




The meeting teleconference will begin shortly

Listen to the meeting by using your computer or tablet speakers
or by calling **(877) 853 5247** using meeting ID **979 215 700**

View the live meeting presentation at <https://us02web.zoom.us/j/979215700>

Public comments, suggestions or questions regarding technical issues may be
emailed to comments@sbumwd.com



Please use the chat feature in the Zoom toolbar to let the moderator know that you would like to make a comment during the meeting or use the digital “raise hand”  function in Zoom.



Please mute your microphone during the meeting to reduce background noise. Click on the microphone icon to unmute your microphone if needed.



Call to Order

Board of Directors Workshop - Resources
Thursday, August 6, 2020

Chairperson – Director Hayes
Vice-Chair – Director Harrison



Introductions

Following the introduction of Directors and District staff, participants may use this time to state their name and agency/affiliation in order to be included in the formal record of attendees.

Public Comment

Any person may address the Board on matters within its jurisdiction.

- *Please use the chat feature on the Zoom toolbar or digitally raise your hand to let the moderator know you would like to make a comment.*



Summary of Previous Meeting (Pg. 3)

Board of Directors Workshop – Resources - July 2, 2020



Discussion Item 4.1 (Pg. 6)

Bob Tincher, PE, MS – Deputy GM/Chief Water Resources Officer

Results of Study to Estimate the Usable Groundwater Storage of the Arlington, Rialto-Colton, Riverside and San Bernardino Groundwater Basins

Staff Recommendation
Receive and file.

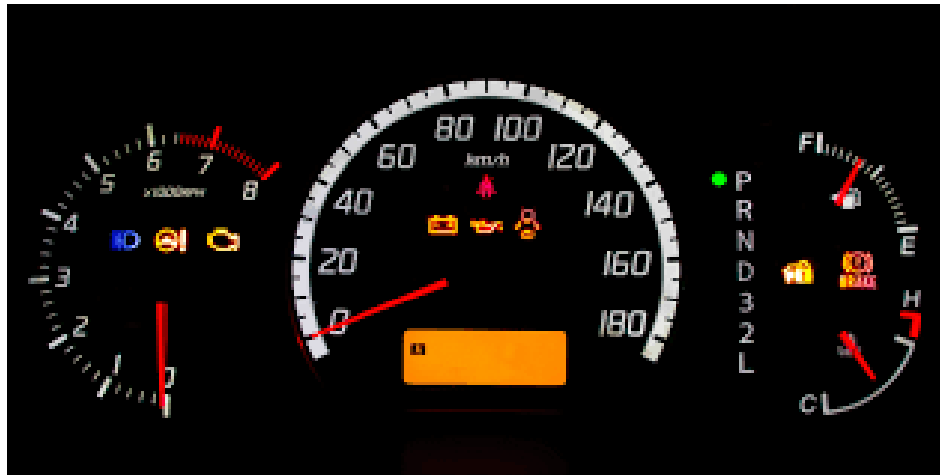


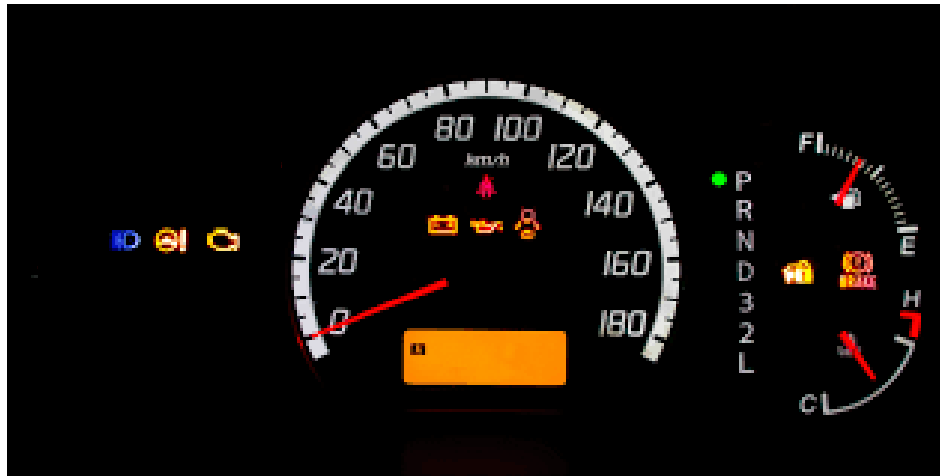
GEOSCIENCE

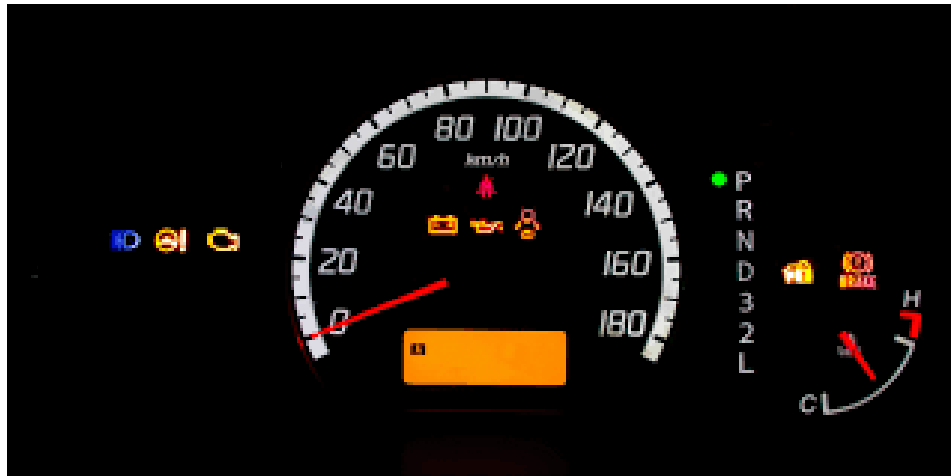
Usable Groundwater in Storage Estimation for the San Bernardino, Rialto-Colton, Riverside, and Arlington Groundwater Basins

August 2020

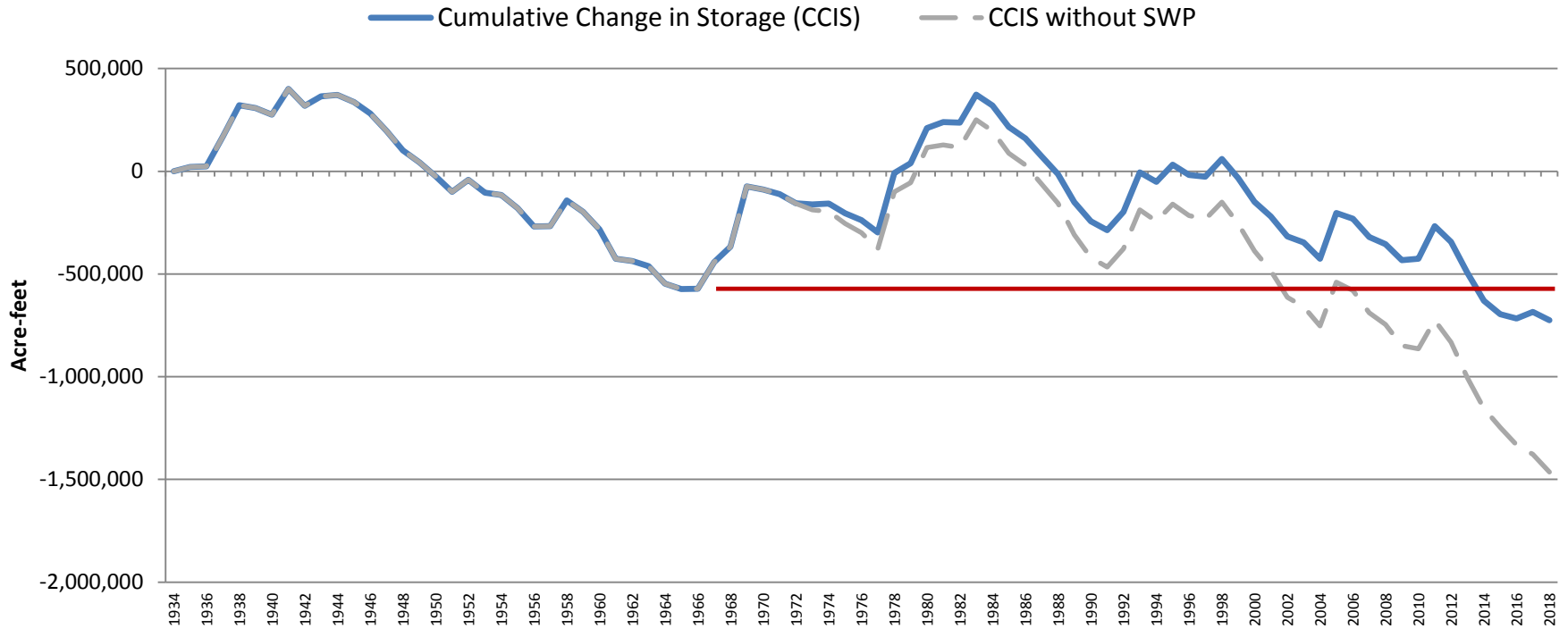








Cumulative Change in Storage for the SBBA with and without SWP Water



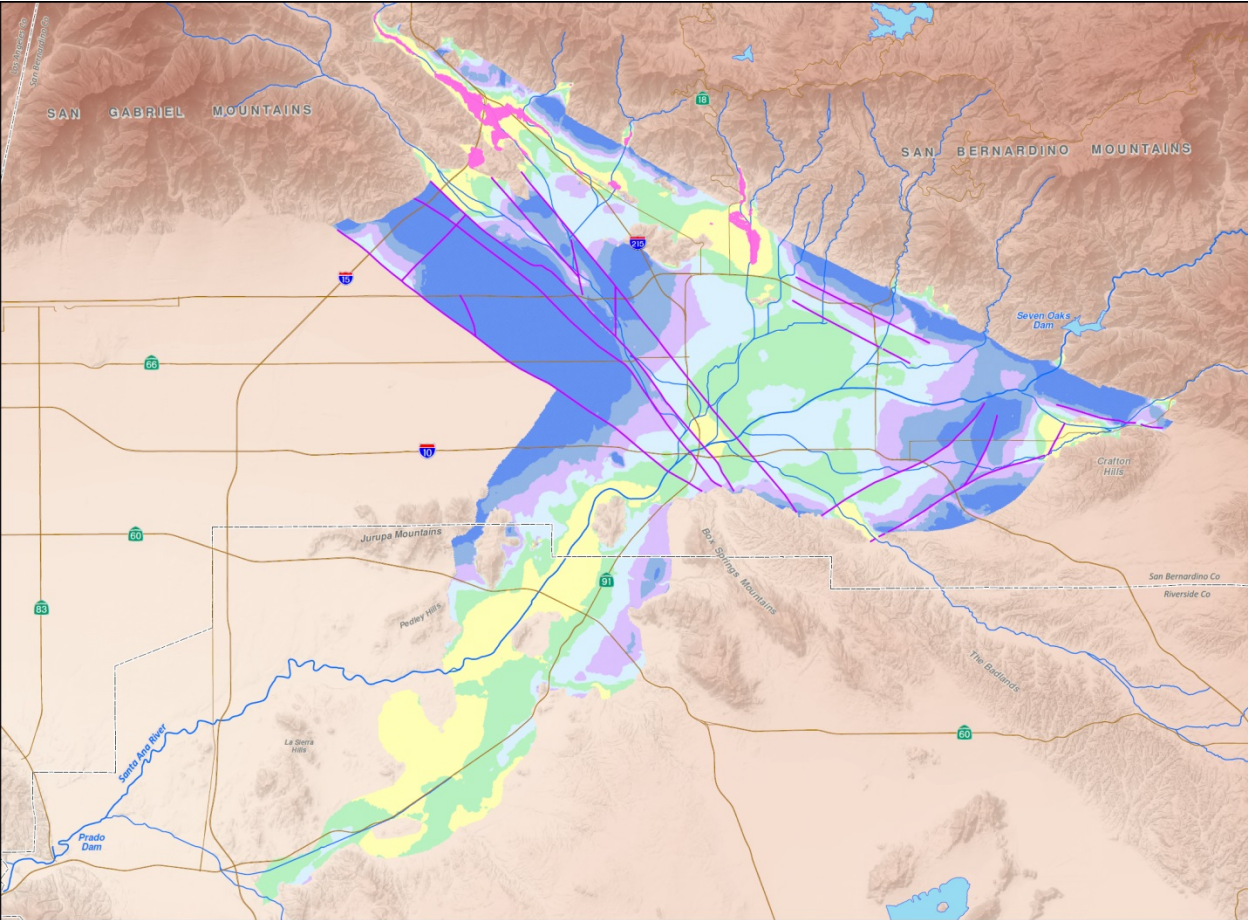
Total Usable Storage Study

- Estimate the Total Amount of Usable Storage
- Identify impacts of decreasing storage in extended drought
- Estimate the Amount of Groundwater That Can Be Extracted Using Existing Wells
- Identify Facility Needs, if Any, to Access Groundwater if Water Levels Decline
- Estimate the Number of Years of Groundwater in Storage

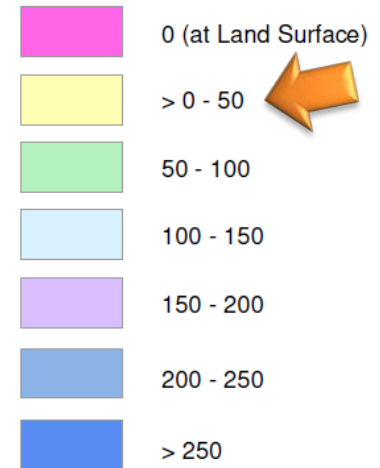
Total Usable Storage Study

- Estimate the Total Amount of Usable Storage
- Identify impacts of decreasing storage in extended drought
- Estimate the Amount of Groundwater That Can Be Extracted Using Existing Wells
- Identify Facility Needs, if Any, to Access Groundwater if Water Levels Decline
- Estimate the Number of Years of Groundwater in Storage

Depth to Water for Total Usable Storage Calculation



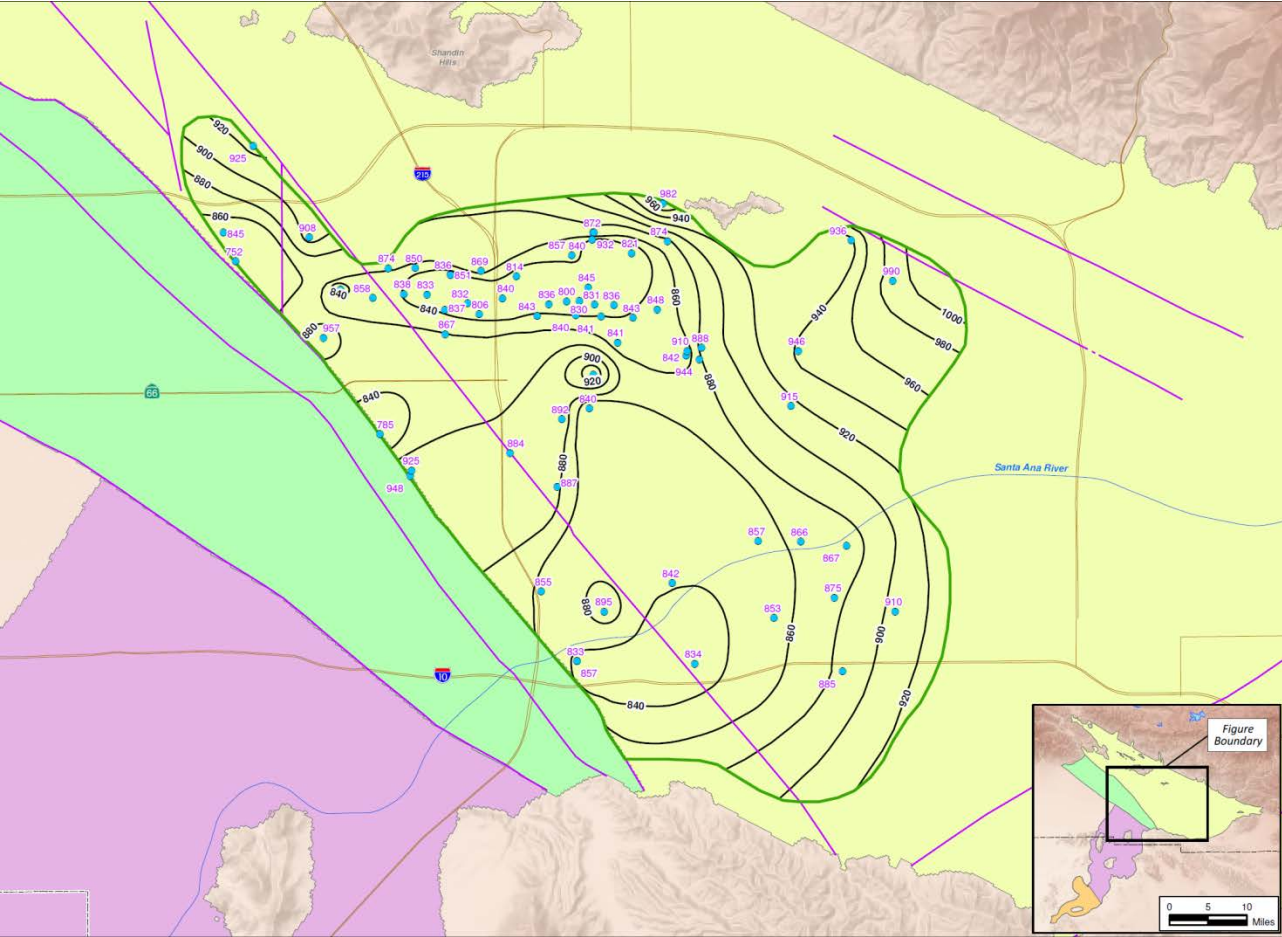
Depth to Water (ft, bgs)



Impacts of an Extended Drought

When Subsidence Risk Increases	When Low Yield Areas Stop Producing Water	When Wells Need to be Deepened	When Water for Habitat is Affected	When Water Levels Fall Below 1961 Decree Requirements	When Water Levels Fall Below 1969 Judgment Requirements
--------------------------------	---	--------------------------------	------------------------------------	---	---

Increased Subsidence Risk Elevation

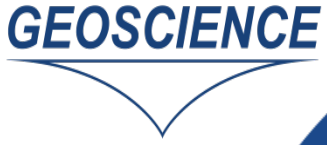


● 990 Control Point with the Lowest Historical Water Level Measurement, ft amsl (1966-2016)

— 800 — Increased Subsidence Risk Elevation in Area of Historical Subsidence, ft amsl

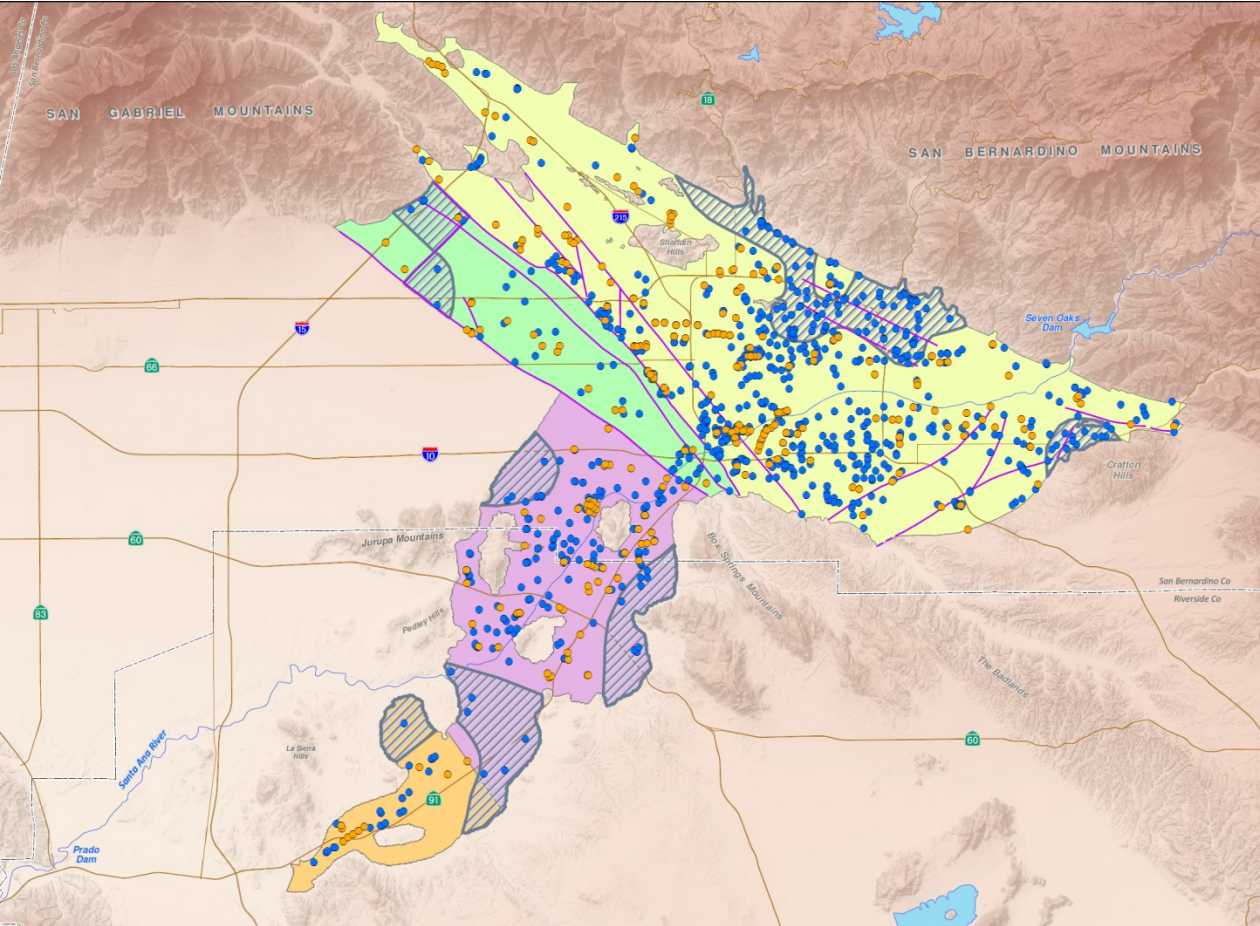
— Groundwater Flow Barrier

▭ Pressure Zone



Lower Yield Zones

“Fringe Areas”



Annual Average Pumping, acre-ft/yr
(2012-2016)

● Production Below 100 acre-ft/yr

● Production Above 100 acre-ft/yr

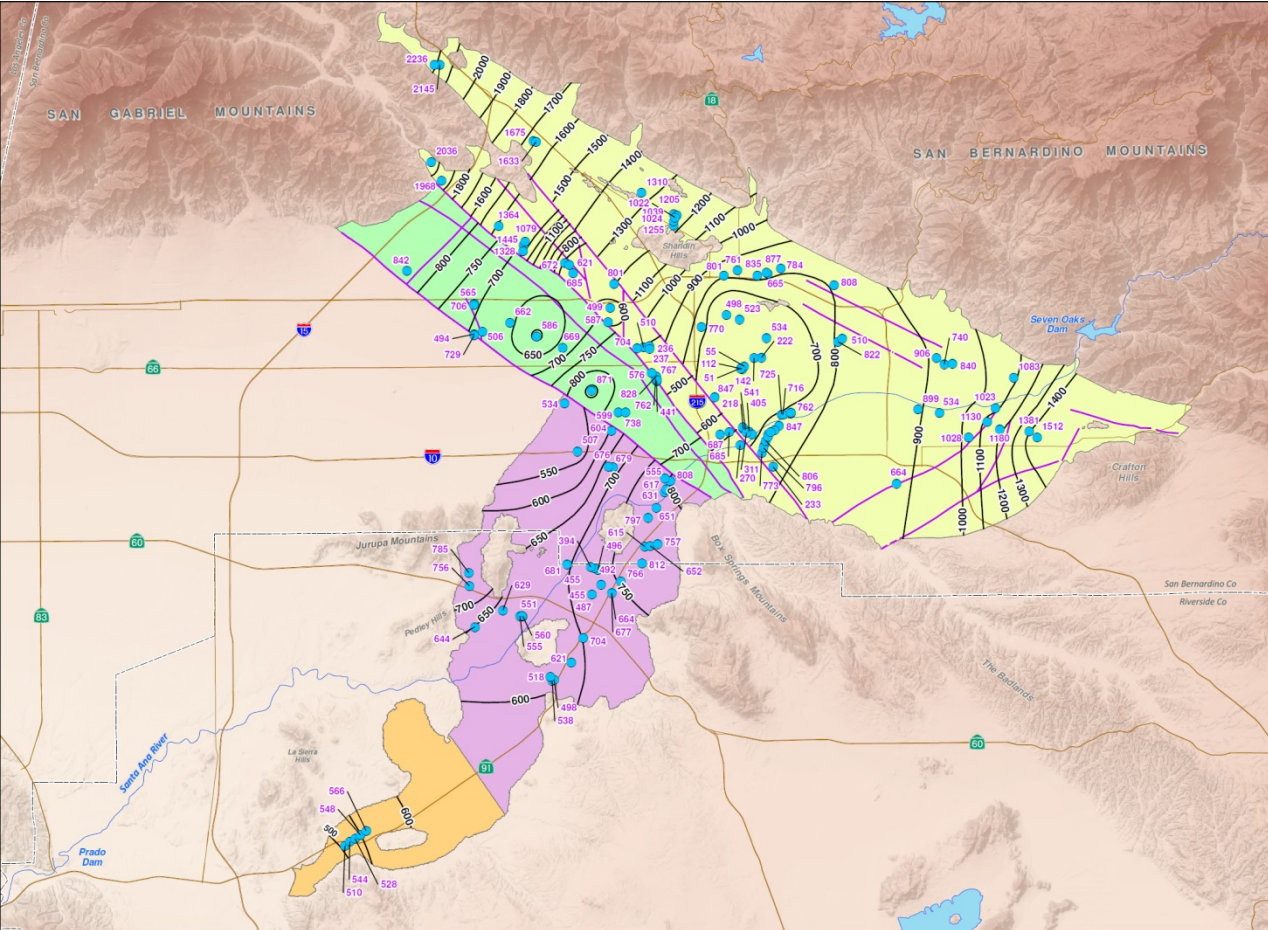


Area of Low Production Yield



Groundwater Flow Barrier

Well Deepening Elevation

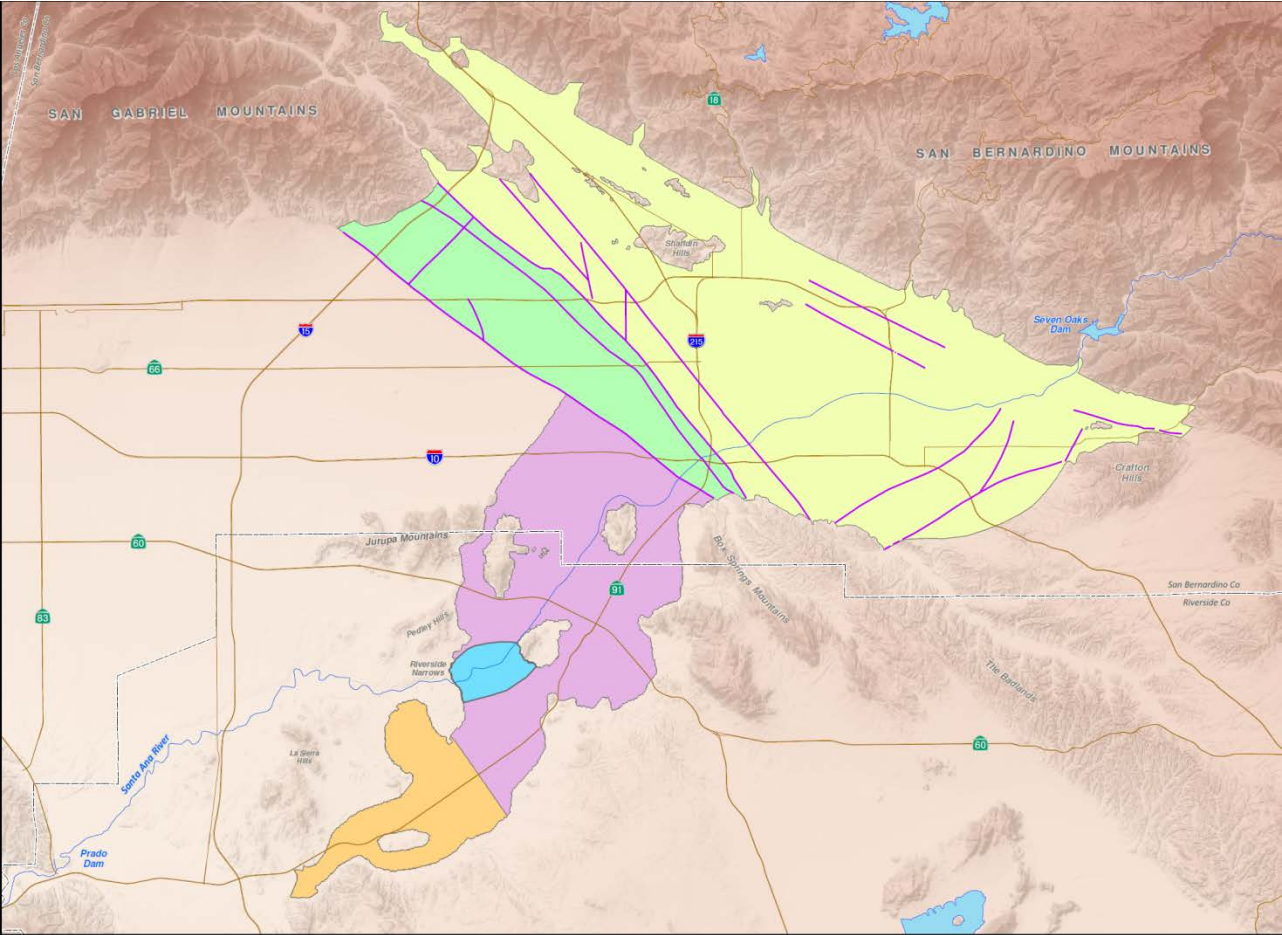


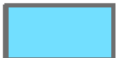

973 — Calculated Well Deepening Elevation, ft amsl
● — Pumping Well Above 250 gpm (Average Pumping from 2012-2016)

— 800 — Well Deepening Elevation, ft amsl (When Wells Need to be Deepened)

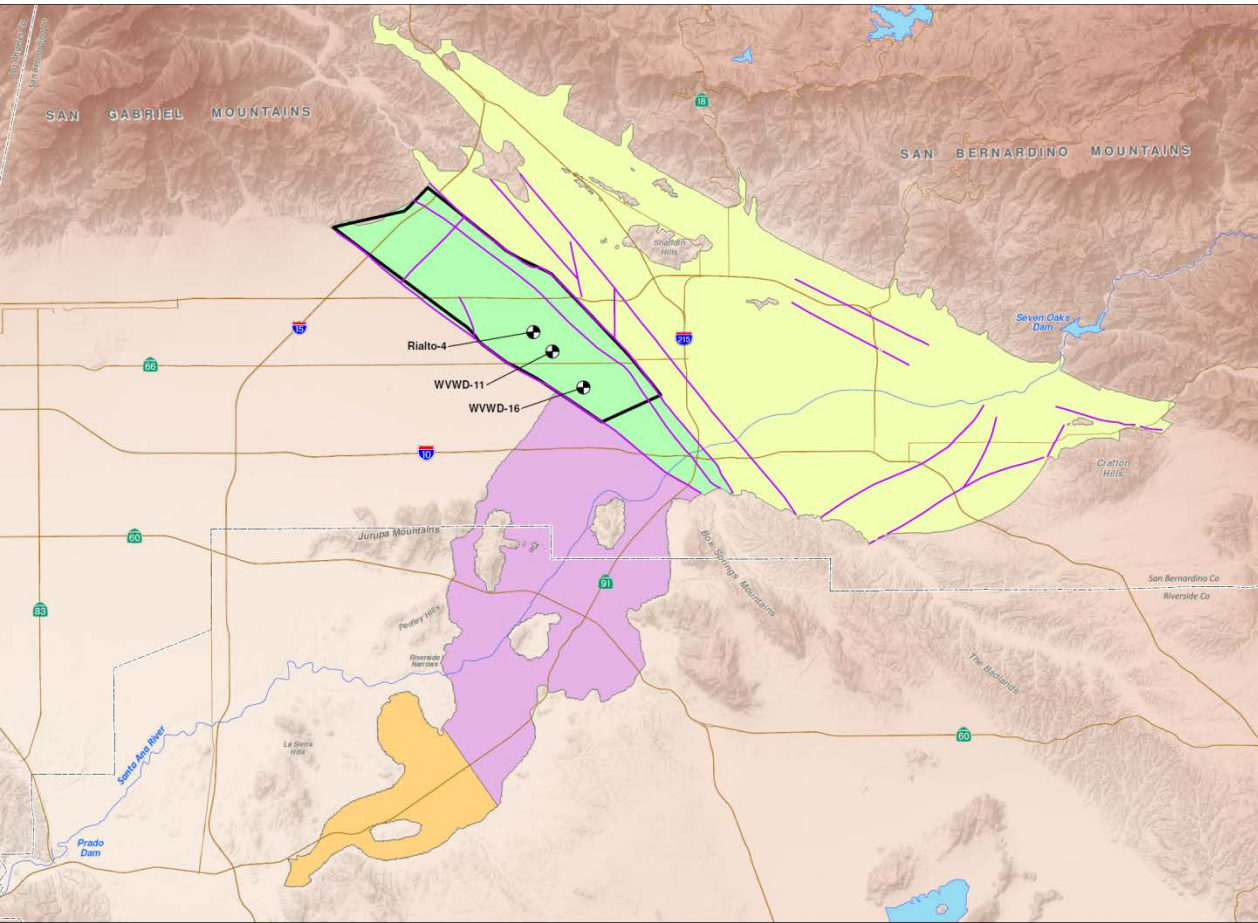
— Groundwater Flow Barrier

Area of Rising Water for Habitat




-  Area of Rising Groundwater
-  Groundwater Flow Barrier

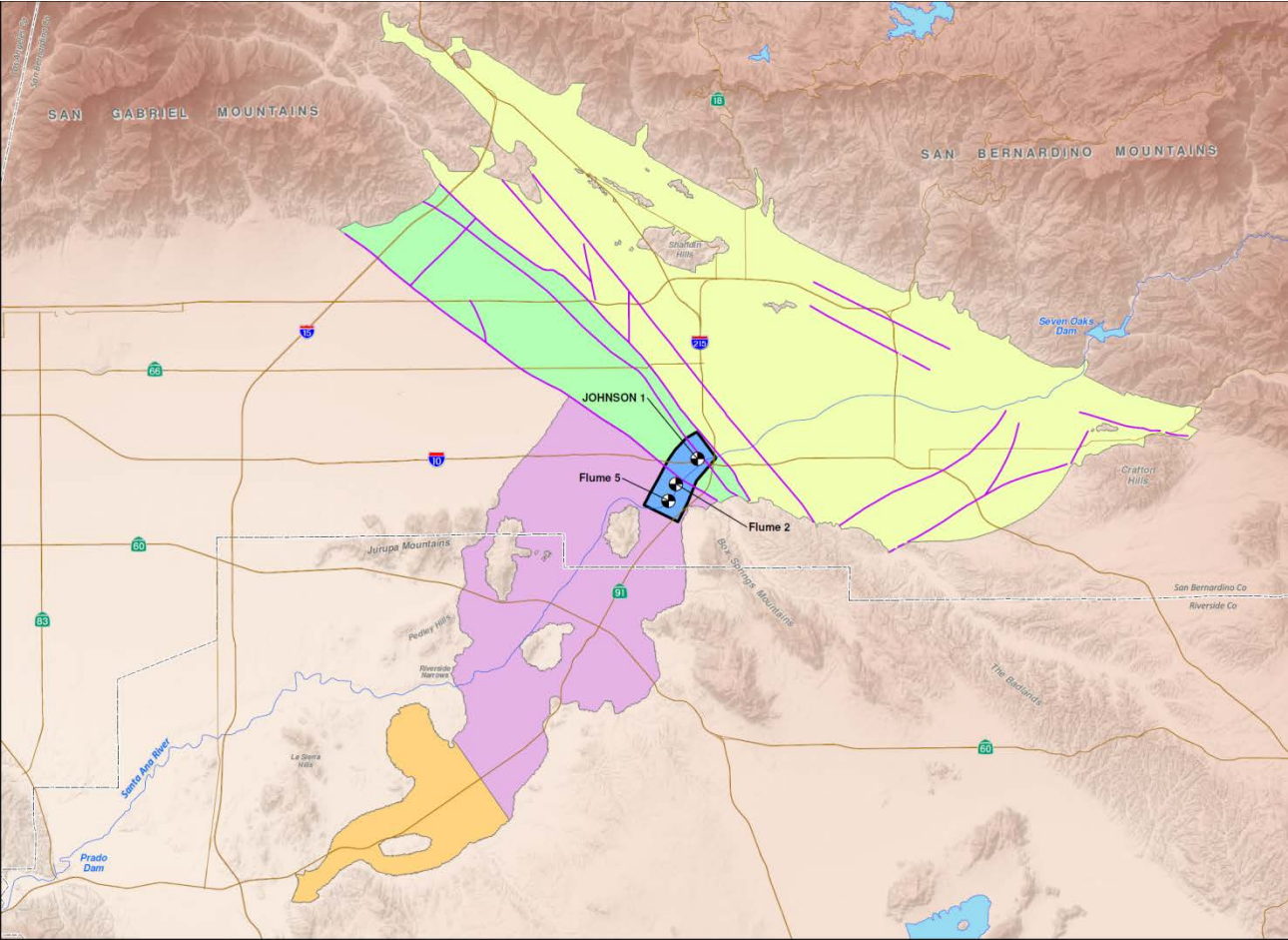
1961 Rialto Basin Decree Boundary



 1961 Rialto Basin Decree Index Well

 1961 Rialto Basin Decree Boundary

1969 Western Judgment Index Wells

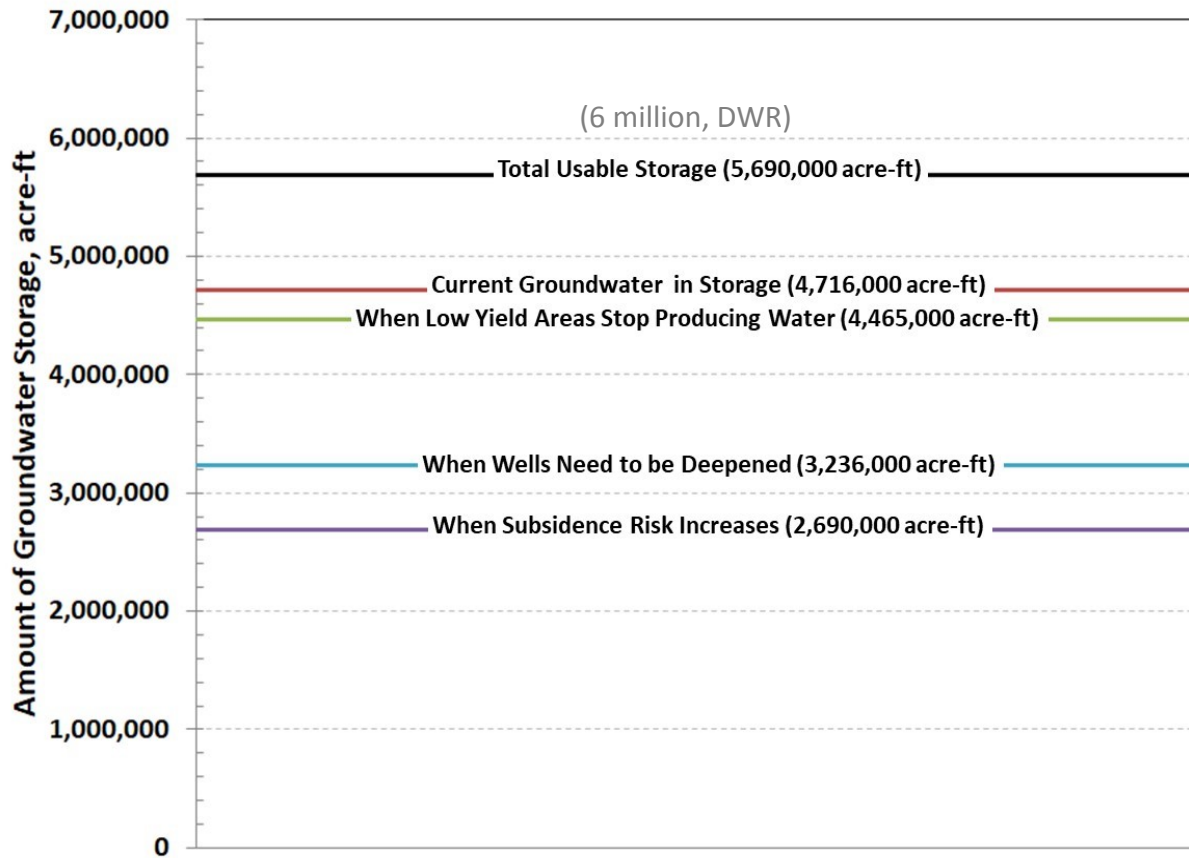


1969 Western Judgment Index Well

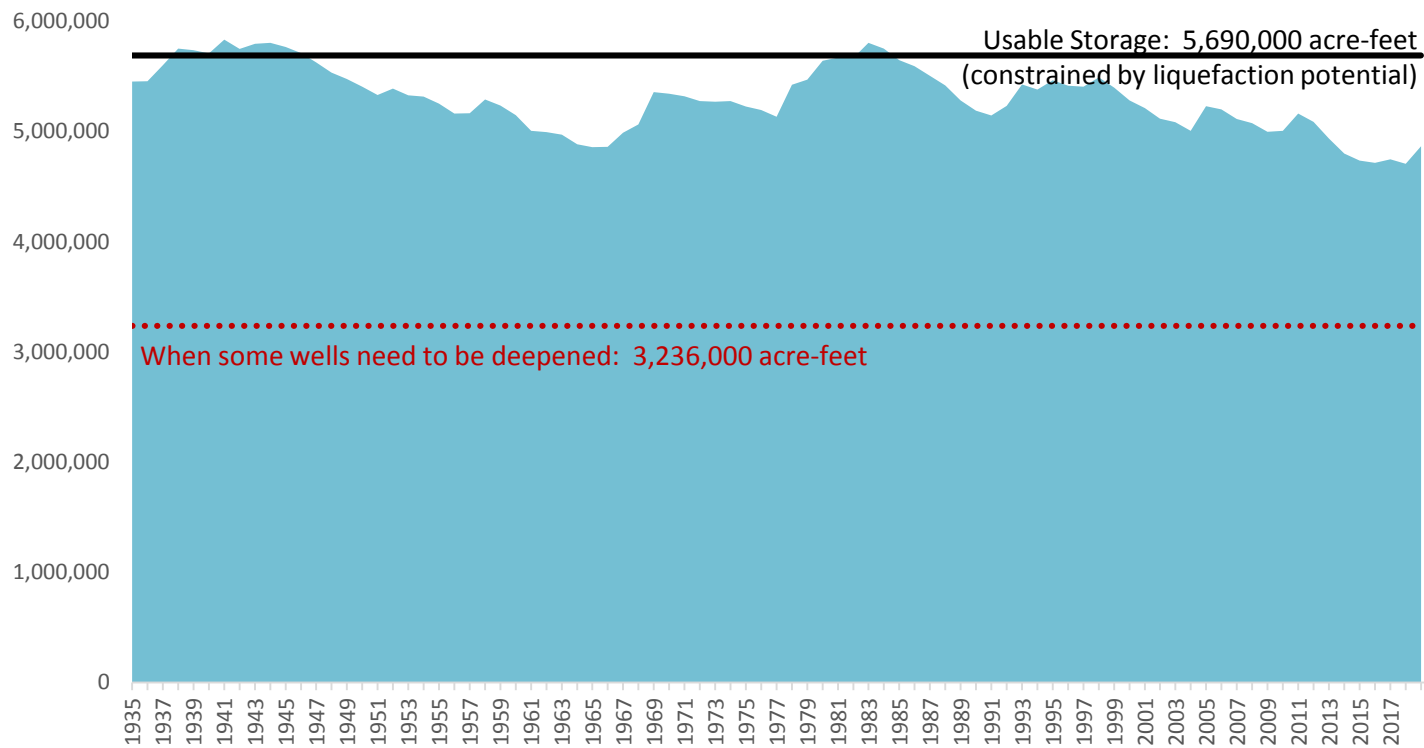


Area of Index Wells for 1969 Western Judgment

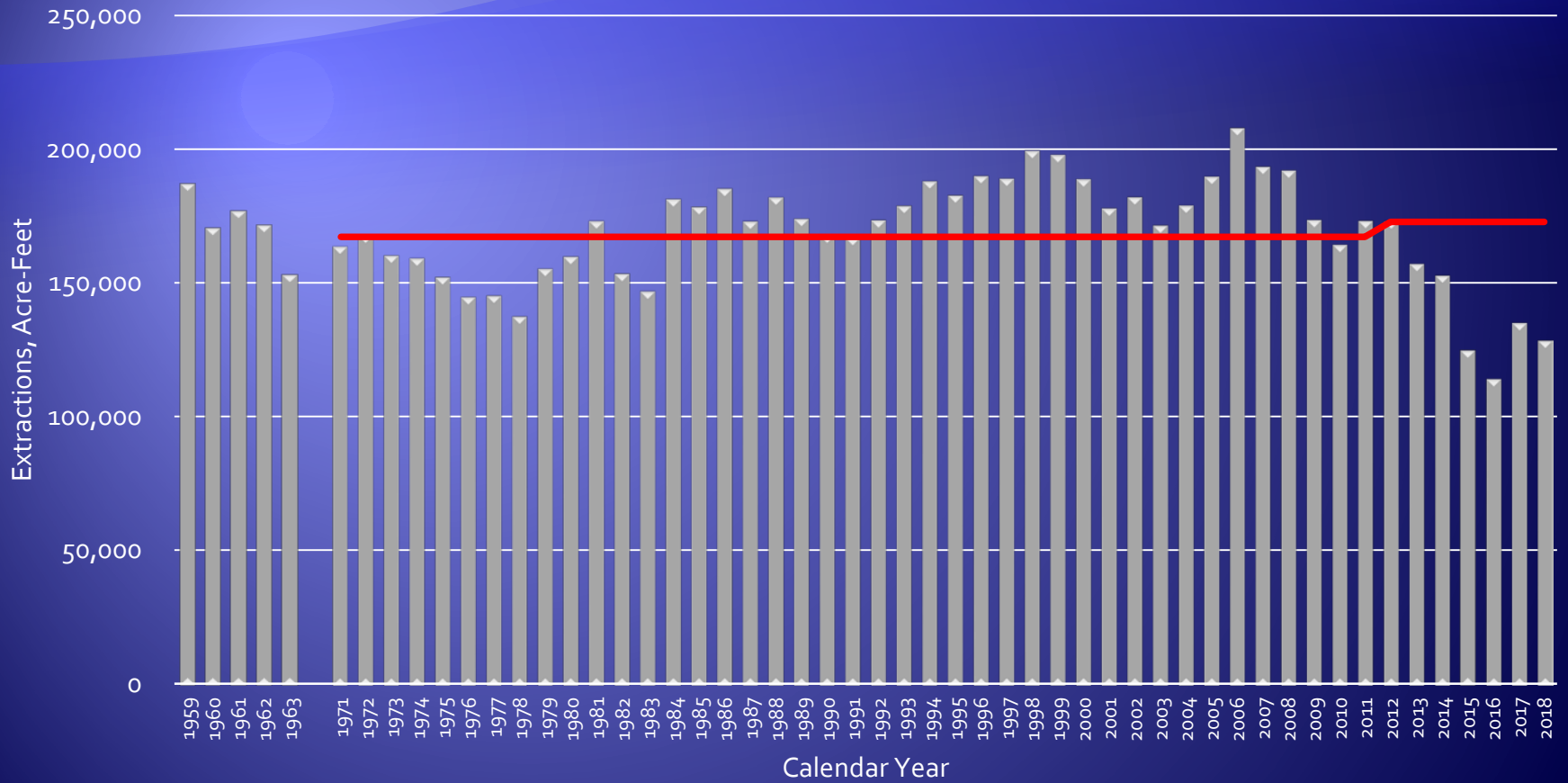
San Bernardino Basin



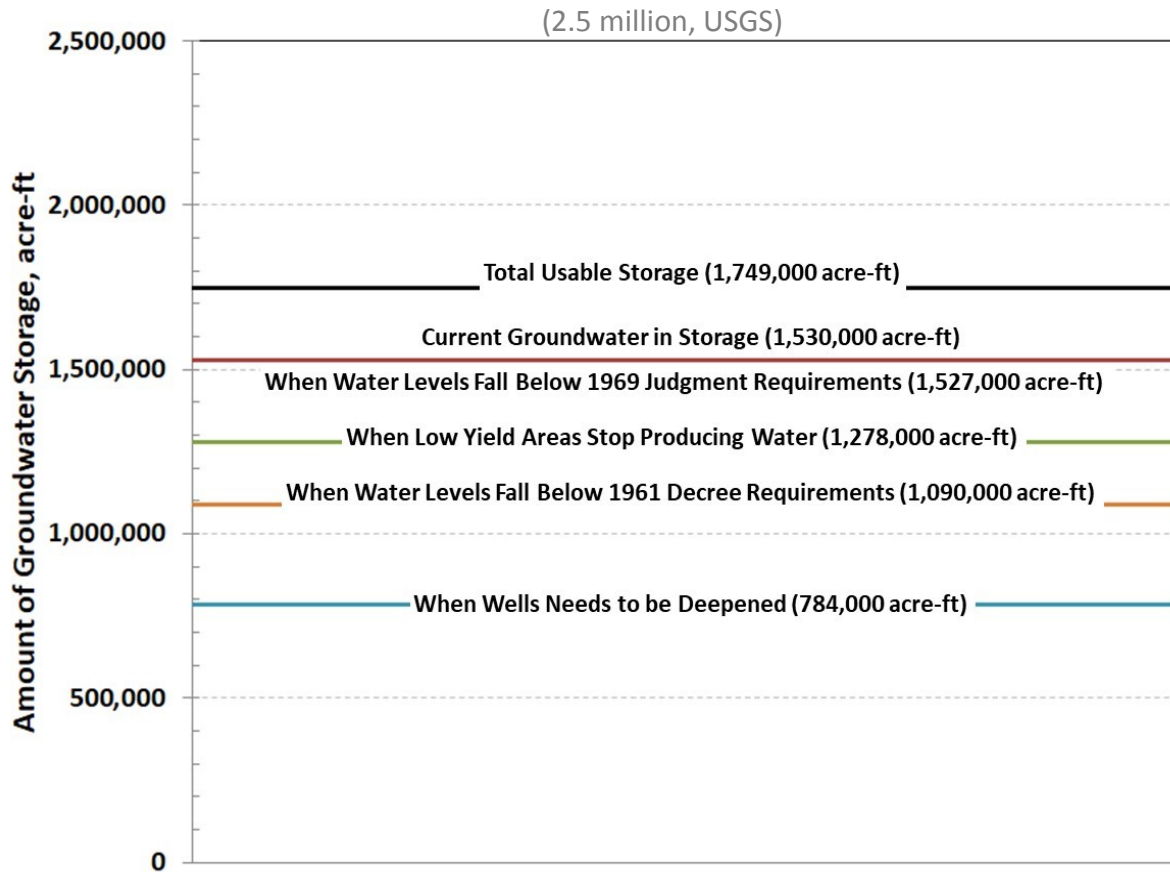
San Bernardino Basin Usable Storage (in acre-feet)



Pumping from the San Bernardino Basin

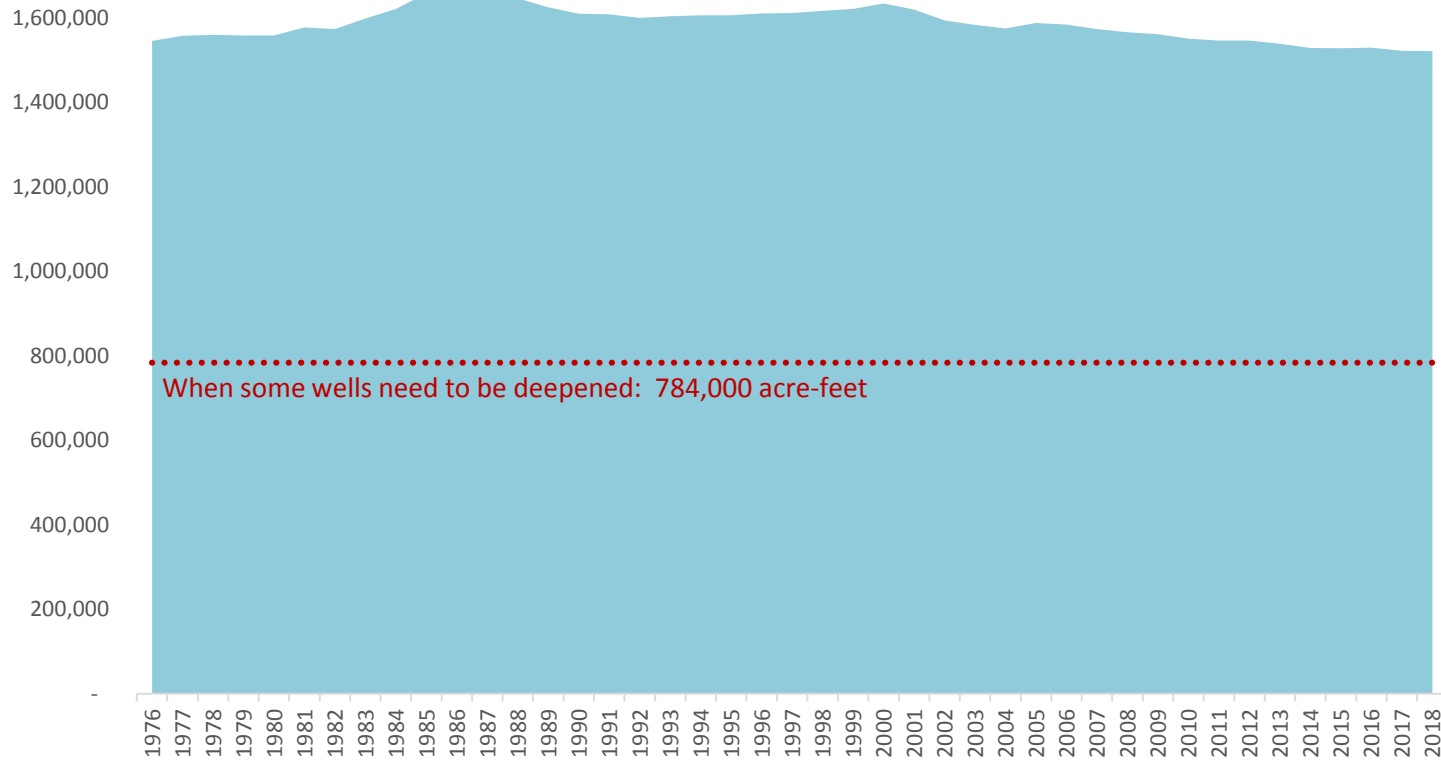


Rialto-Colton Basin

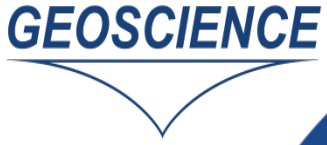


Rialto-Colton Basin Storage (in acre-feet)

Usable Storage: 1,749,000



When some wells need to be deepened: 784,000 acre-feet



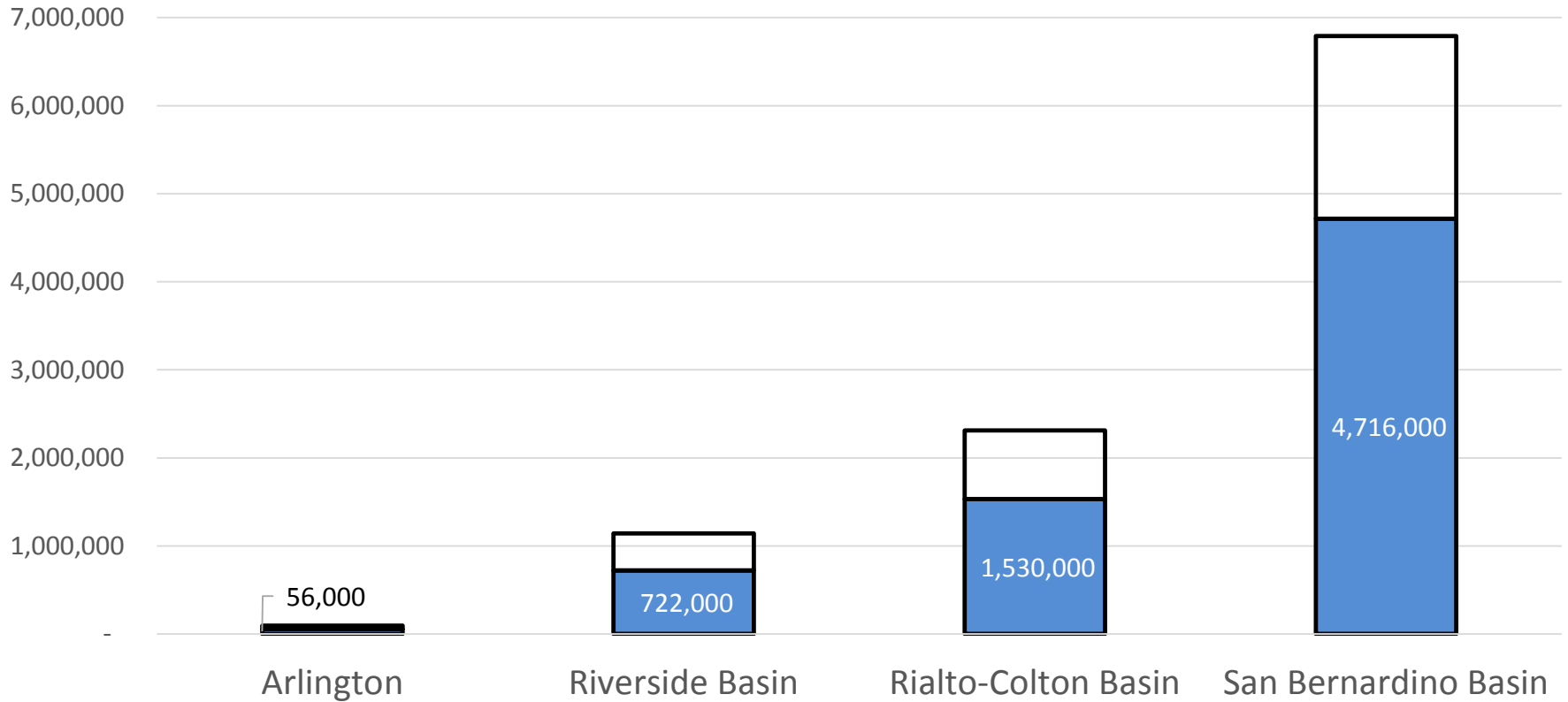
Riverside Basin



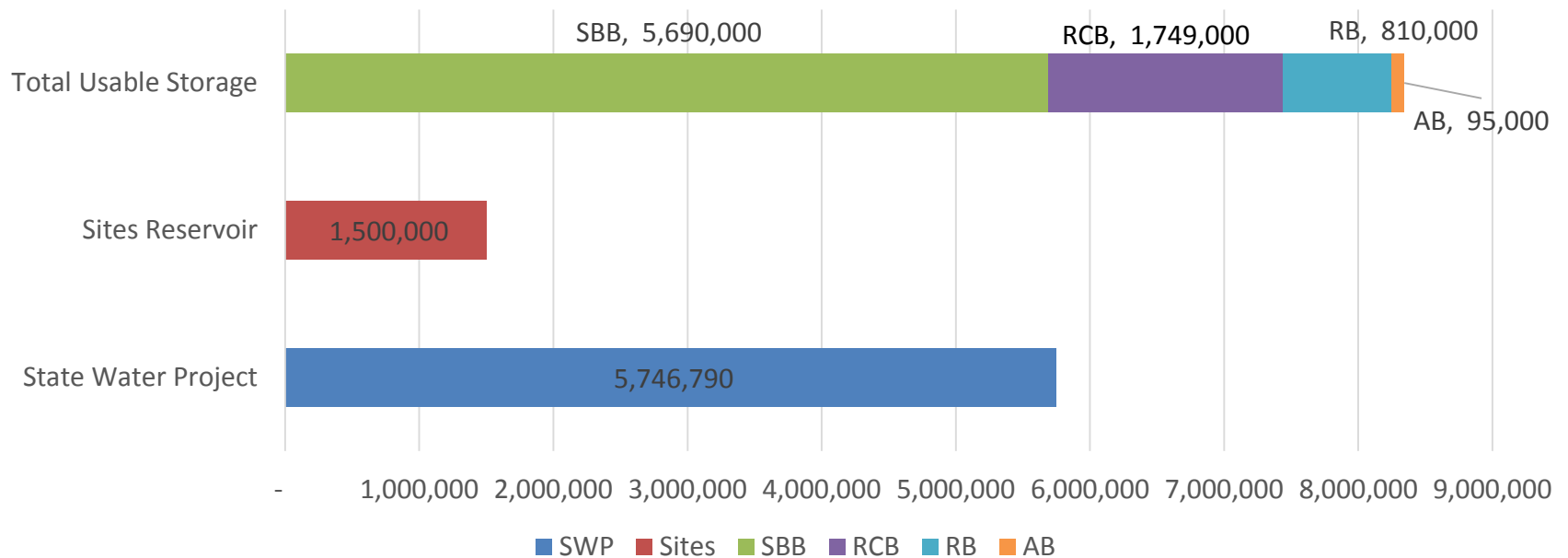
Arlington Basin



Total Usable Groundwater Storage



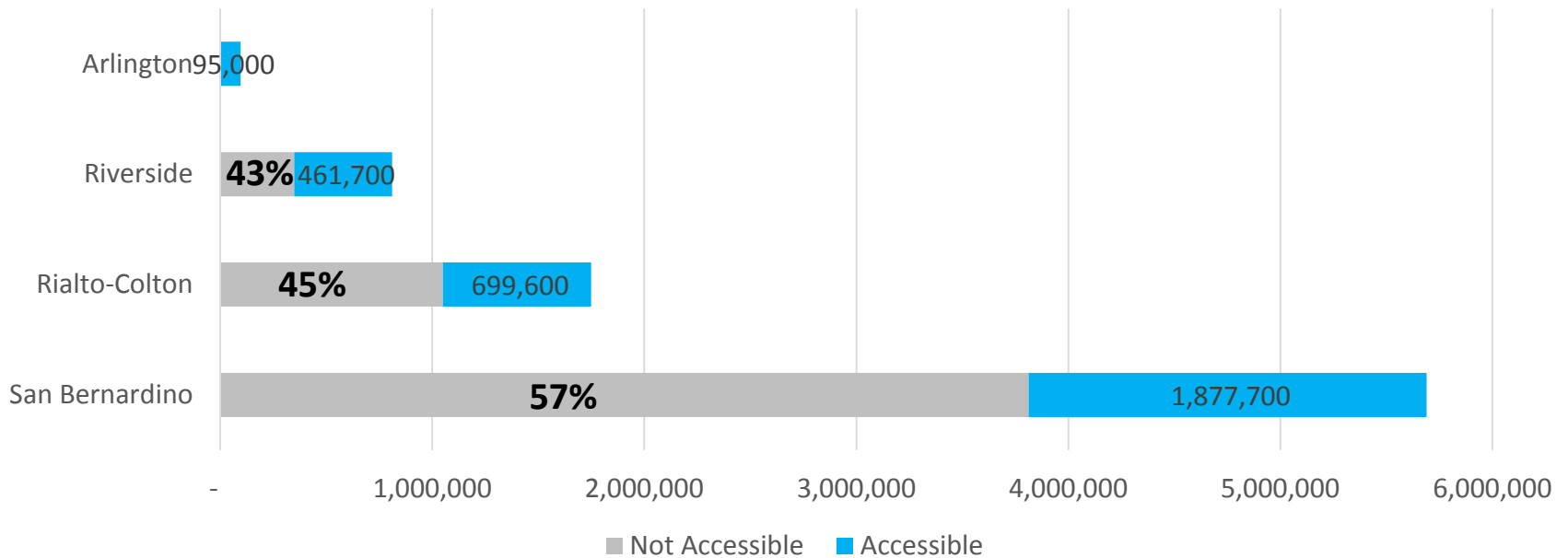
More Usable Storage than the SWP!



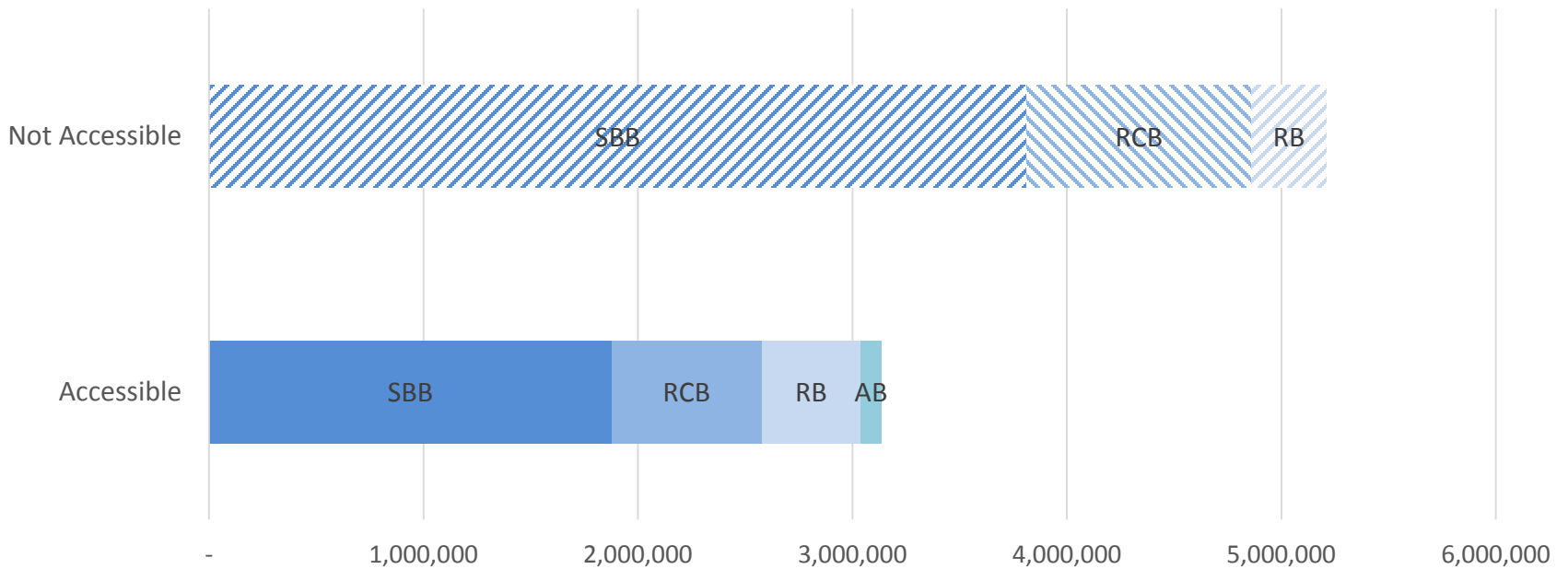
Total Usable Storage Study

- Estimate the Total Amount of Usable Storage
- Identify impacts of decreasing storage in extended drought
- **Estimate the Amount of Groundwater That Can Be Extracted Using Existing Wells**
- Identify Facility Needs, if Any, to Access Groundwater if Water Levels Decline
- Estimate the Number of Years of Groundwater in Storage

Groundwater Access Using Existing Wells



Groundwater Access Using Existing Wells



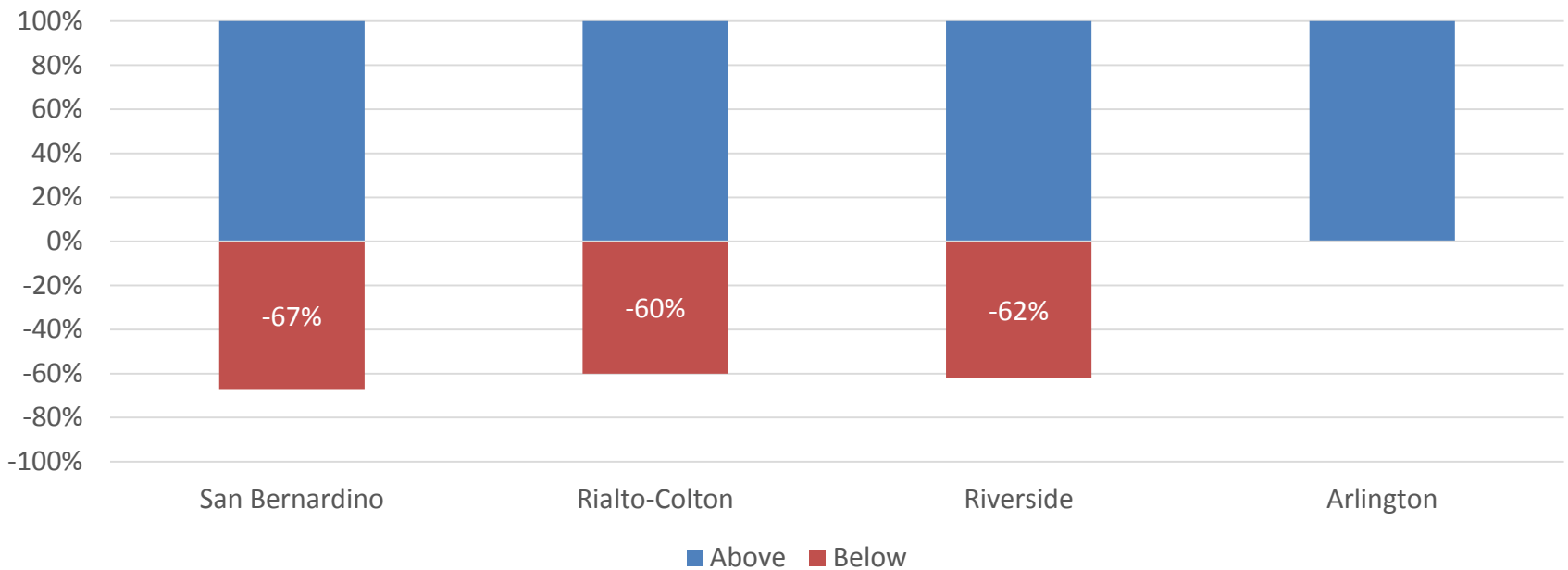
Total Usable Storage Study

- Estimate the Total Amount of Usable Storage
- Identify impacts of decreasing storage in extended drought
- Estimate the Amount of Groundwater That Can Be Extracted Using Existing Wells
- **Identify Facility Needs, if Any, to Access Groundwater if Water Levels Decline**
- Estimate the Number of Years of Groundwater in Storage



GEOSCIENCE

Pumping Reduction of Existing Wells Below Well Deepening Elevation



Wells to Access Deeper Groundwater

Basin	Number of Wells that are Currently Screened to Bedrock ¹	Number of Wells that Need to Be Deepened to Extract Additional Groundwater ²	Number of New Wells that May be Added at Identified Locations for Additional Pumping ³
SBBA	13	77	14
Rialto-Colton	7	4	4
Riverside	1	7	1
Arlington	5	0	0

1. Wells with average pumping greater than 250 gpm were used to estimate the quantity of wells that are currently screened to bedrock.
2. Wells with additional capacity less than 100 gpm after deepening were excluded (refer to Tables 1-3 in TM 2 for more details).
3. Locations were identified based on areas favorable for additional extraction (see Figure 13).

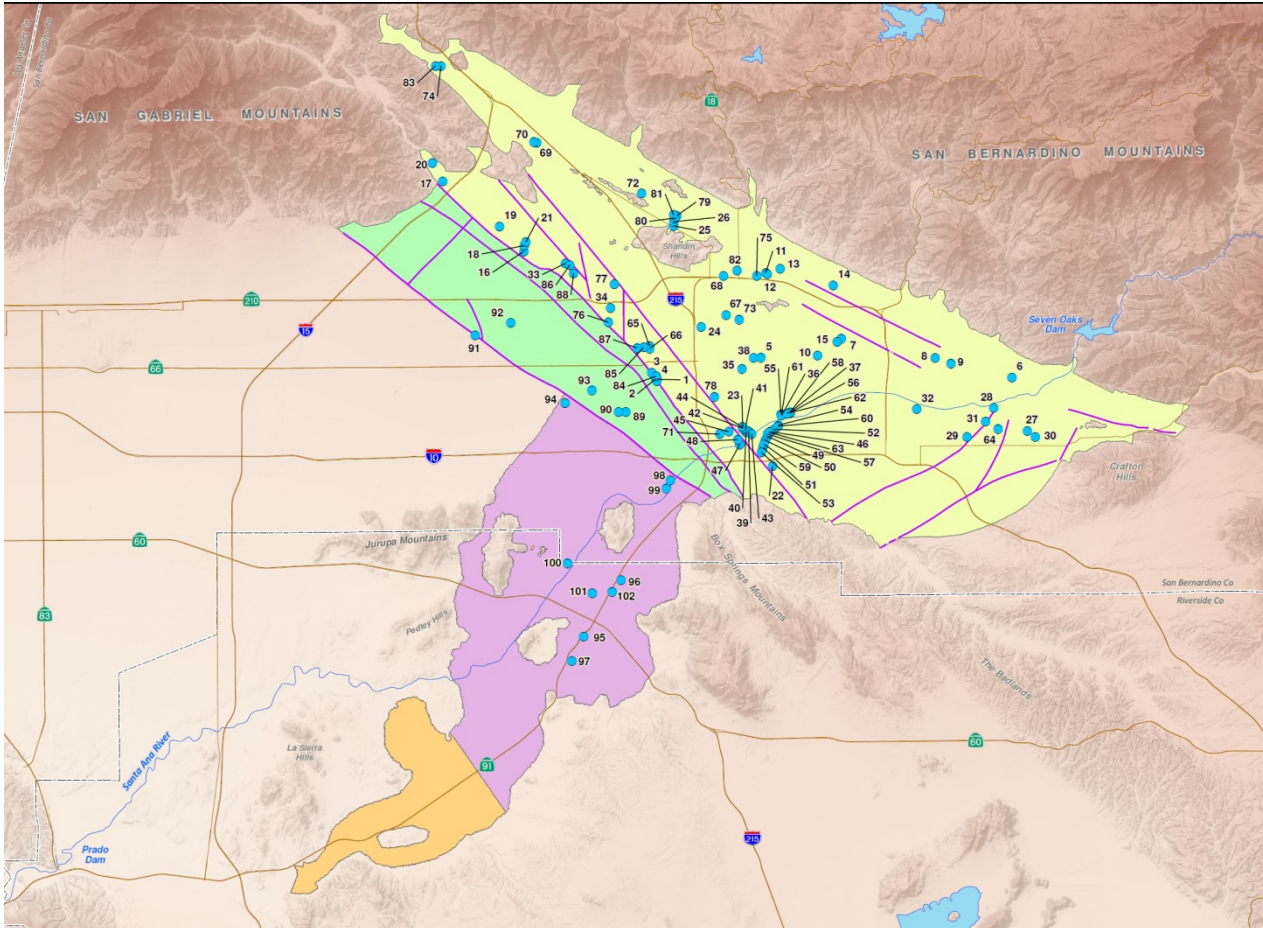
Potential Wells That Could Be Deepened

17 ● Pumping Well Location and ID
 (See Tables 1-3 for Potential Deepening Depths)

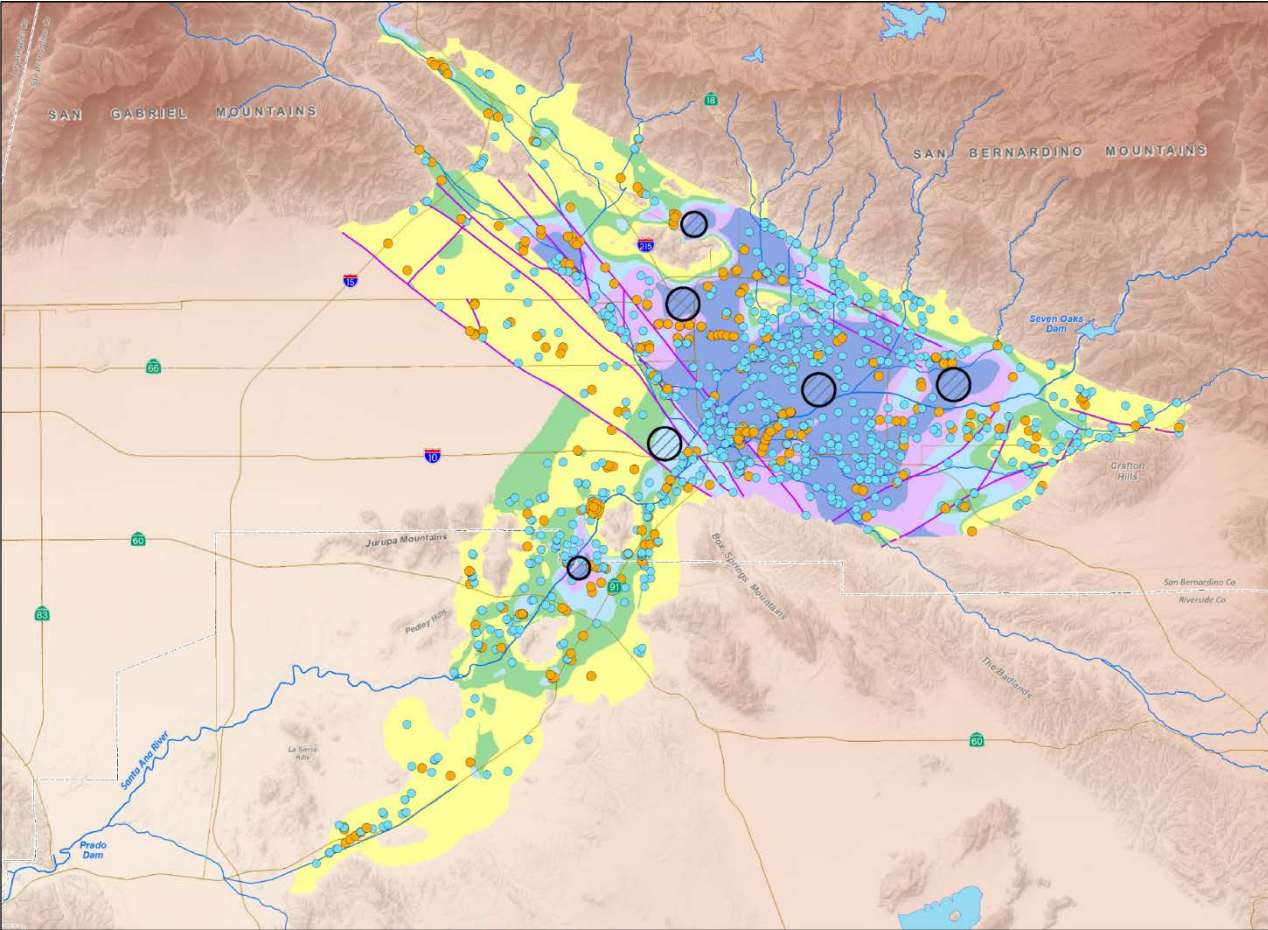
— Groundwater Flow Barrier

Groundwater Basin

- San Bernardino Basin Area
- Rialto-Colton
- Riverside
- Arlington



Areas for Additional Pumping



Annual Average Pumping, acre-ft/yr
(2012-2016)

- Production Below 100 acre-ft/yr
- Production Above 100 acre-ft/yr

⊗ Location for Additional Pumping

Saturated Thickness, ft

- < 100
- 100 - 200
- 200 - 300
- 300 - 400
- > 400

— Groundwater Flow Barrier

Total Usable Storage Study

- Estimate the Total Amount of Usable Storage
- Identify impacts of decreasing storage in extended drought
- Estimate the Amount of Groundwater That Can Be Extracted Using Existing Wells
- Identify Facility Needs, if Any, to Access Groundwater if Water Levels Decline
- Estimate the Number of Years of Groundwater in Storage



GEOSCIENCE

Risk Evaluation

Model Scenarios

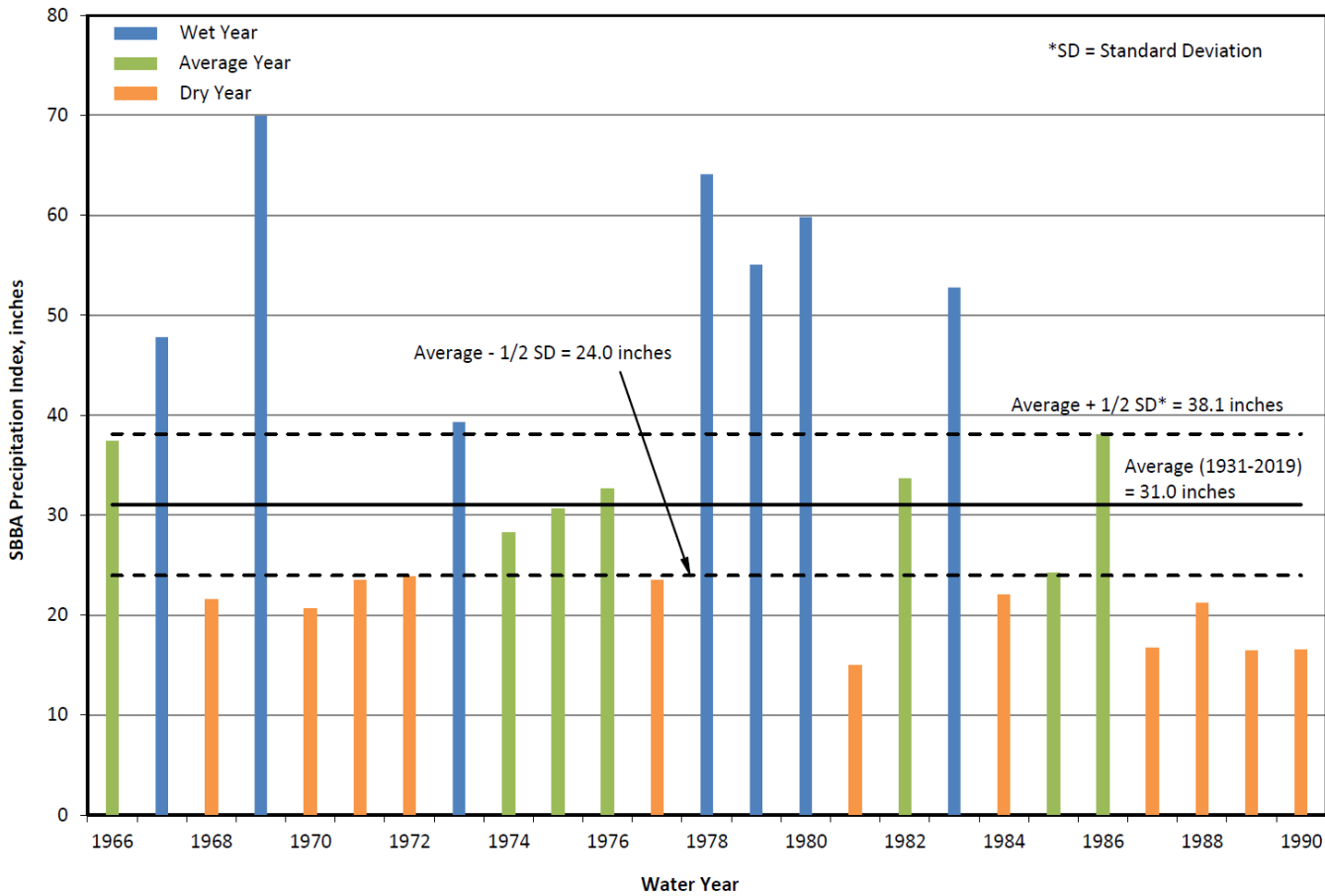
Basin	Model Scenario	Hydrology	State Water Project	Stormwater Recharge	Recycled Water Recharge	Groundwater Pumping*	
SBBA Rialto-Colton Riverside Arlington	SAR-T3-1	Dry	Projected Table A Allocation	SAR SG diversion capacity of 500 cfs	None	2015 Pumping	plus a factor of 10% for dry years and an additional reliability factor of 10% on top of this
	SAR-T3-2	Dry	Projected Table A Allocation	SAR SG diversion capacity of 500 cfs	None	2040 Projected Pumping	plus a factor of 10% for dry years and an additional reliability factor of 10% on top of this
	SAR-T3-3	Average	Projected Table A Allocation	SAR SG diversion capacity of 500 cfs	None	2015 Pumping	plus a reliability factor of 10%
	SAR-T3-4	Average	Projected Table A Allocation	SAR SG diversion capacity of 500 cfs	None	2040 Projected Pumping	plus a reliability factor of 10%
	SAR-T3-5	HCP (1966-1990) <i>Historic</i>	Projected Table A Allocation	SAR SG diversion capacity of 500 cfs	None	2015 Pumping	plus a reliability factor of 10%

*All model scenarios assume existing wells are drilled to bedrock.

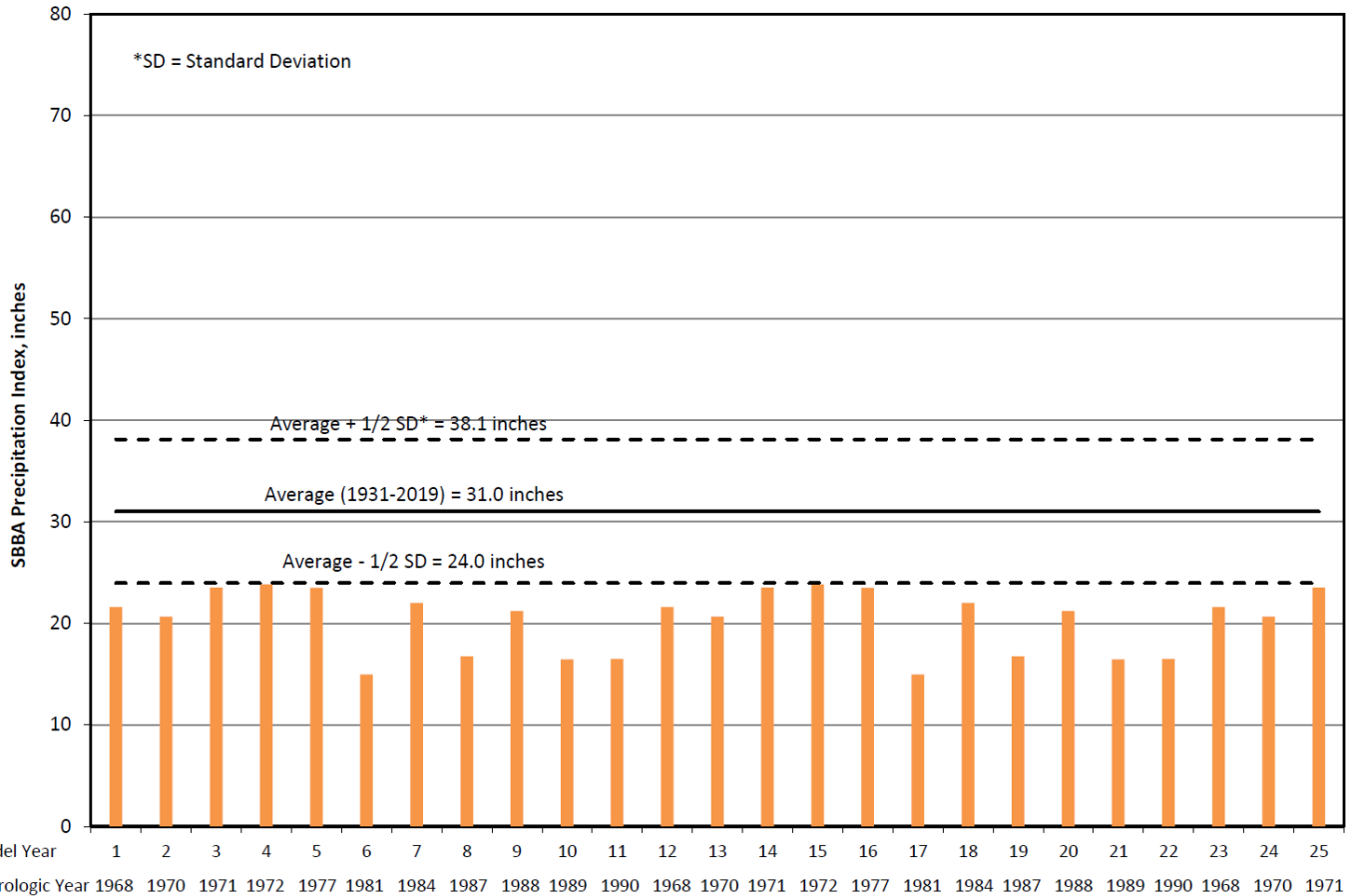


GEOSCIENCE

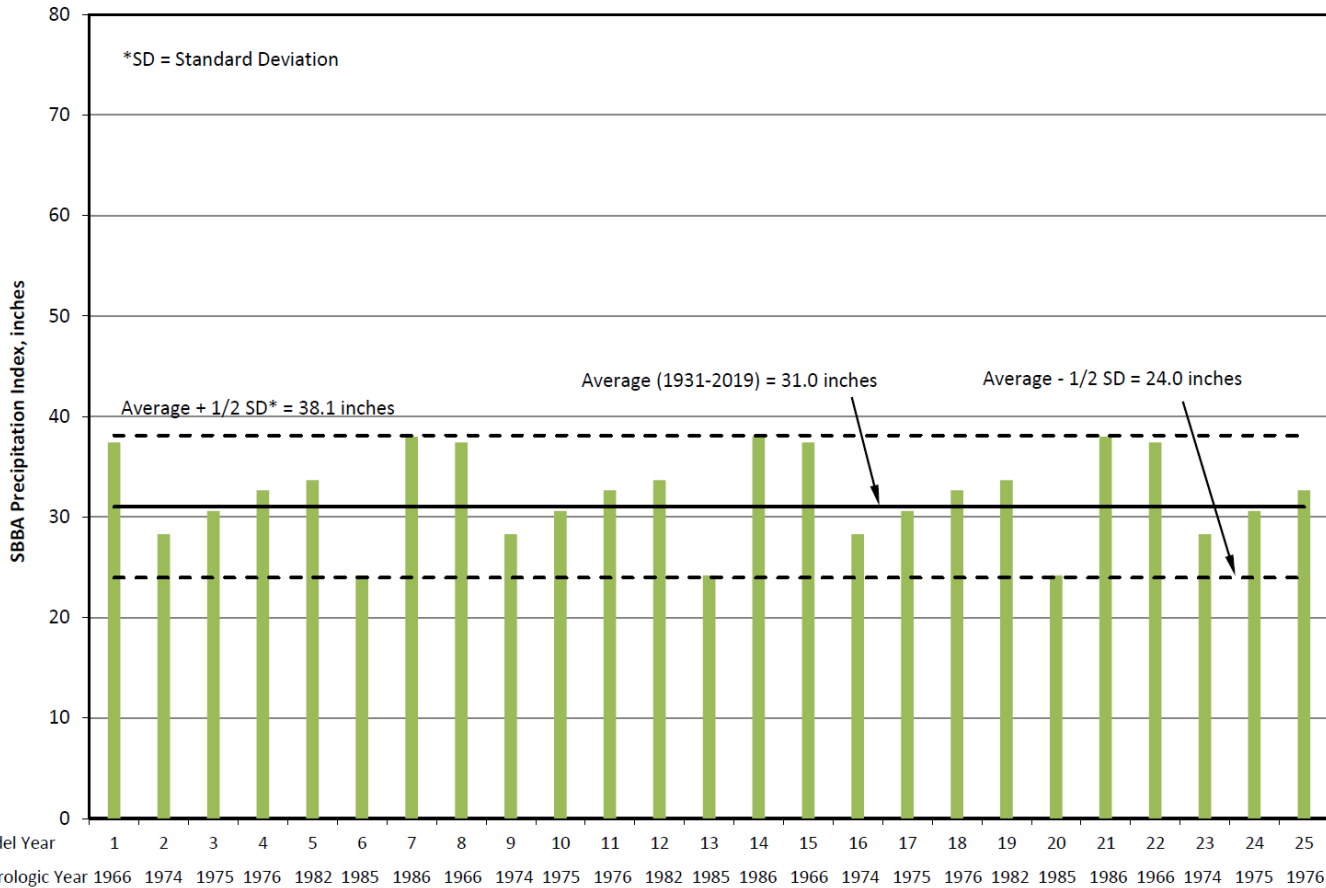
Historical Showing Dry, Average, and Wet Years 1966-1990



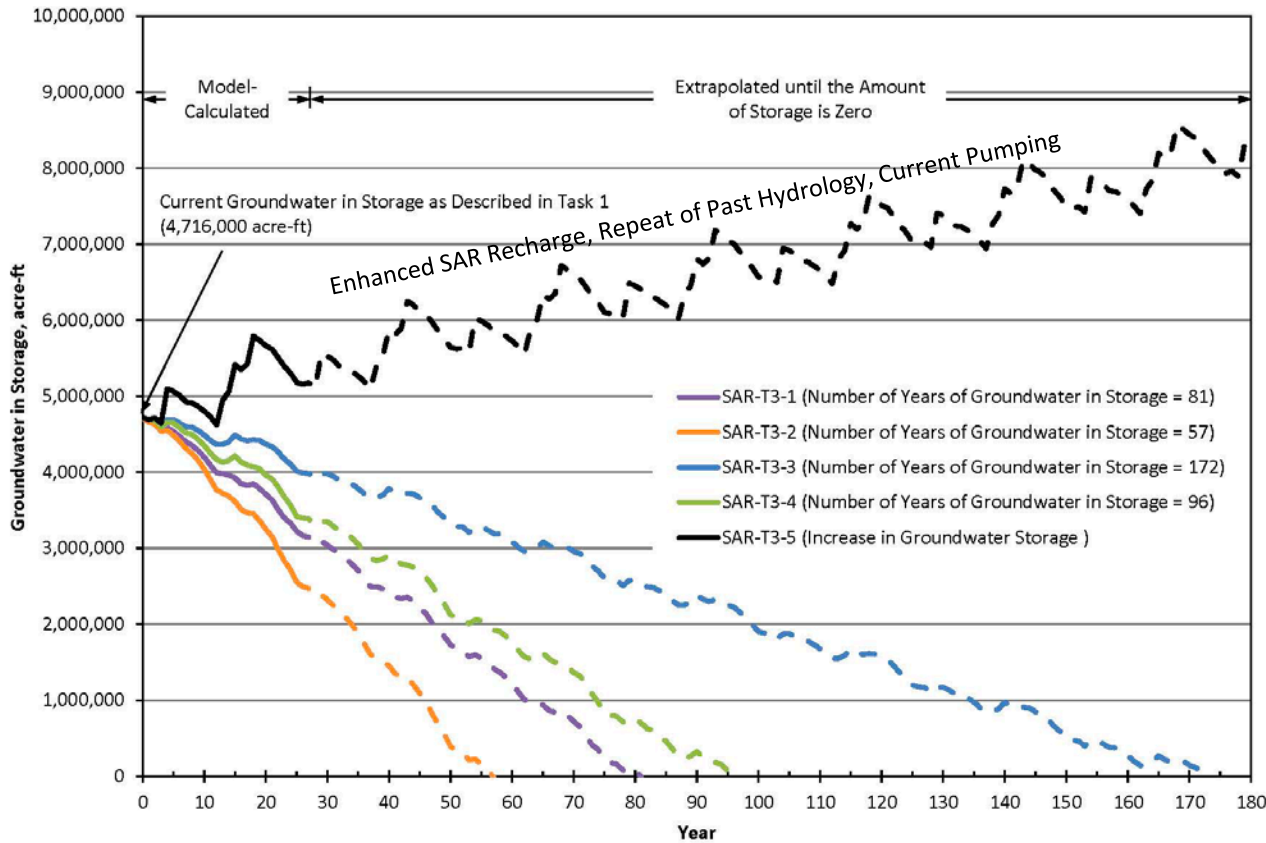
Dry Repeat Cycle of Below Average Years



Average Repeat Cycle of Average Years

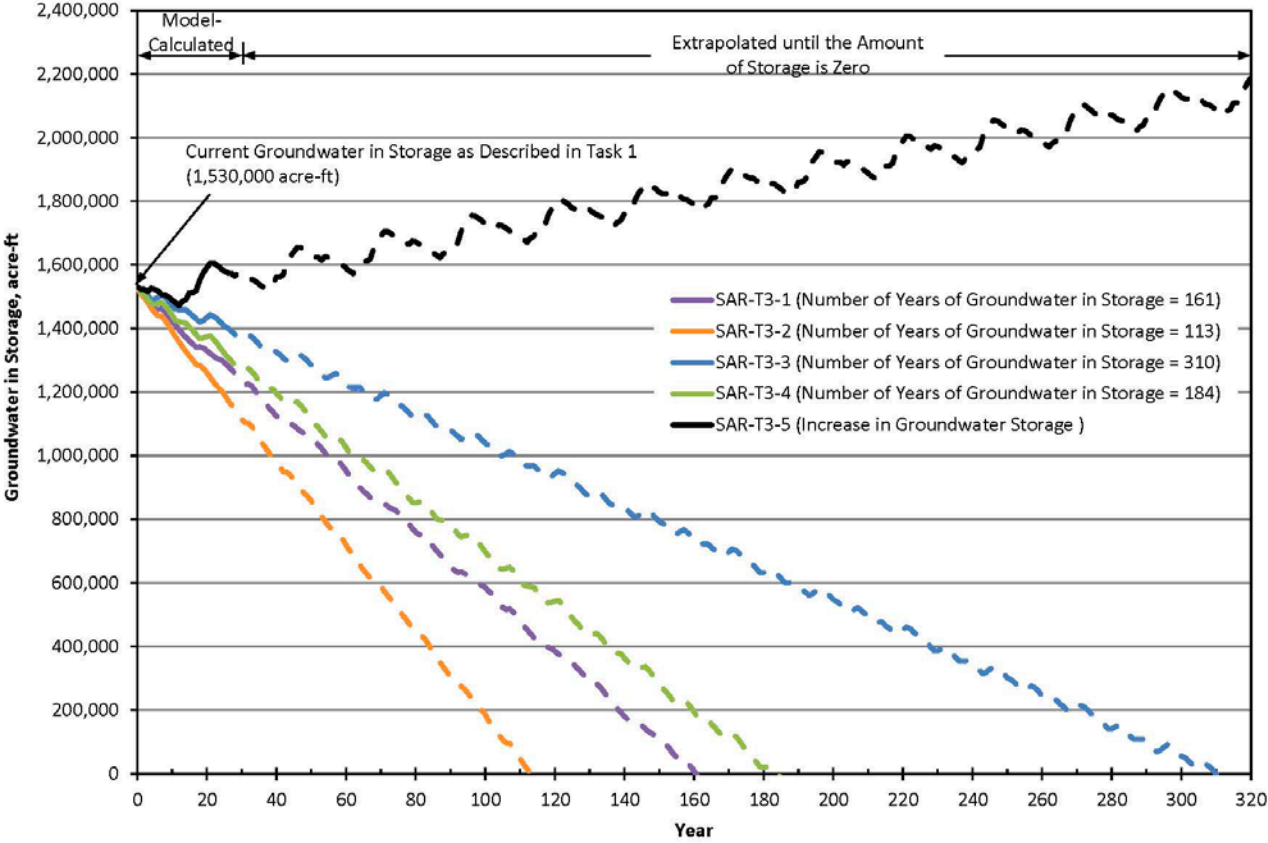


SBB Years of Groundwater in Storage



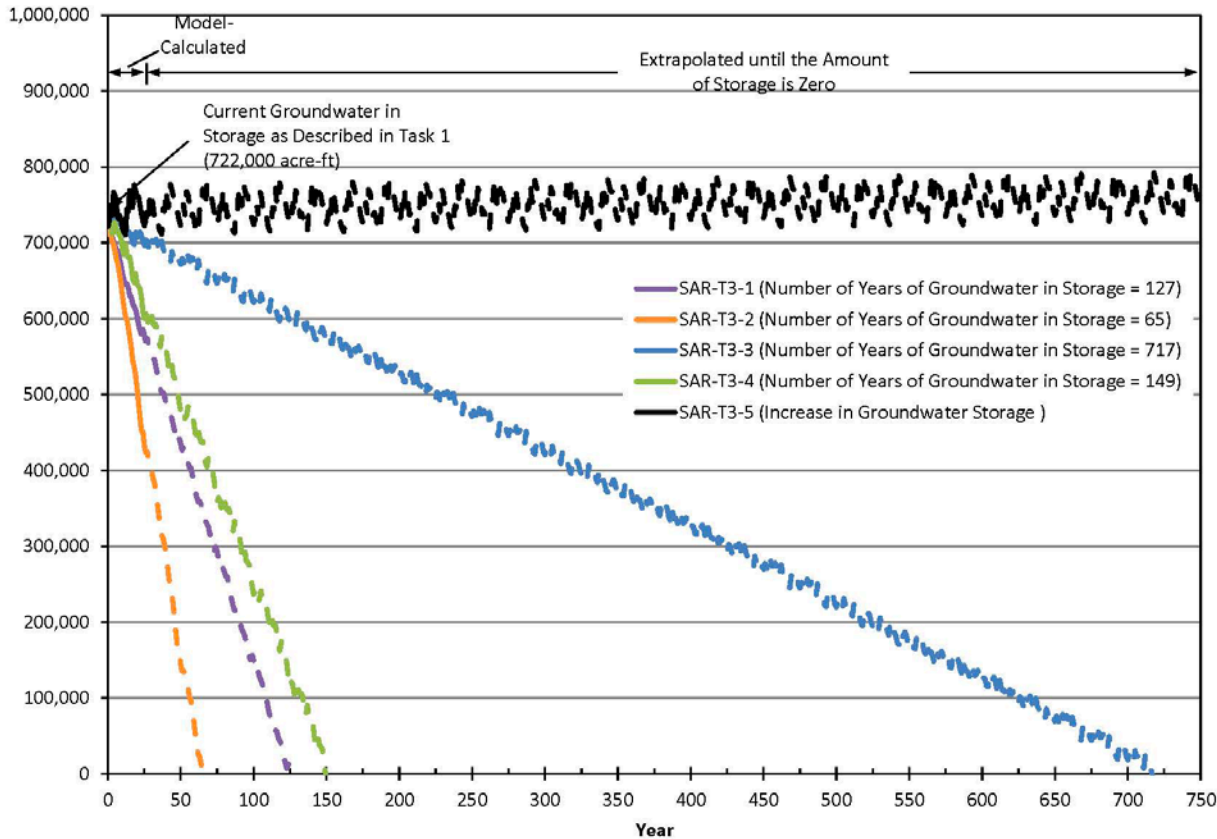
Model Scenario	No. of Yrs of Groundwater in Storage
SAR-T3-1	81
SAR-T3-2	57
SAR-T3-3	172
SAR-T3-4	96
SAR-T3-5	Infinite

Rialto-Colton Basin Years of Groundwater in Storage



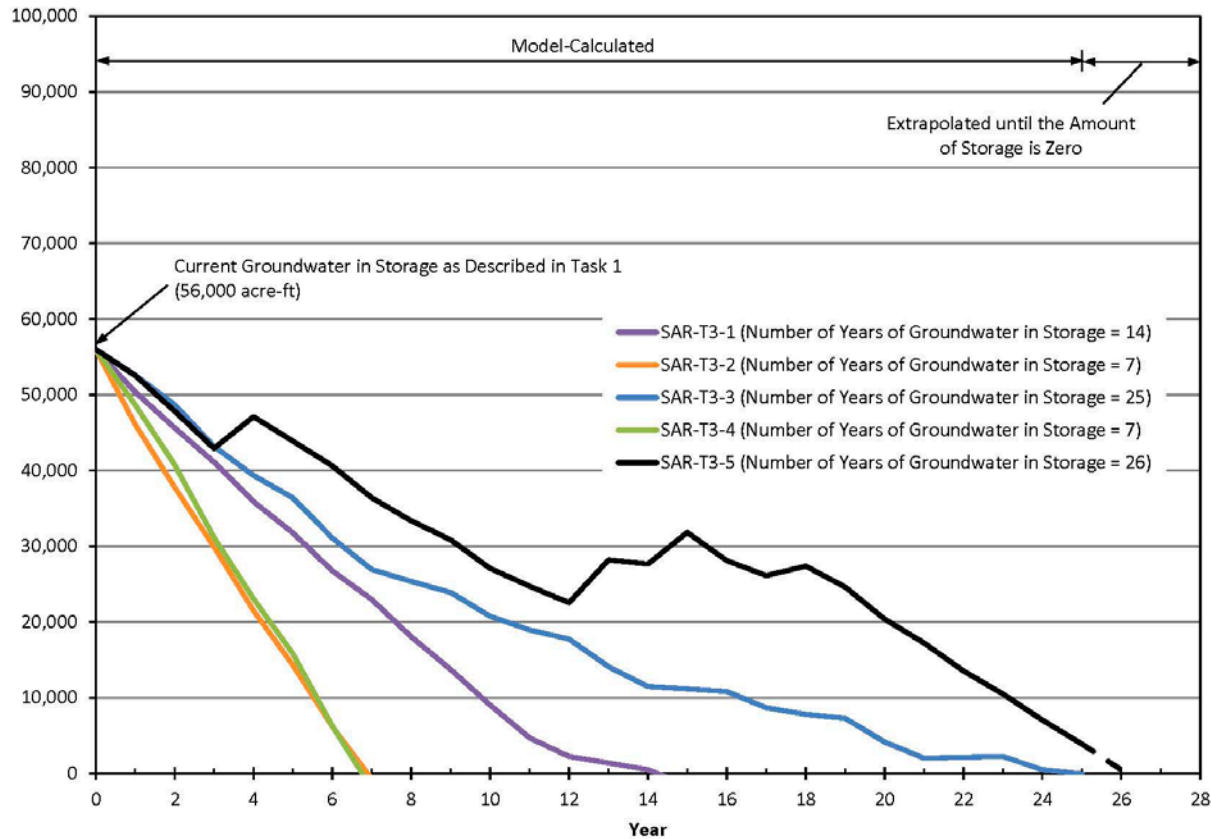
Model Scenario	No. of Yrs of Groundwater in Storage
SAR-T3-1	161
SAR-T3-2	113
SAR-T3-3	310
SAR-T3-4	184
SAR-T3-4	Infinite

Riverside Basin Years of Groundwater in Storage



Model Scenario	No. of Yrs of Groundwater in Storage
SAR-T3-1	127
SAR-T3-2	65
SAR-T3-3	717
SAR-T3-4	149
SAR-T3-5	Infinite

Arlington Basin Years of Groundwater in Storage



Model Scenario	No. of Yrs of Groundwater in Storage
SAR-T3-1	14
SAR-T3-2	7
SAR-T3-3	25
SAR-T3-4	7
SAR-T3-5	26

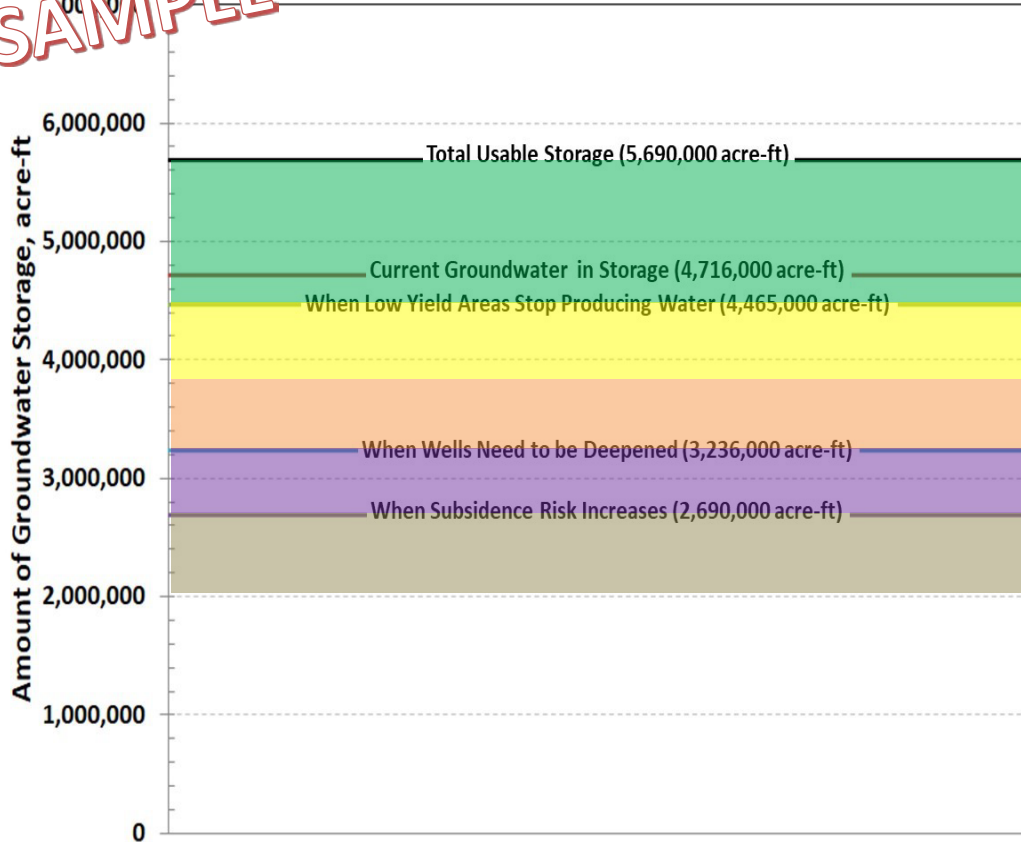
Summary of Study Results

Basin	Usable Storage	Current Storage		% Groundwater Accessible		Storage (years)	
		(acre-ft)	(acre-ft)	%	(Existing)	(New)	Min
San Bernardino (SBB)	5,690,000	4,716,000	83%	43%	57%	57	Infinite
Rialto-Colton (RCB)	1,749,000	1,530,000	87%	55%	45%	113	Infinite
Riverside (RB)	810,000	722,000	89%	57%	43%	65	Infinite
Arlington (AB)	95,000	56,000	59%	100%	0%	7	26

Next Steps

- Present Study Results to BTAC
- Work with BTAC on developing “action items” based on the results
 - Possible grants for well deepening/new wells
 - Possible management “zones” for each basin
 - Other

SAMPLE

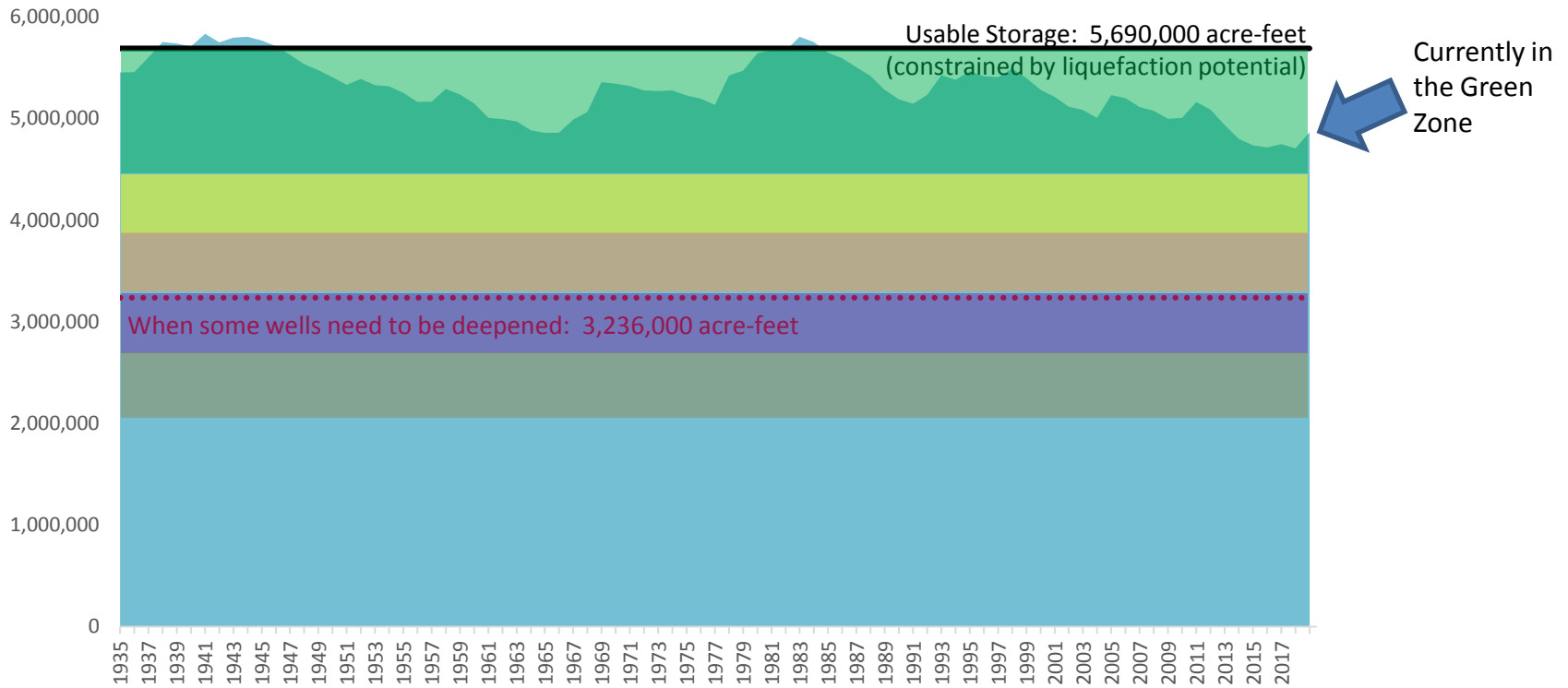


Management Zone Concept

Storage	% Full	Action(s)
> 4.5	79 to 100%	<ol style="list-style-type: none"> 1. Maximize SWP Recharge 2. Develop Water Supply Projects 3. Store water in Central Valley
4.5	79%	<ol style="list-style-type: none"> 1. Same as Green 2. Plan to deepen wells
3.8	67%	<ol style="list-style-type: none"> 1. Same as Yellow 2. Deepen wells 3. Plan additional recycling 4. Reduce pumping 10%
3.2	56%	<ol style="list-style-type: none"> 1. Same as Salmon 2. Reduce Pumping 20% 3. Increase recycling
2.7	47%	Continue to reduce pumping in 5% increments until storage levels increase to purple area

SAMPLE

San Bernardino Basin Management Zones



Director Comments and Discussion



**T. Milford
Harrison**
President



**Paul
Kielhold**
Vice President



**Susan
Longville**
Treasurer



**June
Hayes**
Director



**Gil
Navarro**
Director

Staff Recommendation

Receive and file.

Discussion Item 4.2 (Pg. 111)

Kristeen Farlow, MPA – External Affairs Manager

Discuss San Bernardino Municipal Water Department
Water Use Efficiency Pilot Project

Staff Recommendation

Discuss this item and direct Staff on how to proceed.

Background

- Valley District assists the retail water providers in meeting their demand reductions.
- This includes water education, water use efficiency rebates, or technical assistance.
- Our typical reimbursement on residential programs is 25% to the retailers.

San Bernardino Municipal Water District

**PROPOSED:
WEATHER BASED
IRRIGATION CONTROLLER
PILOT PROJECT**

Goals:

- Address inefficient water use on landscapes.
- Identify areas for alternative irrigation solutions.
- Reduce overall water use.
- Contribute to achieving water-use efficiency goals.



Pilot Project Details

- 150 participants
- Residents and small to medium-size commercial sites
- Conduct site assessments;
- Gather irrigation data;
- Provide repairs as needed;
- Install a WBIC.



Marketing

- Target marketing to the high-water users
- General marketing to all customers
- Ensure equity among City's seven wards
- Valley District will market on our social media and website as well as announce at online workshops

The Numbers

Program Participants	150
Cost per site	\$1,034 - \$1,141
Estimated total project costs	\$181,918
50% cost share from Valley District	\$90,959
Estimated water savings	16 - 28 acre feet per year

Discussion

- Consider 50% contribution to this pilot project
- City will assess success of program after one year
- If successful, this program would be offered to all customers in the City and request the 25% reimbursement from Valley District
- Valley District will be recognized as a project partner
- Valley District does have the \$90,959 available in the Water Use Efficiency fund

Director Comments and Discussion



**T. Milford
Harrison**
President



**Paul
Kielhold**
Vice President



**Susan
Longville**
Treasurer



**June
Hayes**
Director



**Gil
Navarro**
Director

Staff Recommendation

Discuss this item and direct Staff on how to proceed.

Discussion Item 4.3 (Pg. 128)

Kristeen Farlow, MPA – External Affairs Manager

Consider Proposal for Performance of Water Conservation
Public Outreach Programs

Staff Recommendation

Direct Staff to place this item on a Board Meeting agenda for consideration of entering into an agreement with IERCD for the Performance of Water Conservation Public Outreach Program for a cost not to exceed \$30,000.

Background

- Worked with IERCD since 2007
- Manage and perform student education programs, adult programs, and educational workshops
- Requirements from AB 1668 and SB 606 – *Making Water Conservation a Way of Life*

Results of 2019-2020 Year

- 97 classroom presentations
- Six landscape workshops
 - Three in-person
 - Three Online
- One teacher workshop
- Online resources
 - At-home activities for kids and families
 - Classroom activities for teachers
- Estimated reach of 3,000 students and adults
- Total cost of \$25,900



Proposal for 2020-2021

- All in-person programs have shifted online
- Online materials
- Live or recorded classroom presentations
- Goal of 100 presentations
- Downloadable content and narrated presentations
- Online Landscape Workshops
 - 4-6 workshops
- Virtual Project WET Teacher Workshops
 - Two workshops
- Contract as a *not to exceed* \$30,000

Director Comments and Discussion



**T. Milford
Harrison**
President



**Paul
Kielhold**
Vice President



**Susan
Longville**
Treasurer



**June
Hayes**
Director



**Gil
Navarro**
Director

Staff Recommendation

Direct Staff to place this item on a Board Meeting agenda for consideration of entering into an agreement with IERCD for the Performance of Water Conservation Public Outreach Program for a cost not to exceed \$30,000.



Directors' Request for Consideration 5.1 (Pg. 136)

Heather Dyer, MS, MBA – Chief Executive Officer/General Manager

Directors' Requests for Consideration

Staff Recommendation

Staff recommends that the Board consider the following requests and provide direction to staff on each item.



DATE: 7/17/20

TO: Board of Directors

FROM: Susan Longville

SUBJECT: Director's Request for Consideration by Board

I. Director's Requested Activity to be Considered by the Board:

The District owns a vacant parcel adjacent to the Garcia Center for th Arts (Center) that is leased to the SB Valley Concert Assoc. (Association) who operated the Center. The Board recently considered and approved an amendment to this lease, originally for overflow parking, for the development of a Community Garden. An Online survey of residents in this disadvantaged community has found strong support for the community garden that would plant fruit trees for harvest by residents and provide small plots for residents to learn how to grow, irrigate, and harvest their own produce that is grown in a sustainable and water efficient manner. There is no existing water system on the District's parcel but there is a hookup to the SB Water Dept. The Association has no funding for the development of a water system that is envisioned to consist of multiple faucets on the parcel to irrigate the individual gardens by hose and drip irrigation of the fruit trees. I respectfully request that the Board consider funding a water system for the community garden and direct staff to work with the Association President to determine the cost.

II. Discussion of Activity's Value to Valley District and/or the Board:

Our District seeks to mitigate the effects of climate change and potential drought in every project that is brought before the Board. Providing funding to construct a simple water system that would support the development of a community garden in a severely disadvantaged community will mitigate the effects of climate change by providing additional shade, reducing greenhouse gas emissions and promoting sustainable gardening practices in an urban environment.

III. Estimated Staff Time Required (to be completed by Staff):

Staff time of approximately 8 hours to meet with the Association to assess needs and to develop an approach to the water system required. Additional time to implement would be further along in the process, if the project were approved.

IV. Estimated Cost or Use of District Resources (to be completed by Staff):

Unknown beyond the staff time to develop a concept plan for the project.

V. Possible Modification or Suggested Alternative:

Staff suggests that the Board direct staff to develop a demonstration project that includes important parts of the system have educational signage on the efficient irrigation and potentially other educational information on drought, urban heat islands, and methods to address water sustainability in everyday activities such as gardens and landscapes. Staff suggests we reach out to the SB Water Department to see if they would be interested in partnering on this demonstration project. Could also bring in local scouts or civic groups to boost the education and external affairs aspect.



DATE: 7/17/20

TO: Board of Directors

FROM: Susan Longville

SUBJECT: Director's Request for Consideration by Board

I. **Director's Requested Activity to be Considered by the Board:**

In December of 2019 at a Regular Meeting of the BOD, I expressed a Christmas wish that the District consider producing large, recycled/reusable shopping bags with our logo promoting water use efficiency as other wholesale agencies have done for some time. Kristeen indicated that she would follow up on this idea and bring this back to the Board. Since then, the BOD approved the Directors' Request for Consideration policy.

It has become reasonably foreseeable to me that the District's Public Affairs efforts with our ratepayers during the next fiscal year will need to be done virtually or by mail as a result of the lingering COVID-19 pandemic. For that reason, I am requesting that the BOD consider directing staff to provide an estimate of the cost to produce and mail a large, recycled/reusable shopping bag promoting the District and water use efficiency to every address in our service area that pays property tax to the District.

This would be the District's first direct interface with our ratepayers that is not in the form of a property tax bill. It is intentional but should be noted that it would not diminish or in any way interfere with the efforts of our retail water agencies.

II. **Discussion of Activity's Value to Valley District and/or the Board:**

The District is spending \$30,000 a year for social media impressions with our ratepayers. That is valuable, but there is nothing like a desirable gift to foster a connection with our ratepayers. I carried my favorite, large recycled shopping bag that promotes water use efficiency for two years that had a Western Municipal Water District logo and it always seemed wrong. I respectfully request the BOD direct staff to investigate the shopping bag and direct mailing idea and bring back an estimated cost to the Board for consideration.

III. **Estimated Staff Time Required (to be completed by Staff):**

6-8 hours staff time to investigate bag designs and manufacturers and approximate postage.

IV. **Estimated Cost or Use of District Resources (to be completed by Staff):**

Unknown beyond the staff time stated above.

V. **Possible Modification or Suggested Alternative:**

None at this time.

Director Comments and Discussion



**T. Milford
Harrison**
President



**Paul
Kielhold**
Vice President



**Susan
Longville**
Treasurer



**June
Hayes**
Director



**Gil
Navarro**
Director

Staff Recommendation

Staff recommends that the Board consider the following requests and provide direction to staff on each item.



Adjournment
