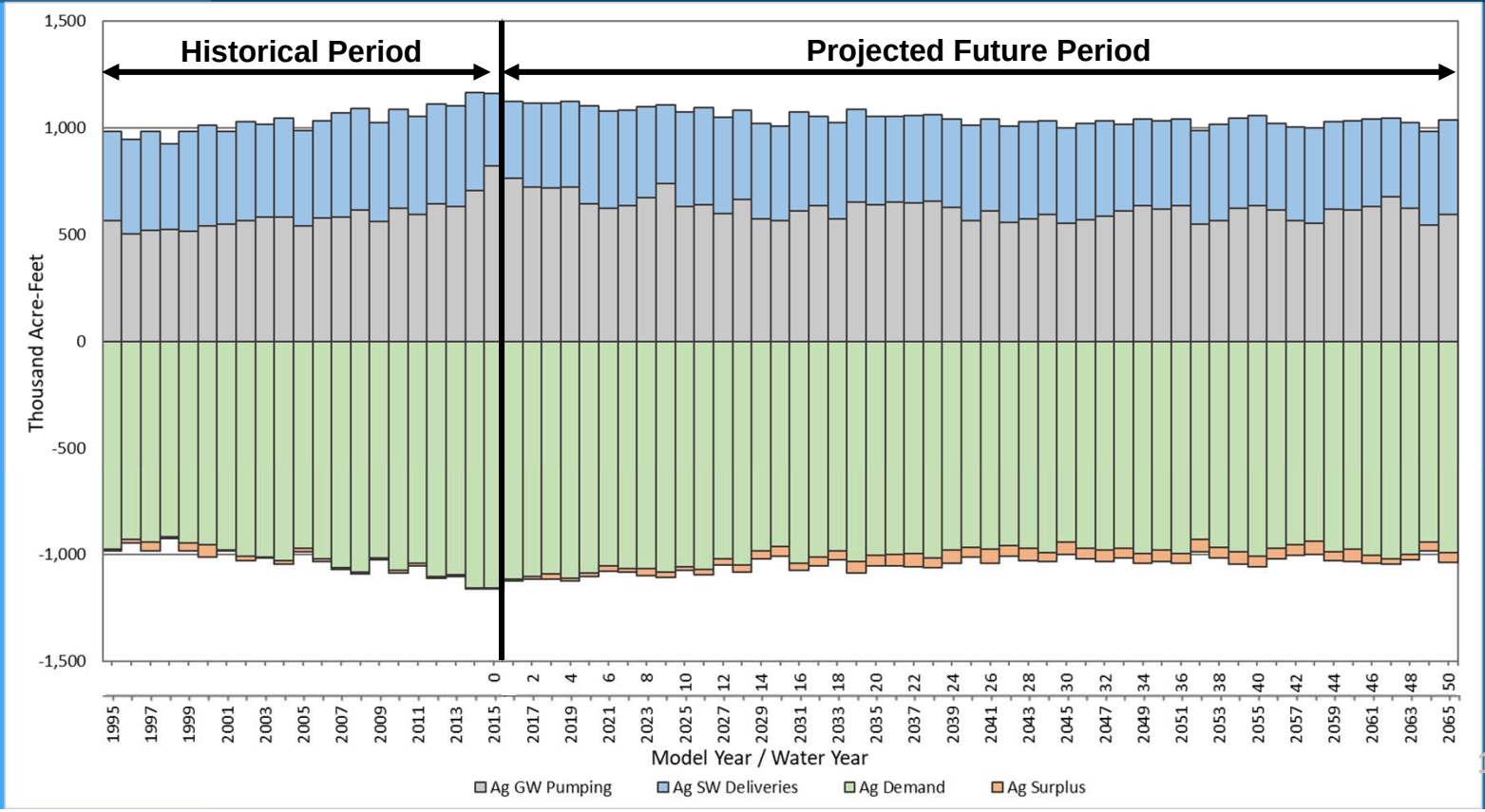

Projected Conditions Baseline Groundwater Budget

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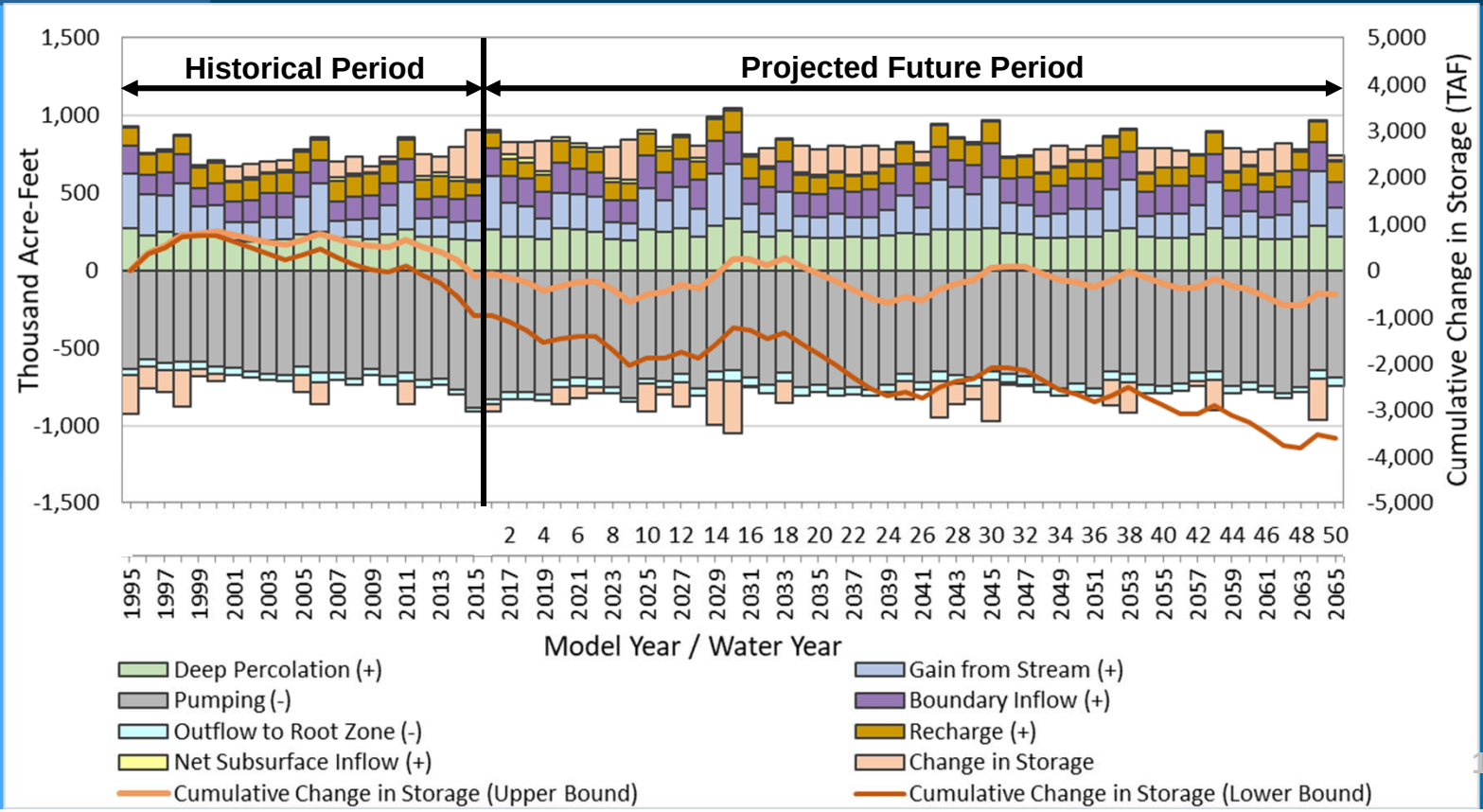

Projected Conditions Baseline Groundwater Budget

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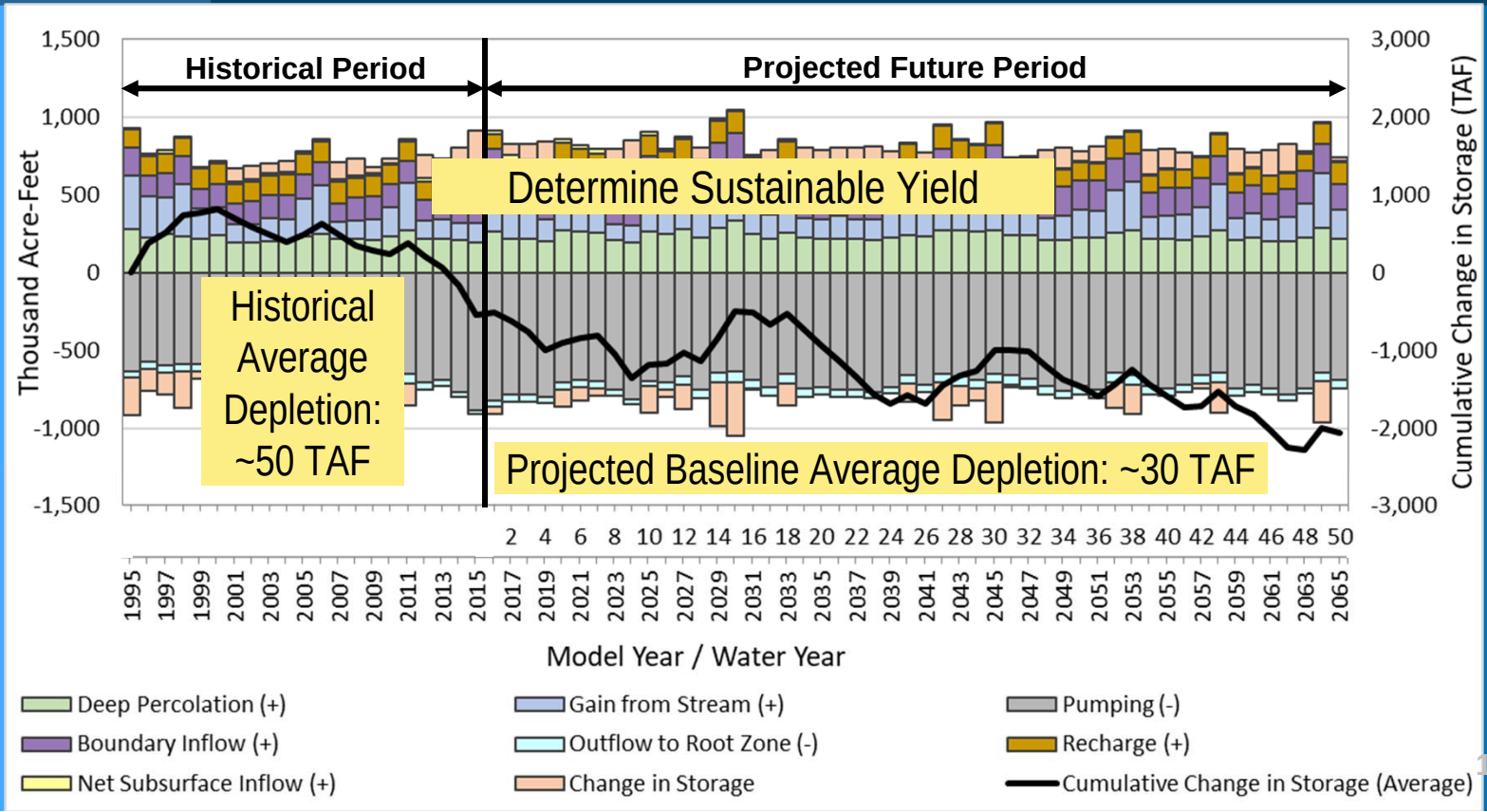


Sustainable Yield

What is Sustainable Yield?

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"Sustainable yield means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result."

California Water Code Section 10721

Sustainable Yield Actions

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Demand-side sustainability actions:

- Reduce agricultural and urban GW use to achieve sustainability

Supply-side sustainability actions:

- Identify project and management actions to achieve sustainability

Composite sustainability actions:

- Combination of demand-side and supply-side actions

Sustainable Yield Modeling Assumptions

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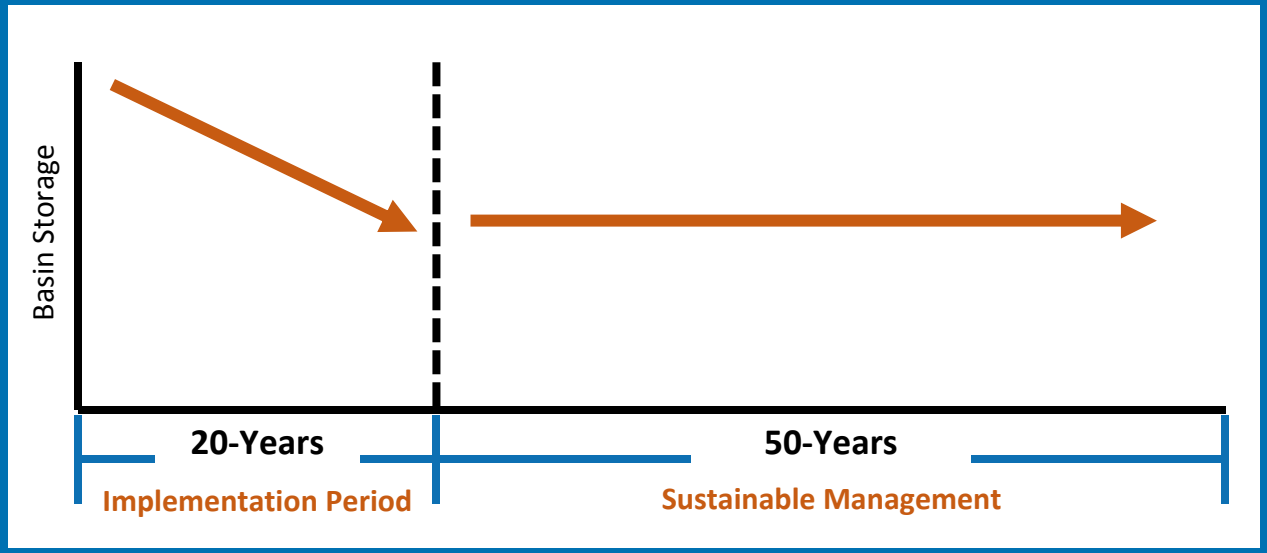
- Determine GW use reduction by 2040 to provide a soft transition to complete sustainability conditions



Sustainable Yield Modeling Assumptions

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Land Use and Cropping Pattern:

- Lower groundwater production through reduced agricultural acreage/demand

Urban Demand:

- Reduce urban GPCD

*Same reduction between ag and urban demand

Sustainable Yield Land and Water Use Budget

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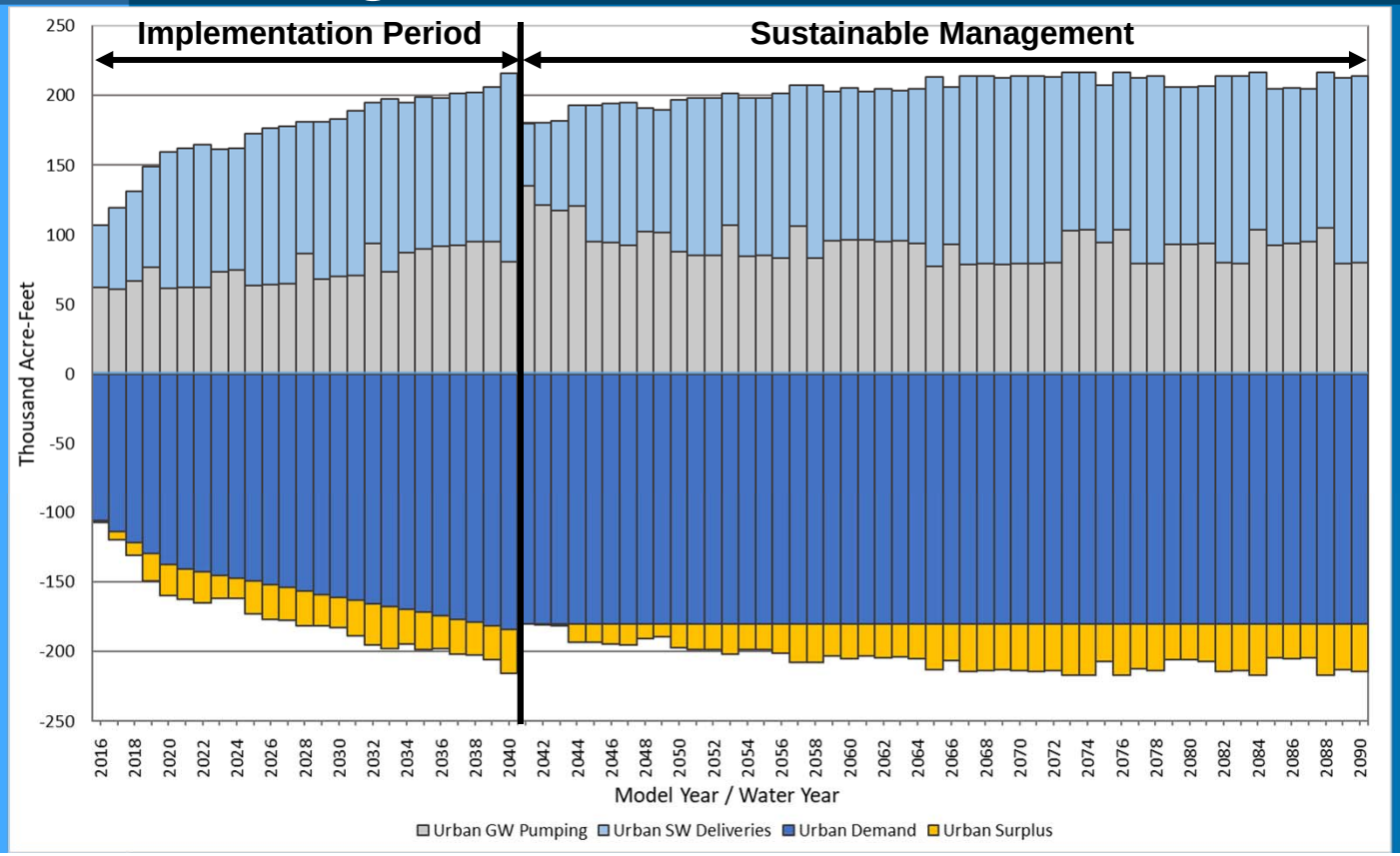

Sustainable Yield Land and Water Use Budget

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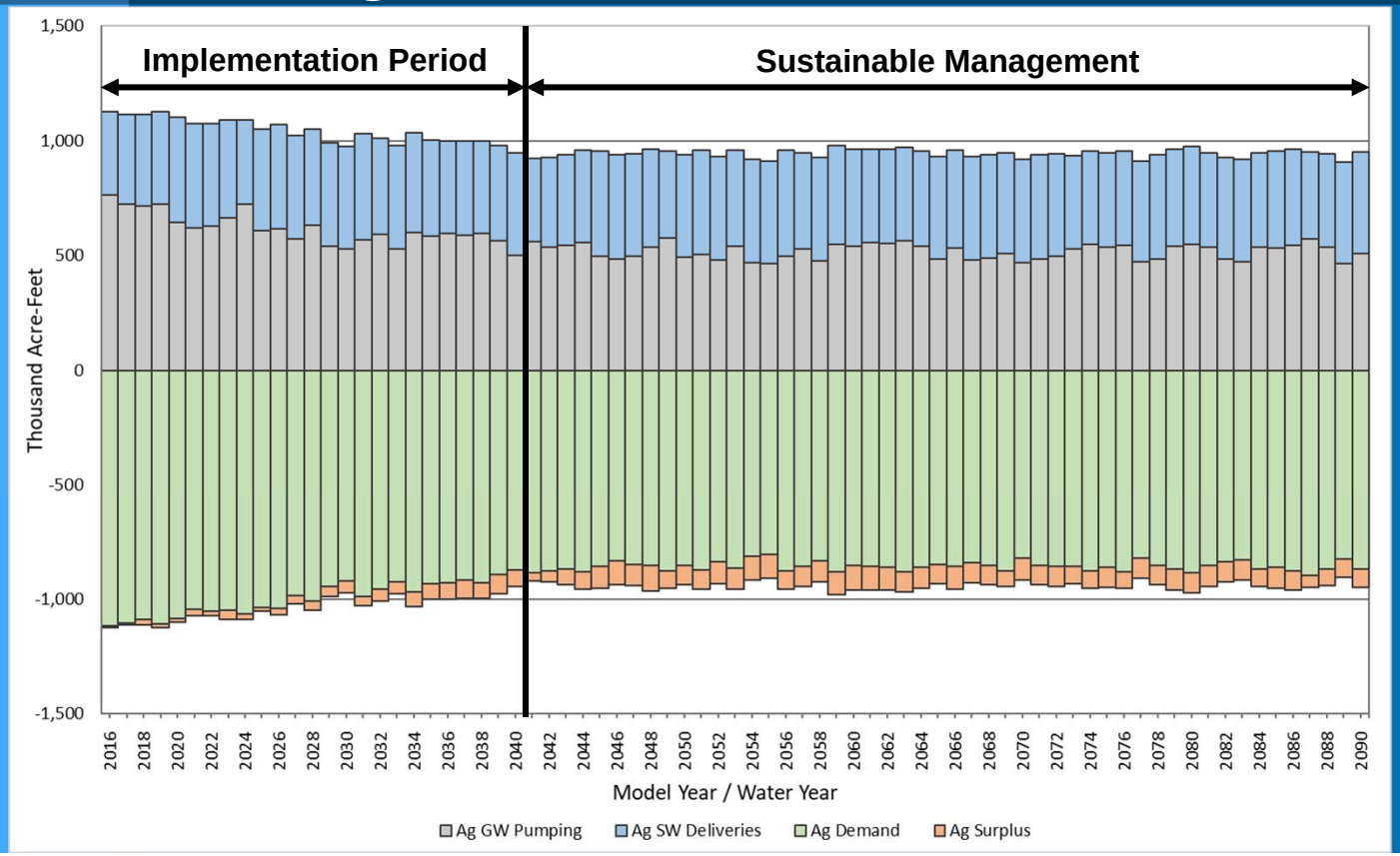

Sustainable Yield Groundwater Budget

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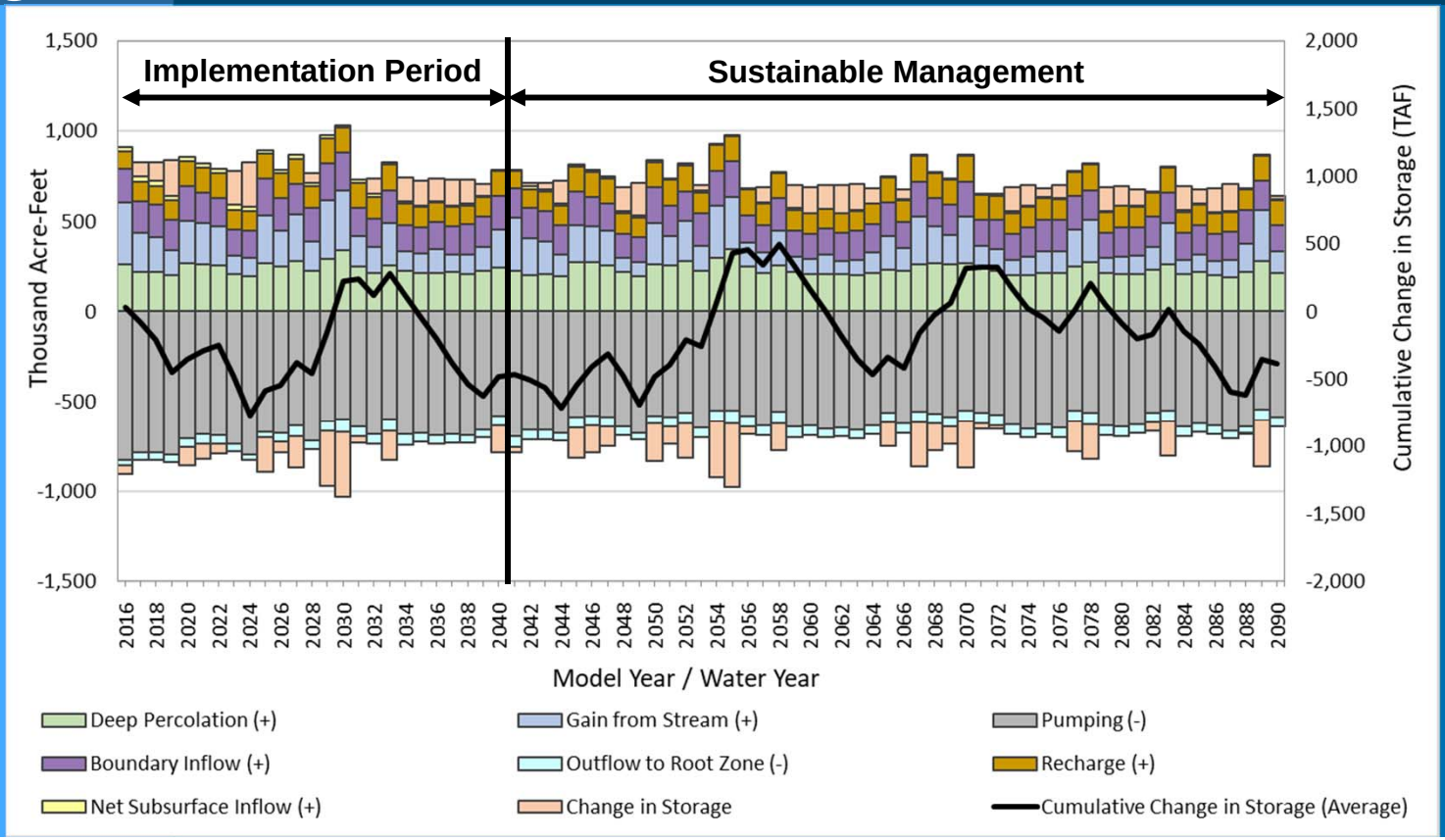

Sustainable Yield Results

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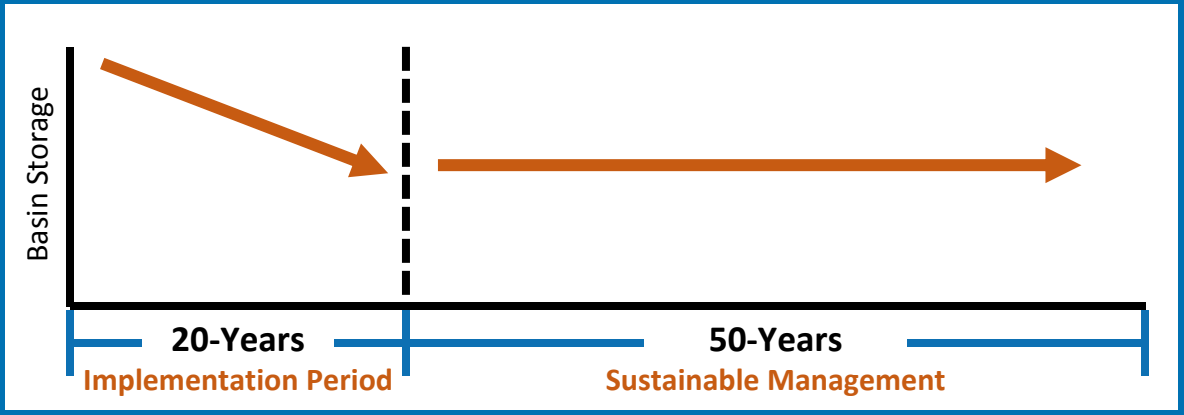
- Operations assume up to approximately 12% reduction in GW use through 2040
- To maintain sustainability, long-term GW use to be reduced by approximately 12-15%



Impacts of Sustainability

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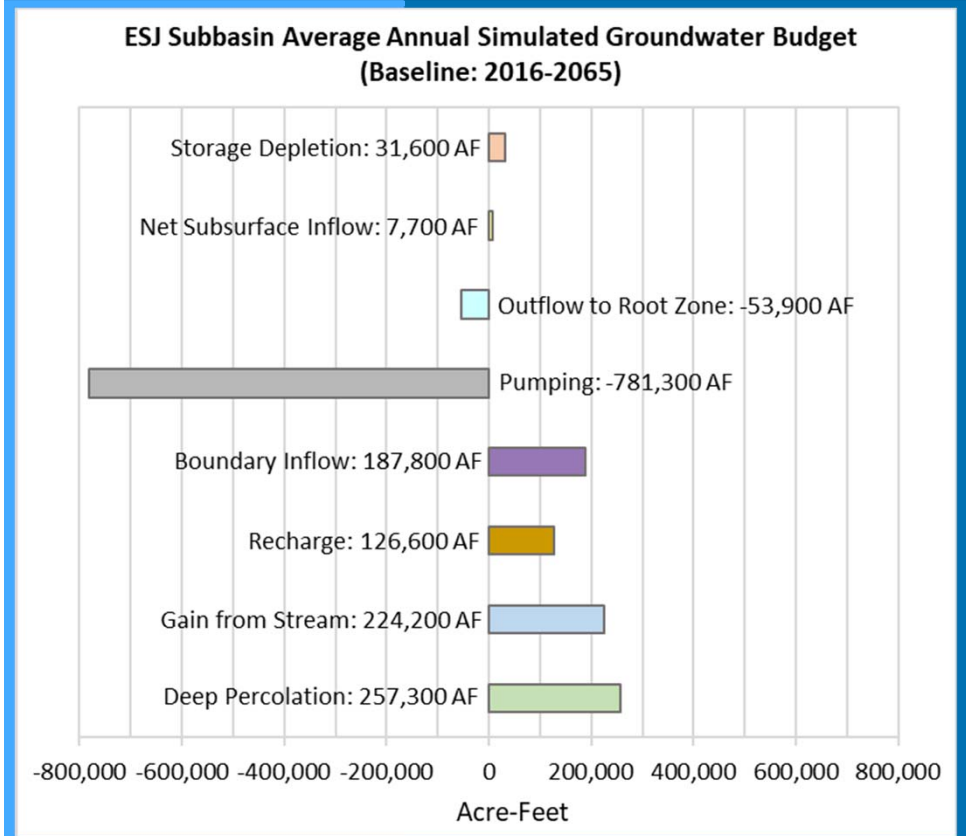

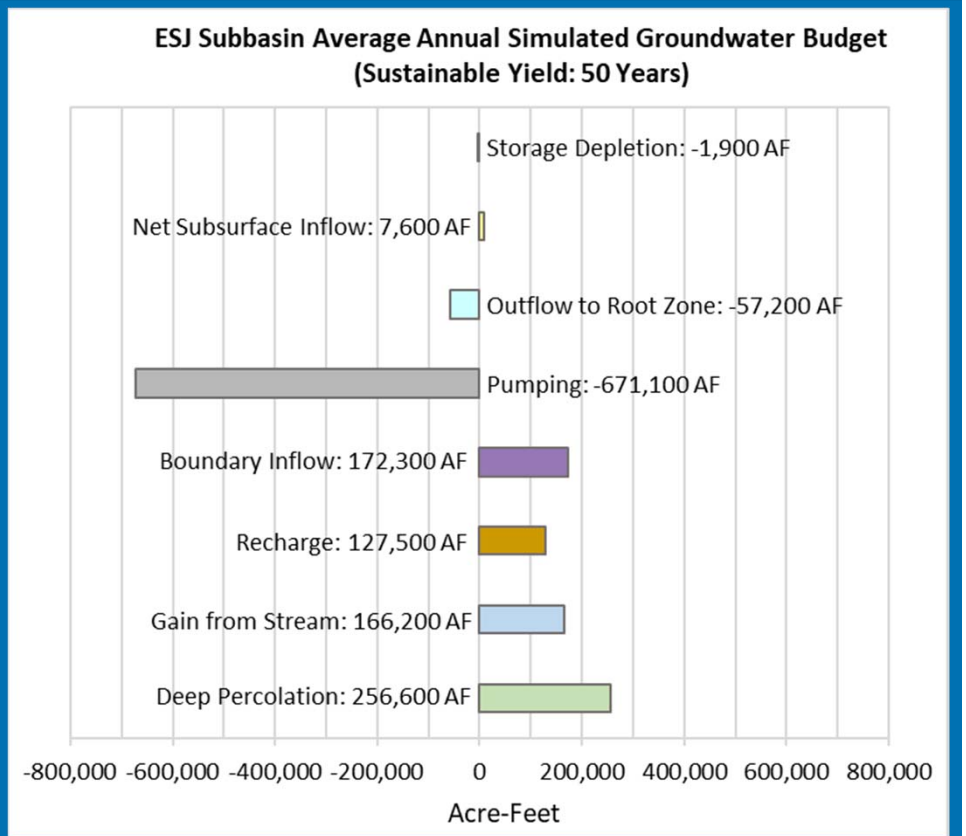

Next Steps for Sustainable Yield

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Supply-side sustainability actions:

- Identify project and management actions to achieve sustainability

Projects and Management Actions

Approaches to Meeting Sustainable Yield

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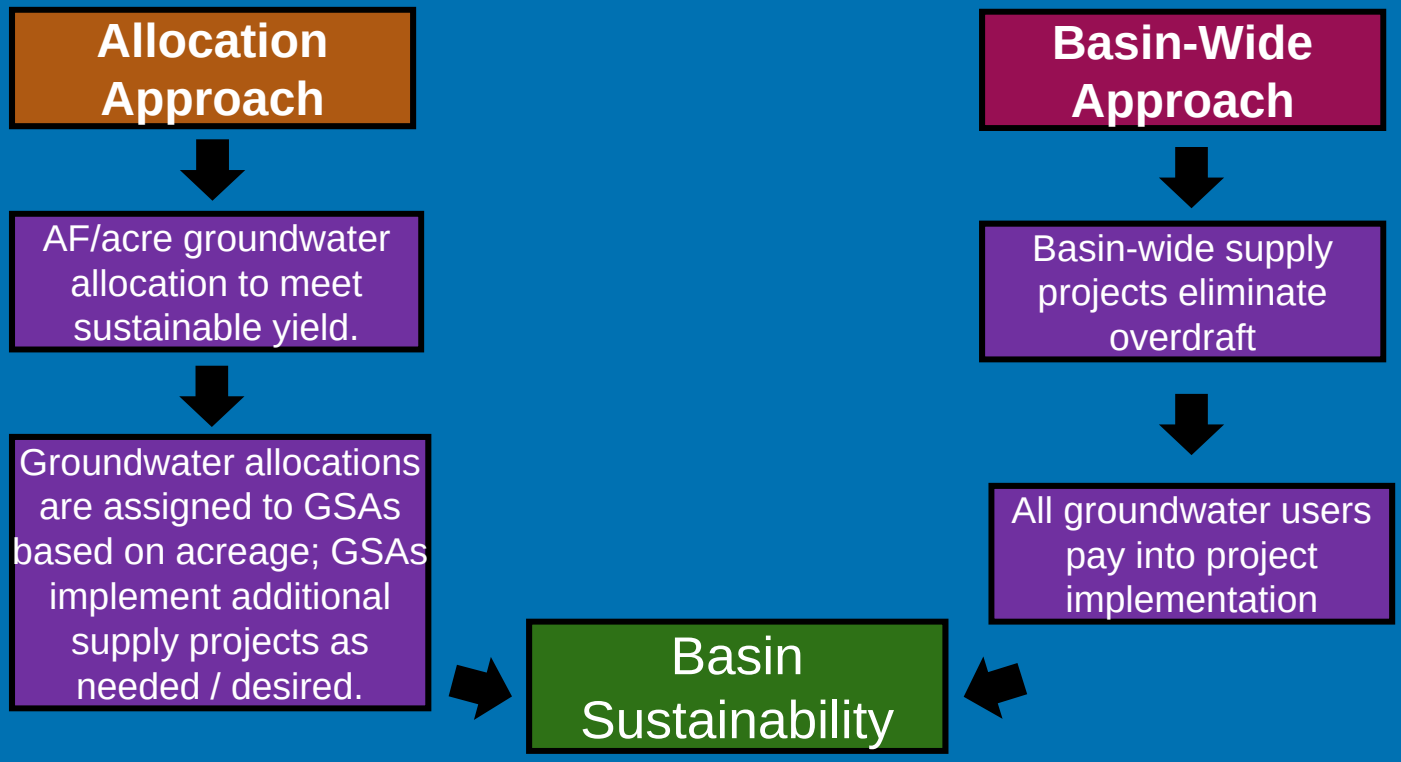

Comparison of Approaches

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	Pros	Cons
Allocation Approach	• Standardized approach • Clear cut limits on pumping	• Metering needed • Pumping limitations may be significant in some areas • More GSA oversight required
Basin-Wide Approach	• May be more cost-effective • Could be scalable • Well positioned for outside funding • Preserves flexibility	• Projects must be economically feasible

Approach

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Today: Initiate discussion on and establish framework for Projects and Management Actions

Next Month: Project and Management Actions Workshop following Board Meeting on October 10th

- Brainstorming session with GSAs to meet and discuss potential future projects and management actions
- Identify project types and areas of benefit
- Identify potential management actions and associated areas of application (Basin-wide or by GSA)

What Information is Needed?

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Project Details:

- Size
- Location
- Timeline
- Estimated Cost (Capital and O&M)
- Status of Design
- Permitting and Funding
- Project Partners and Beneficiaries Identified

Categories of Projects and Management Actions

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- Flood/Stormwater Management
- Recycling
- Conservation
- Recharge
- Transfers

Examples of Projects and Management Actions

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- Intra-basin transfers (water transfers to Stockton East, Central San Joaquin)
- Non-potable supply projects
- Conservation
- Potential ordinances
- Fallowed land program
- Groundwater markets

October Agenda Items

October Advisory Committee Topics

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

- Projects and Management Actions


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GWA Advisory Committee
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