Hemet-San Jacinto Watermaster
Technical Advisory Committee (TAC) AGENDA
November 13, 2017
EMWD – 12:30 p.m.

I. Agency Reports:
   A. EMWD
   B. LHMWD
   C. City of Hemet
   D. City of San Jacinto

II. Watermaster Advisor Update:
   A. Draft November 27, 2017 Board Agenda.
   B. Revised 2016 Carry-over Credit Accounts.
   C. 2018 Annual Budget.

III. Revised Rules and Regulations Document – Status

IV. Proposed EMWD Water Banking and Conjunctive Use Project – Review of Technical Data and Model Results – RMC

V. Status of the Soboba Imported Water Recharge – EMWD

VI. Other Items Per TAC Members Request.
   A. McMillan Farm Management-SWRCB letter - EMWD
   B. Soboba Pit Desilting - EMWD

VII. Next Meeting February 12, 2018.

Technical Advisory Committee (TAC) Meeting
Meeting Notes
August 14, 2017

TAC Members Present

EMWD Staff Present:	Joe Mouawad, Assistant General Manager of Planning, Engineering and Construction Nick Kanetis, Deputy General Manager Jeff Wall Assistant General Manager, Operations and Maintenance Marc Serna, Director of Engineering Khos Ghaderi, Director of Water Operations Mike Nusser, Water Resources Planning Manager John Daverin, Senior Engineering Geologist Elizabeth Lovsted, Director of Water Supply Planning
City of Hemet Staff Present:	Kris Jensen, Public Works Director Ron Proze, Water/Wastewater Superintendent
City of San Jacinto Staff Present:	Steve Johnson, Consultant
Lake Hemet Staff Present:	Tom Wagoner, General Manager
Private Producers	Steve Pastor, Private Pumpers Representative
Watermaster Staff Present:	Behrooz Mortazavi, Michelle Mayorga (Water Resources Engineers)
Others Present:	None

I. AGENCY REPORTS

A. EMWD Status Report

Mr. Daverin reported that EMWD is working on 4 major efforts. EMWD has completed drilling of Well 37, which is the replacement for Well 14. A shallow monitoring well was installed about 200 feet to the south of Well 37, to track the IRRP Recharge Water. The Mountain Avenue South site evaluation, which will potentially be a future recharge site. This site is currently in the cleanup stage. Part of the cleanup required a biologist to be on site during all activities to monitor potential SBKR habitats in the area. EMWD has completed drilling of 18, 200-foot-deep sonic boreholes at the proposed Mountain Avenue West recharge site as part of their site investigation. They are currently taking soil samples. Well 80 is down and will be replaced with Well 205. Preliminary design of this well is complete.

Mr. Wagoner asked if any of the drillings at Mountain West were detecting any wood at different depths that would indicate existence of a forest in the past? Mr. Daverin replied that only 2 out of the 16 that are complete, had wood in their samples. Mr. Daverin also said that it looked more like bark instead of forest based on the sediment that it was in. They did see some forest indications at around 700 – 900 feet below grade when they were drilling Well 38 and Well 37.

Mr. Ghaderi reported that EMWD has been extracting groundwater from the Cienega Wells. EMWD target production from Canyon basin is 2,000 AF for 2017, which is equal to the recharge that EMWD has plans to put in at Grant Avenue ponds. EMWD has already recharged approximately 1,600 AF at the Grant Avenue site. EMWD will continue to pump groundwater from Canyon basin until mid-October and then the wells will be shut down.

B. LHMWD Status Report

Mr. Wagoner reported that LHMWD has completed casing of its Well 18, which is the replacement for Well 8. LHMWD is considering a water rate increase for local agricultural water users, and domestic water rate for Garner Valley Portion of its service area.

Mr. Wagoner also reported that he will be retiring as of October 20, 2017. Mr. Gow will be the Acting LHMWD General Manager after that.

C. Hemet Status Report

Mr. Proze reported that the City of Hemet has completed their nitrate pilot treatment project and is currently waiting for the sample results to determine the plant design. Well 10 is in the process of being re-drilled. Staff also expects to initiate the City's new Conservation Rate Structure by March of 2018.

D. San Jacinto Status Report

Mr. Johnson did not have an update for the City of San Jacinto.

II. WATERMASTER ADVISOR UPDATE

A. Draft August 28, 2017 Board Agenda

Mr. Mortazavi presented the draft agenda for the August 28, 2017 Board Meeting. The Rules and Regulations Committee has had one meeting since the last Board Meeting. The Reserves and Investments Committee has not met since the last Board Meeting.

There are three Action Items; approval of Financial Audit Contract, Consideration to adjust production rights by 7.2% for Public Agencies starting May 2018, and consideration to approve 2017 Water Resources Well Video Program Support services Task Order with EMWD to provide more scientific basis for the Monitoring Program.

The Informational Items on the agenda include the updated 2017 Annual Budget, Draft 2018 Annual Budget; status of the Soboba Imported Water recharge and Future Agenda Items.

Mr. Mouawad commented that beginning September, MWD will start pre-delivery of Soboba Imported water. The parties need to decide, weather to pay for water at the time of delivery or at the time of extraction. The MWD Agreement allows for either.

Ms. Jensen was concerned that the Board Members would not receive the Draft 2018 Annual Budget for review prior to the Board Meeting. Mr. Mortazavi explained that he is presenting this to TAC today, for review. The Board Members will receive their Board Packets at least three days prior to the Board Meeting and should have time to review it before the Board Meeting.

Mr. Mouawad commented that the Rules and Regulations Committee did have a meeting and they developed an updated Rules and Regulations that was sent out to all the Board Members on August 4, 2017. It was also sent out to Legal Counsel in the hope that he could prepare a Resolution for approval at the August 28,2017 Board Meeting. Mr. Mortazavi said that Legal Counsel has received the document, but he is not sure if the Resolution will be prepared in time for the August 28th meeting by the Legal Counsel. Mr. Wall asked if they could get some feedback from Legal Counsel? Mr. Mortazavi will follow up with Mr. Bunn.

Mr. Mortazavi asked if there were any additions or deletions to the Board Agenda? There were none.

Mr. Mouawad asked if Mr. Bunn could also review the Records Retention Schedule? Mr. Mortazavi said that the draft retention schedule that he reviewed seemed to be a cut and paste document from a larger agency's retention schedule and there's a lot of information that does not pertain to the Watermaster. Mr. Mouawad hopes to have a more robust retention schedule practice in place. Mr. Mortazavi will have Mr. Bunn review the proposed records retention schedule that EMWD has prepared.

See Attachment 1 for draft agenda related to this item.

B. Consideration to Adjust Production Rights Starting May 2018 – Same presentation as TAC May 2017 meeting.

Mr. Mortazavi presented information on the Adjusted Production Rights Reduction for 2018. The Judgement requires the Watermaster to cut back Adjusted Base Production Rights for the first 6 years. The original overdraft estimate to achieve Safe Yield was 10,000 AF. Mr. Mortazavi stated that assumption may or may not be correct. The groundwater model validated the Safe Yield in 2015, but conditions may change. The safe yield estimate need to be reviewed again in a few years. The final base production right in year 6 are: EMWD 7,303 AF; LHMWD 7,434 AF; City of Hemet 4,542 AF; and City of San Jacinto 3,004 AF. It is recommended to reduce Adjusted Base Production for Public Agencies by 7.2% starting May 2018.

Mr. Ghaderi asked if this reduction is approved, will the production rights stay constant until the next model evaluation? Mr. Mortazavi said that is up to the Board. He also explained that there has been a 5-year drought and even though production has reduced significantly, the basin groundwater levels are still dropping. He is not sure if this drop in water levels is due to the drought or overdraft at the management area.

Mr. Mortazavi asked TAC members if this item was acceptable. Everyone agreed.

See Attachment 2 for presentation related to this item.

C. Update 2017 Annual Budget

Mr. Mortazavi presented updates to the budget based on the changes that have taken place between January 2017 and August 2017.

The original Administrative Assessment estimates were based on the 2015 and 2016 productions. Based on that information, Administrative Assessments revenue is projected to be $610,851, and the original budget was $805,070. Administrative Assessment estimates for 2017 are updated based on 2016 and 2017 groundwater production data. The updated estimate for the 2017 Administrative Assessments is $518,059, and the updated 2017 Budget is $720,970. The difference between received assessments and expected budget will create an estimated budget shortfall of $202,911.

Mr. Wall commented that the last column on the Updated 2017 Budget slide, might read better if it was amended to say projected end of fiscal year expenditures.

Mr. Mouawad asked what are the reserves that the Watermaster maintains? Mr. Mortazavi answered that the Watermaster has approximately 1 million dollars in reserves. The Reserves and Investments Committee has recommended the Reserve to be approximately 1 million dollars. Mr. Wall asked if the shortfall will self-correct in the future? Mr. Mortazavi said he expects that, but it would take several years, and TAC could re-visit the Administrative Assessments rate if that is not acceptable. Mr. Wagoner asked if the Board was going to approve money for advanced deliveries? Mr. Mortazavi explained that the Judgment is very specific about how the Administrative Assessments can be used. The Replenishment Assessment, can be used for purchase of water. The Administrative Assessment is used for the studies and operation of the Watermaster. Ms. Jensen asked hypothetically, if the Watermaster had an extra million dollars to spend on water, what would that look like? If the

City is in a situation of pre-delivery and there is an extra million on reserve, does that become additional water that they're buying and not count toward the agency pre-delivery purchase? Mr. Mortazavi explained that if the Watermaster had an extra million dollars, and all the parties wanted to use this money to off-set purchase of some of the pre-delivered water, this could be done with Board approval. Mr. Ghaderi asked if EMWD purchases the MWD pre-delivered water, how does that impact the Watermaster budget? Mr. Mortazavi explained that the recharge of Soboba Imported Water is not part of the Watermaster Budget. Mr. Mouawad asked TAC if they would want to pay this year's MWD rate for pre-delivery, and avoid the escalation in the next year's MWD rate? It is EMWD's position to pay for the water this year and avoid the MWD rate escalations for next year. Ms. Jensen said that the City of Hemet tries to establish their budgets so that they would be prepared for purchase the pre-delivered water this year. Mr. Mouawad suggested that EMWD prepare a table that would show the amount of pre-delivery, between now and the end of the calendar year, and each agency's share. Ms. Jensen asked if all agencies must participate or could only those who want to participate? Mr. Mouawad believes it is all or nothing. EMWD's target for delivery of Soboba Imported Water in 2017 is 22,000 AF. The current recharge is at 11,000 AF which includes delivery of prior allocations. EMWD estimates they have less than a month before MWD begins the pre-delivery phase. Mr. Mouawad indicated if MWD is able to continue the delivery of recharge water, then there would be approximately 10,500 AF of water that would be shared among the parties. Mr. Wagoner asked how does this synchronize with the Watermaster activities because agencies receive 7,500 AF of recharge water every year? It is Mr. Mouawad's understanding that once the 11,500 is reached this year, MWD has fulfilled their past commitment. Mr. Mouawad will confirm this. Mr. Wagoner said that LHMWD budgeted for the past amounts and their share of the 7,500 AF for this year, therefore, he would need LHMWD Board authorization to purchase MWD's pre-delivered water. Mr. Mouawad said that he believes EMWD pays MWD for this water and EMWD will bill each agency. That is why he believes all agencies must participate, it's all or nothing. The accounting would be an administrative burden for EMWD. Mr. Wagoner believes that LHMWD is currently not in the position to participate. However, if he has advanced notice, he can bring it to his Board for discussion. The agreement will need to be reviewed to clarify if all agencies will need to participate. In the meantime, Mr. Mouawad will prepare a table of the amount of pre-delivery for the balance of the calendar year, broken down by agency and see what that would equate to today, financially versus how much of it could be purchased next year.

See Attachment 3 for presentation related to this item.

D. Draft 2018 Annual Budget

The Draft Rules and Regulations, requires the Advisor to present the Draft Annual Budget at a workshop in September prior to the November Board meeting, to give the Board Members ample time to review the Budget. Even though the Draft Rules and Regulations document has not yet been approved by the Board, Mr. Mortazavi is planning to present the Draft 2018 Annual Budget at the upcoming Board Meeting to fulfil this requirement, and to eliminate the need for an extra meeting for the Board Members just for reviewing the Draft Annual Budget.

Mr. Mortazavi presented the Draft 2018 Annual Budget to the TAC. This included the 2018 Budget assumptions; and estimated 2018 Replenishment and Administrative Assessments. He also provided detail estimates and justifications for each line item on the budget. The total 2018 Draft Budget is estimated at $657,570, and the 2018 Administrative Assessment is

estimated at $508,970. Based on these estimates, there will be a shortfall of approximately $148,600 that can be supplemented by the reserve funds.

Mr. Wall asked what is the reasoning for having one million on reserve if it cannot be used to purchase water? Mr. Mortazavi explained that it is to have that money available for unplanned studies, projects, and/or legal expenses. He also explained that the million-dollar reserve requirement has been proposed by the Reserves and Investment Committee which is part of the Draft Rules and Regulations document. Mr. Mouawad expressed that since TAC has not seen the written revised Reserves and Investments Committee's recommendation on the amount of money that should be set aside for reserve, it would be hard for TAC to make a recommendation as to whether there needs to be a change in the Administrative Assessment Rate. Mr. Mortazavi mentioned that the Reserves and Investments Committee recommendations have been presented to the Watermaster Board in writing, and he will provide a copy of that Committee's Board presentation to the TAC.

Mr. Kanetis suggested that the Board should be made aware that there will be a deficit on reserve funds.

See Attachment 4 for presentation related to this item.

III. STATUS OF THE SOBOBA IMPORTED WATER RECHANGE – EMWD

Mr. Mouawad provided a copy of the Contract for Delivery of Water Pursuant to Settlement between EMWD and MWD (Attachment 5). He referenced page 5 paragraph 6 that discusses pre-deliveries. It is his opinion that all agencies must participate in the purchase of the pre-delivered water. Mr. Mortazavi stated that he believes EMWD can purchase their share of pre-delivered water, and each party has the option to join in or opt out. Mr. Wagoner agrees with Mr. Mortazavi's opinion on this matter. Mr. Mouawad reiterated that if EMWD were to purchase water, it would become an accounting burden on them. Mr. Daverin explained that for every acre foot of recharge, there is a set rate that EMWD charges for their time in the field and delivery of the MWD water to the ponds. After much discussion, TAC members decided to wait until Mr. Mouawad puts a table together with the amount of pre-delivery for the balance of the calendar year, broken down by agency before the parties inform EMWD on their respective decisions.

Mr. Nusser presented an update on the Soboba Imported Water recharge and River diversions. The IRRP North ponds are reconfigured and the ponds are back on-line receiving recharge water. Soboba Imported Water recharge at Grant Avenue Ponds is at 2,872 AF as of 8/13/2017 with a goal of 5,200 AF. Soboba recharge at IRRP Ponds is at 8,111 AF as of 8/13/2017 with a goal of 14,820 AF. The total Soboba Imported Water recharge to date is 10,938 AF as of 8/13/2017 with a goal of 20,020 AF. River Diversions at the Grant Avenue Ponds between 11/1/2016 and 6/30/2017 is at 3,150 AF with a maximum permitted diversion of 5,760 AF. Mr. Nusser reviewed the IRRP Recharge site and Water Levels as well as Grant Avenue Ponds Imported Water recharge between January 2016 to August 2017.

Mr. Mortazavi asked if the table that Mr. Mouawad is putting together would be added to this presentation for the Board Meeting on August 28, 2017. Mr. Mouawad said it would be added to this presentation.

See Attachment 6 for presentation related to this item.

IV. UNUSED SOBOBA IMPORTED WATER CALCULATION – SOBOBA GROUNDWATER PRODUCTION OUTSIDE THE MANAGEMENT AGEA - EMWD

Mr. Mortazavi said that when the Ad-Hoc Committee met with the Soboba Tribal Council, Tribe consultant stated that there is a well which is used by the Tribe but not reported to the Watermaster as part of the Soboba production. Mr. Mortazavi brought this issue to TAC at the previous meeting, and EMWD wanted to review the location of this well to make sure it was out of the Basin.

Mr. Daverin distributed a set of maps (Attachment 7), which show the well in question is out of the Basin and should not be considered as part of the Unused Soboba Imported Water calculations. Mr. Daverin clarified that this well is included in the Groundwater Model but it is outside of the active model cells.

V. STATUS OF THE DRAFT STORAGE AGREEMENT

Mr. Mortazavi reported that there has been one teleconference regarding this item. The Draft Storage Agreement that was received from EMWD prior to the conference call with the Watermaster Legal Counsel has been revised by EMWD after the conference call. Mr. Bunn is in the process of reviewing the new Draft Storage Agreement. Mr. Mouawad informed TAC that EMWD's attorney has not yet received any revisions from Mr. Bunn.

VI. OTHER ITEMS PER TAC MEMBERS REQUEST(S):

A. Additional TAC Meetings - Discussion

This was a request made by Mr. Wagoner at the last TAC meeting, and Mr. Mortazavi has added this to the agenda for discussion and to receive feedback from the TAC. After some discussion, TAC members indicated that additional TAC Meetings are not necessary at this time.

VII. NEXT MEETING NOVEMBER 13, 2017

AGENDA

HEMET – SAN JACINTO WATERMASTER
BOARD OF DIRECTORS

November 27, 2017
4:00 pm
EMWD - Board Room
2270 Trumble Road, Perris, CA 92750

CALL TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

I. PUBLIC COMMENTS

Any person may address the Board on any subject within the Watermaster's jurisdiction which is not on the agenda. However, any non-agenda matter that requires action will be referred to staff for a report and action at a subsequent Board meeting. Any person may also address the Board on any agenda matter at the time that matter is discussed, prior to Board action.

II. ADDITIONS/DELETIONS TO THE AGENDA

III. REPORTS

The following agenda items are reports. They are placed on the agenda to provide information to the Board and public. There is no action called for in these items.

A. Board Member Comments/Questions/Reports
- Rules and Regulations Committee.
- Reserves and Investments Committee.

B. Advisor Report

C. Legal Counsel Report

D. Treasurer Report

IV. CONSENT CALENDAR

A. Approval of Minutes – May 22, 2017 Regular Board Meeting.
Recommendation: Adopt a motion to approve item A on the Consent Calendar.

B. Approval of Minutes – August 28, 2017 Regular Board Meeting.
Recommendation: Adopt a motion to approve item B on the Consent Calendar.

Consent Calendar items are expected to be routine and non-controversial and are to be acted upon by the Board at one time without discussion. If any Board member, staff member, or interested person requests that an item be removed from the Consent Calendar, it will be removed from the Consent Calendar for separate action.

V. ACTION ITEMS

The following items call for discussion and possible action by the Board. These items are placed on the Agenda so that the Board may discuss and possibly take action on the items if the Board desires.

A. Consideration to Adopt 2018 Annual Budget - 2018 Budget presentation.
Recommendation: Adopt a motion to Approve Proposed 2018 Annual Budget and Authorize Advisor to initiate proposed activities and invoice participating agencies in accordance with the proposed payment schedule.

B. Consideration to Adopt Resolution 9.3 RE Administrative Assessment for 2018 – Per Section 3.4.1 of the Stipulated Judgment, Watermaster shall set the Administrative Assessment for 2018.
Recommendation: Adopt a motion to Approve Resolution 9.3 setting the Administrative Assessment for 2018 at $30 per acre-foot.

C. Consideration to Adopt Resolution No. 8.1 RE Deferral of Setting Replenishment Assessment until February 2019 - Summary of the Resolution 8.1.
Recommendation: Adopt a motion to Approve Resolution 8.1 Deferring setting of the Replenishment Assessment until February 2019.

D. Revised 2016 Carry-Over Credit Accounts – Presentation to summarize revisions to the Carry-Over Credit Accounts as of December 31, 2016.
Recommendation: Receive and File Revised Carry-over Credit Account Balances

E. Consideration to Approve 2017 Water Resources Well Video Program Support Services Task Order with EMWD – Oral summary of the proposed Task Order.
Recommendation: Adopt a motion to approve EMWD Water Resources Monitoring Support Services Task Order Number 10 for an amount not-to-exceed $60,000.

VI. INFORMATIONAL ITEMS/CORRESPONDENCE

A. Status of the Soboba Imported Water Recharge - Presentation by EMWD, on the status of the Soboba Imported Water deliveries and recharge at the Grant Avenue and IRRP ponds.

B. Future Agenda Items - If Board Members have items for consideration at a future Board Meeting, please state the agenda item to provide direction to the Advisor.

VII. CLOSED SESSION - NONE

VIII. ADJOURNMENT

Next Regular Board of Directors Meeting
February 26, 2018 at 4:00 pm at:
Eastern Municipal Water District Board Room
2270 Trumble Road, Perris, CA 92750

Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities, as required by Section 202 of the Americans With Disabilities Act of 1990. Any person with a disability who requires a

modification or accommodation in order to participate in a meeting should direct such a request to the Watermaster Executive Assistant at 714-707-4787, at least 48 hours before the meeting, if possible.

Pursuant to Government Code Section 54957.5, any writing that (a) is a public record; (b) relates to an agenda item for an open session of a regular meeting of the Watermaster Board of Directors; and (c) is distributed less than 72 hours prior to that meeting, will be made available for public inspection at the time the writing is distributed to the Board of Directors. Any such writing will be available for public inspection at Watermaster's office located at 2270 Trumble Road, Perris, CA 92750.

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December 2016 Carry-Over Credits Revisions/Corrections

Hemet-San Jacinto Watermaster
TAC Meeting

November 13, 2017

2016 Public Agencies Groundwater Productions

Presented at the May 22, 2017 Board Meeting
(All Values in AF)

Agency	Adjusted BPR for 2016	Actual 2016 Productions	Production via Phase I Agreement Wells *	Excess Production Above Adjusted BPR	Unused Adjusted BPR
City of Hemet	5,199	3,631	221	0	1,568
City of San Jacinto	3,383	2,157	0	0	1,226
EMWD	8,758	6,171	3585	0	2,586
LHMWD	8,649	7,144	1624	0	1,505
Totals	25,989	19,103	5,430	0	6,885

Data shaded in yellow need to be revised/corrected

* Includes All Deliveries by EMWD to Other Agencies

BPR = Base Production Rights

Public Agencies Carry-Over Credits as of December 31, 2016

Presented at the May 22, 2017 Board Meeting

(All Values in AF)

Agency	Pre 2012 Recharge Rights as of Dec. 31, 2016	* Total Unused SbT Imported Water as of Dec 31, 2016	Total Unused Adjusted BPR (AF) as of Dec 31, 2016	Totals as of Dec 31, 2016	Future MWD Deliveries to Cover Obligations
City of Hemet	0	5,766	6,274	12,039	1,186
City of San Jacinto	0	3,894	4,331	8,225	756
EMWD	4,694	616	11,905	17,215	2,039
LHMWD	0	4,164	3,568	7,732	2,069
Totals	4,694	14,440	26,078	45,212	6,050

Data shaded in yellow need to be revised/corrected

* Unused Soboba Tribe Imported Water include Soboba Tribe production from Soboba Golf Course wells.

BPR = Base Production Rights

SbT = Soboba Tribe

2016 Public Agencies Groundwater Productions

Revised as of November 2017

(All Values in AF)

Agency	Adjusted BPR for 2016	Actual 2016 Productions	Production via Phase I Agreement Wells *	Excess Production Above Adjusted BPR	Unused Adjusted BPR
City of Hemet	5,199	3,631	221	0	1,568
City of San Jacinto	3,383	2,157	0	0	1,226
EMWD	8,649	6,171	3585	0	2,477
LHMWD	8,758	7,144	1624	0	1,614
Totals	25,989	19,103	5,430	0	6,885

* Includes All Deliveries by EMWD to Other Agencies

BPR = Base Production Rights

Public Agencies
Corrected Carry-Over Credits
as of December 31, 2016
Revised as of November 2017
(All Values in AF)

Agency	Pre 2012 Recharge Rights as of Dec. 31, 2016	* Total Unused SbT Imported Water as of Dec 31, 2016	Total Unused Adjusted BPR (AF) as of Dec 31, 2016	Totals as of Dec 31, 2016	Future MWD Deliveries to Cover Obligations
City of Hemet	0	5,766	6,274	12,039	1,186
City of San Jacinto	0	3,894	4,331	8,225	756
EMWD	4,694	616	11,796	17,107	2,039
LHMWD	0	4,164	3,677	7,841	2,069
Totals	4,694	14,440	26,078	45,212	6,050

* Unused Soboba Tribe Imported Water include Soboba Tribe production from Soboba Golf Course wells.
BPR = Base Production Rights
SbT = Soboba Trib

Class B Participants Carry-Over Credits
(as of December 31, 2016)

Legal Owner Name	Base Prod. Alloc.	Total Prod. Below Alloc. as of December 2015	2016 Prod.	Total Prod. Below Alloc. as of Dec. 2016	Total Prod. Above Alloc. as of Dec. 2016
Cordero Family Trust	1398	2141	509	3030	
Gless Trust Pt.	588	1087	77	1598	
Gless Family Trust	1505	2780	197	4088	
Olsen Robert D & Olsen Elva I.	14	7	8	13	
Olsen Citrus LLC	37	18	22	34	
Arlington Veterinary Laboratories Inc.	105	52	62	95	
Oostdam Peter G & Jacoba M & John P & Margie K.	259	572	97	734	
San Jacinto Fund LLC	596	1788	0	2384	
Record Randolph A & Record Anne M.	46	126	0	171	
Sybrandy Investment Co. LP	1182	2310	370	3122	
Boersma Eric & D Family Trust	195	798	167	826	
Curci San Jacinto Investors LLC	260	780	0	1040	

Class B Participants Carry-Over Credits
(as of December 31, 2016)
(Cont.)

Legal Owner Name	Base Prod. Alloc.	Total Prod. Below Alloc. as of Dec. 2015	2016 Prod.	Total Prod. Below Alloc. as of Dec. 2016	Total Prod. Above Alloc. as of Dec. 2016
Nuevo Dev Co. LLC	151	453	0	604	
Security Title Insurance Co.	1	0	0	0	
Lauda Family Ltd Partnership	3299	1192	696	1045	
Lauda Bertrand & Lauda Erma J.	147	53	31	47	
Rancho Diamante Inv.	92	226	0	318	
Diamante Rancho	50	123	0	173	
San Jacinto Spice Ranch Inc.	265	726	0	991	
Scott Ag Property	1755	449	128	1198	
Vandam Donald Dick and Vandam Frances L.	531	798	121	1209	
Vandam Glen A and Vandam Jennifer A.	139	325	49	415	
Velde Children Trust & Pastime Lake Inv. (Combined)	357	115	359	114	

Recommendation

Receive and File the Revised 2016 Carry-Over Credit Accounts Summary Data

Questions…

Proposed
2018 Annual Budget

Watermaster TAC Meeting
November 13, 2017

2018 Budget Assumptions

- **Starting May 2018 Public Agencies Adjusted Base Production Rights will be reduced by 7.2% from the current levels.**
- **Carry-over accounts will be used to offset any excess production in 2017 - No Replenishment Assessments will be collected in 2018.**
- **Replenishment Assessment will be set in early 2018 (if required).**
- **2018 Administrative Assessments are estimated based on actual 2016/2017 production data.**
- **Coordinated projects with EMWD:**
  - **Groundwater Monitoring Program.**
  - **Video Inspection of Well Casings (continued from 2017).**
  - **Evaluation of the EMWD's proposed recharge project.**
  - **Soboba Gravel Pit Dewatering (if needed).**
- **Continued operation from the Corona office.**

Estimated 2018 Administrative Assessments

Agency	2018 Adjusted BPR (AFY)	Projected 2018 Production (AF) *	Est. Prod. Subject to Admin. Assmt. (AF) **	2018 Est. Admin. Assmt. ($) ***
City of Hemet	4,613	3,523	2,623	$78,685
City of San Jacinto	3,044	2,572	1,672	$50,160
EMWD	7,470	6,563	4,563	$136,889
LHMWD	7,563	7,999	7,563	$226,897
Totals	22,691	20,657	16,421	$492,631

AF = Acre-feet
Assmt. = Assessment
Est. = Estimated
AFY = Acre-feet per year
BPR = Base Production Rights
Prod. = Production

* 2018 Production Projections are based on Jan-Sept 2017 and Oct-Dec 2016 productions.
** The Cities of Hemet and San Jacinto can produce 900 AFY without any Admin. Assessment payment and EMWD is expected to use Pre-2012 recharge credits.
*** Based on Admin. Assessment rate of $30/AF

Estimated Replenishment for 2018

Agency	Modified BPR for 2017 (AFY)	Estimated 2017 Production	Estimated 2017 Prod. Above/(Below) Adjusted BPR	Estimated 2018 Repl. (AF)
City of Hemet	4,898	3,523	(1,375)	0
City of San Jacinto	3,209	2,572	(637)	0
EMWD	8,043	6,563	(1,480)	0
LHMWD	8,144	7,999	(146)	0
Totals	24,295	20,657	-3,638	0

AF = Acre-feet
BPR = Base Production Rights
Repl. = Replenishment
AFY = Acre-feet per year
Prod. = Production

Estimated 2018 Total Assessments

Agency	2018 Est. Admin. Assessments *	2018 Est. Replenishment Assessments	2018 Est. Total Assessments
City of Hemet	$78,685	$0	$78,685
City of San Jacinto	$50,160	$0	$50,160
EMWD	$136,889	$0	$136,889
LHMWD	$226,897	$0	$226,897
Totals	$492,631	$0	$492,631

- Based on Admin. Assessment rate of $30/AF

Est. = Estimated

Proposed Payment Schedule

- 2018 Administrative Assessment Invoicing:
  - 25% of total by July 15, 2018.
  - 50% of total by October 15, 2018.
  - The remaining balance will be reconciled and invoiced by March 1, 2019.
- 2018 Replenishment Assessment Invoicing (if required - for 2017 excessive production):
  - Full 100% will be invoiced by May 1, 2018.

2018 Activities/Projects

- **Complete the 2017 Financial Audit**
- **Complete the 2017 Annual Report and file it with the Court.**
- **File the required 2017 information with DWR as part of the Sustainable Groundwater Management Act requirements.**
- **Review and update the property owners list.**
- **If required, set and initiate collection of Replenishment Assessment from the Parties.**
- **Coordinated activities with EMWD/TAC:**
  - **2017 Annual Report;**
  - **Evaluation of Video Inspection of well casings and Groundwater Monitoring Program Enhancement;**
  - **Finalize Evaluation and Approval of the Storage Agreement for the proposed EMWD recharge project; and**
  - **Initiate Gravel Pit dewatering project (if required).**

Proposed 2018 Budget

Budget Items	2017 Budget (Approved on Nov 28, 2016)	Projected Updated 2017 Expenditures (Aug 28, 2017)	Proposed Draft 2018 Budget
Agreements			
In-Lieu Program Agreement	$ 189,000	$ 189,000	$ 211,000
Coordinated Efforts with EMWD			
Groundwater Monitoring Program	$ 156,220	$ 156,220	$ 156,220
Video Inspection of Well Casings	$ 60,000	$ 60,000	-
Gravel Pit Cleanup Project			
Dewatering	$ 57,600	-	$ 57,600
Organization Operations & Management			
Financial Support Services	$ 10,500	$ 9,000	$ 8,500
Legal Counsel Services	$ 35,000	$ 30,000	$ 30,000
Advisor Services	$ 170,000	$165,000	$ 165,000
Administrative Support Services	$ 14,000	$ 14,000	$ 14,000
Insurance; Office Supplies; and Other Direct Costs	$ 7,500	$ 7,500	$ 10,000
Database/Mapping Application Maintenance	$ 5,250	$ 5,250	$ 5,250
Additional Projects/Activities			
Storage Project Evaluation	$ 100,000	$ 85,000	-
TOTALS	**$805,070**	**$ 720,970**	**$657,570**

Reserve Funds Impact

Revenue/Expenditures	Totals
Proposed 2018 Budget	$ 657,570
2018 Estimated Administrative Assessments (Based on $30/AF)	$ 492,631
Budget Shortfall	$ 164,939

Recommendation

- Set Administrative Assessment at $30/acre-foot for 2018.
- Consider approving the proposed 2018 Budget.
- Use reserve funds to offset excess expenditures proposed under 2018 Budget.
- Authorize Advisor to:
  - Initiate the proposed activities/projects.
  - Invoice participating agencies in accordance with the proposed schedule.

EMWD Update

Brian Powell, P.E.

November 13, 2017

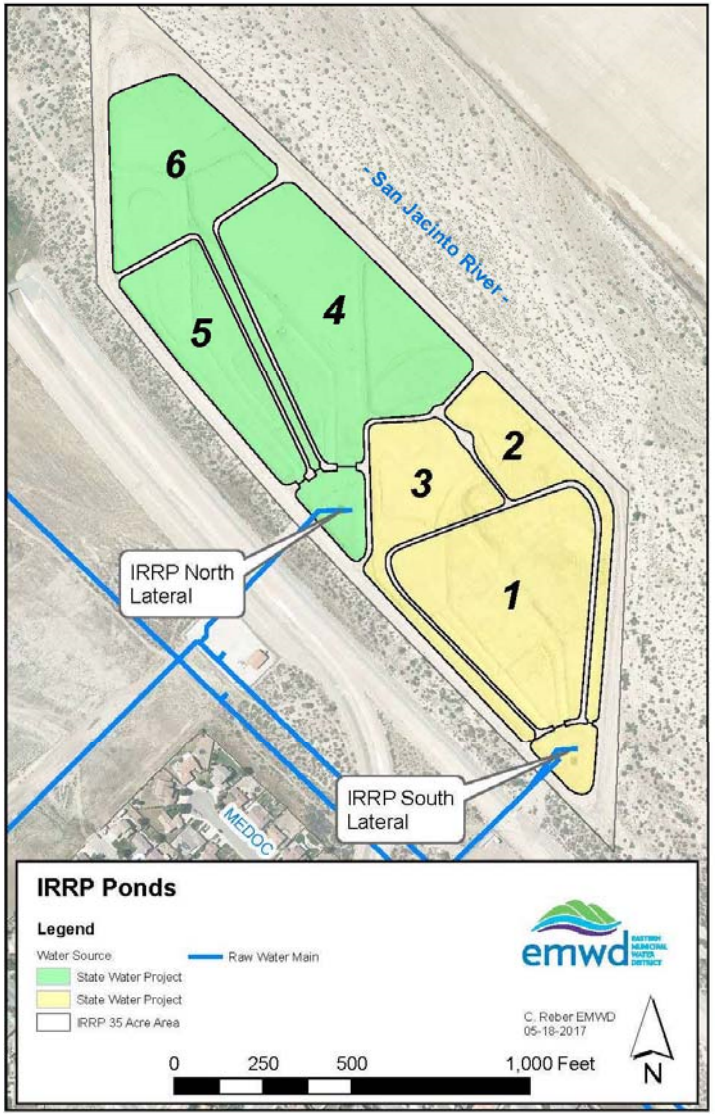
IRRP North Maintenance and Re-configuration

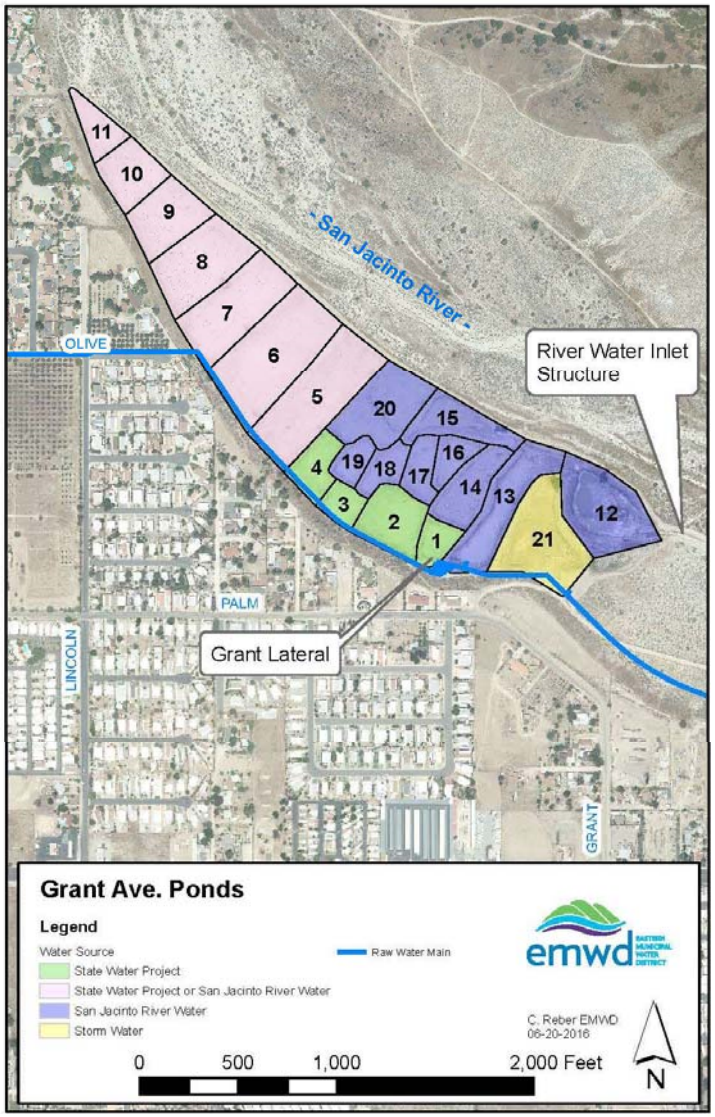
November End of Month (EOM) / Month to Date (MTD) Status Update			
	Grant	IRRP	Total
Previous MTD Recharge (AF)	131.0	132.9	263.9
Weekly Total (AF)	192.6	232.0	424.6
Current MTD Recharge (AF)	323.6	364.9	688.5
EOM Recharge Goal (AF)	600.0	1,390.0	1,990.0
Recharge to EOM Goal (AF)	276.4	1,025.1	1,301.5
Avg Rate - Past Week (gpm)	6,226.1	7,499.7	13,725.8
Avg Rate to Goal (gpm)	3,474.7	12,887.0	16,361.7
Avg Rate - Past Week (cfs)	13.9	16.7	30.6
Avg Rate to Goal (cfs)	7.7	28.7	36.5

2017 End of Year (EOY) / Year to Date (YTD) Status Update			
	Grant	IRRP	Total
Previous YTD Recharge (AF)	5,012.9	11,326.3	16,339.2
Weekly Total (AF)	192.6	232.0	424.6
Current YTD Recharge (AF)	5,205.5	11,558.3	16,763.8
EOY Recharge Goal (AF)	5,200.0	14,820.0	20,020.0
Recharge to EOY Goal (AF)	0.0	3,261.7	3,261.7
Avg Rate - Past Week (gpm)	6,226.1	7,499.7	13,725.8
Avg Rate to Goal (gpm)	0.0	15,062.8	15,062.8
Avg Rate - Past Week (cfs)	13.9	16.7	30.6
Avg Rate to Goal (cfs)	0.0	33.6	33.6

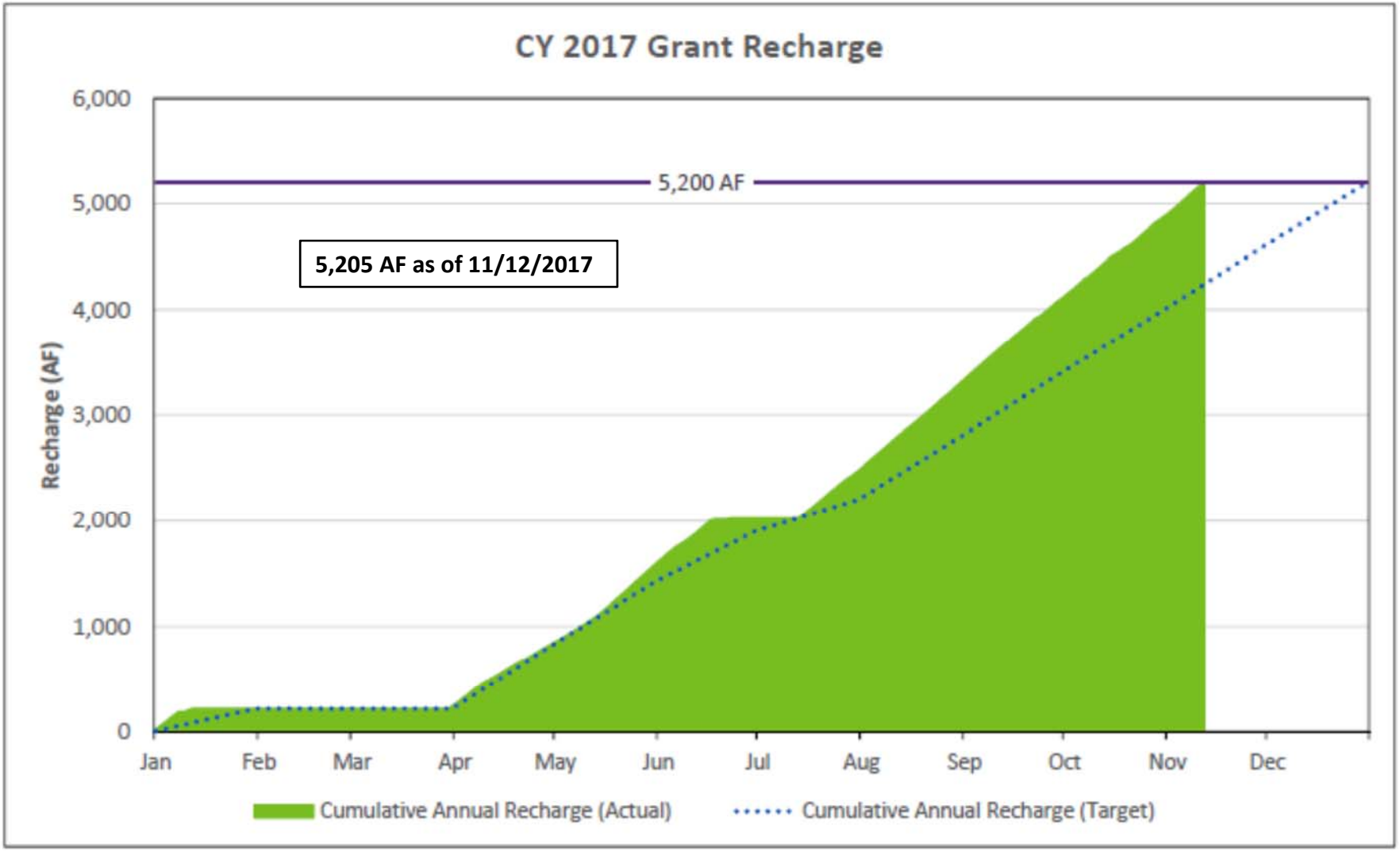
Daily Recharge Statistics							
	Mon (11/06)	Tue (11/07)	Wed (11/08)	Thu (11/09)	Fri (11/10)	Sat (11/11)	Sun (11/12)
IRRP South Recharge (AF)	0.0	0.0	11.0	11.0	0.0	0.0	0.0
IRRP South Avg Flow (gpm)	0.0	0.0	2,491.4	2,486.9	0.0	0.0	0.0
IRRP South Avg Flow (cfs)	0.0	0.0	5.6	5.5	0.0	0.0	0.0
IRRP North Recharge (AF)	29.4	24.9	32.5	31.7	31.7	29.4	30.4
IRRP North Avg Flow (gpm)	6,650.5	5,639.0	7,356.5	7,173.2	7,168.7	6,652.8	6,879.1
IRRP North Avg Flow (cfs)	14.8	12.6	16.4	16.0	16.0	14.8	15.3
Grant Recharge (AF)	31.0	26.0	27.3	27.7	28.2	25.8	26.6
Grant Avg Flow (gpm)	7,012.6	5,885.7	6,188.9	6,256.8	6,381.2	5,838.2	6,019.2
Grant Avg Flow (cfs)	15.6	13.1	13.8	13.9	14.2	13.0	13.4
Total Recharge (AF)	60.4	50.9	70.9	70.3	59.9	55.2	57.0
Total Average Flow (gpm)	13,663.1	11,524.7	16,036.8	15,916.9	13,550.0	12,491.0	12,898.3
Total Average Flow (cfs)	30.4	25.7	35.7	35.5	30.2	27.8	28.7
High / Low Temp (°F)	70/53	74/48	76/50	73/48	75/49	76/48	75/48
Weather Conditions	Sunny/Clear	Sunny/Clear	Sunny/Clear	Fog/Sunny	Fog/Sunny	Fog/Sunny	Sunny/Passing Clouds

IRRP and Grant Ponds

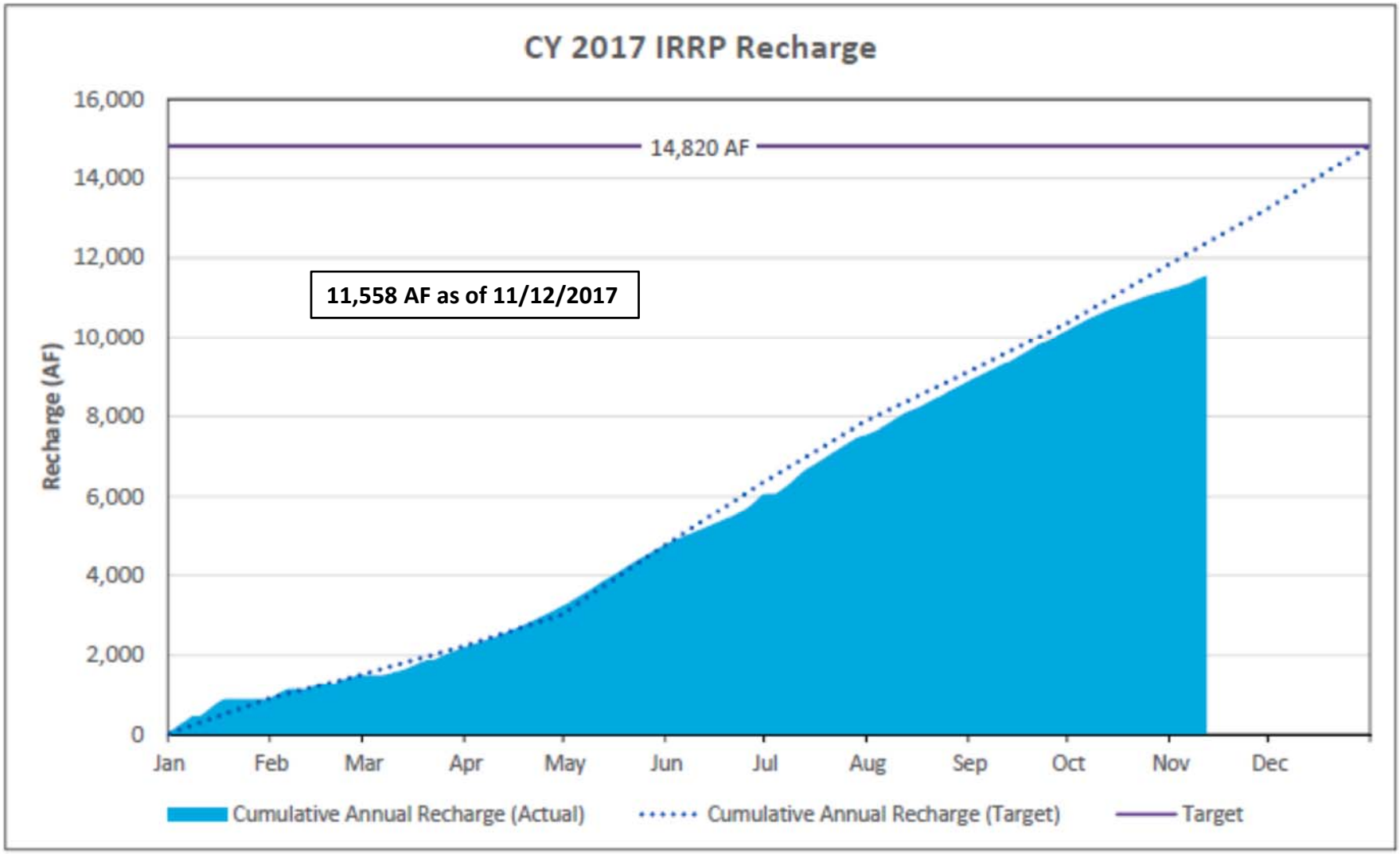




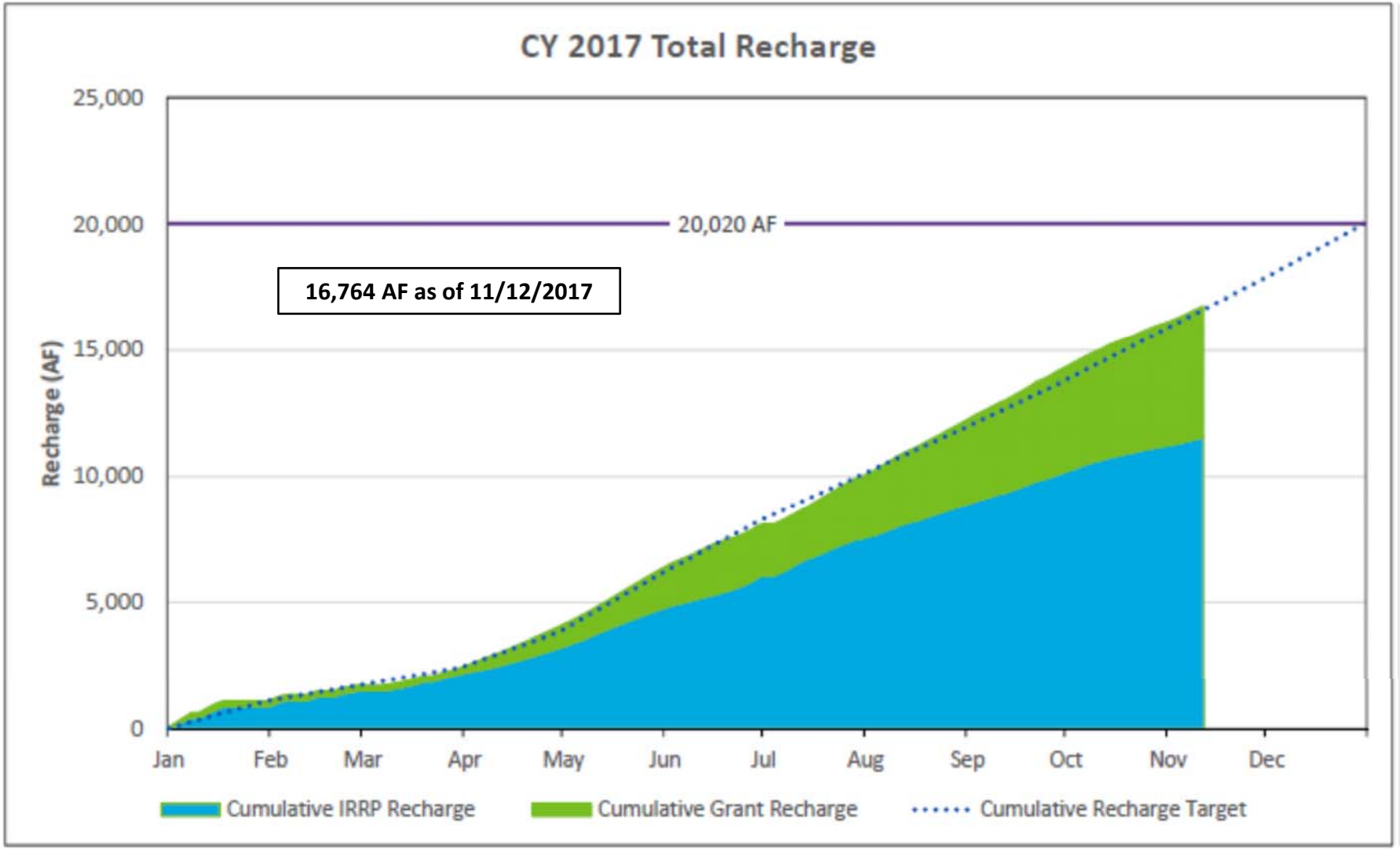
Soboba Recharge at Grant Ponds to Date for 2017



Soboba Recharge at IRRP Ponds to Date for 2017



Total Soboba Recharge to Date for 2017



Contact Information

Brian Powell, P.E.
Director of Groundwater Management and Facilities Planning
(951) 928-3777 Ext. 4278
powellb@emwd.org

August 23, 2017

Mailing ID #: 0000068-01N

GARY L MCMILLAN
29379 RANCHO CALIFORNIA RD STE 201
TEMECULA, CA 92591-5208

NOTICE OF GROUNDWATER EXTRACTION REPORTING UNDER THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA).

AVISO DE ENVIAR REPORTE(S) SOBRE EXTRACCIÓN DE AGUA SUBTERRÁNEA REQUERIDO POR LA LEY DE GESTIÓN SUSTENTABLE DEL AGUA SUBTERRÁNEA (SGMA)

This letter requires your immediate attention. This letter provides notice that you may be required to file one or more groundwater extraction reports with the State Water Resources Control Board (Board) pursuant to the Sustainable Groundwater Management Act (SGMA). Failure to file a required report may result in penalties of up to $500 per day.

Para obtener más información en español (formularios u otra información), nos puede llamar al (916) 322-6508 o enviar un mensaje a: groundwater_management@waterboards.ca.gov.

Why you are receiving this notice

This Notice is being sent to persons who may own property in an unmanaged area where groundwater was extracted after June 30, 2017. An unmanaged area is an area within a high- or medium-priority groundwater basin that is outside the jurisdiction of any groundwater sustainability agency (GSA) and not subject to an alternative or other exemption from SGMA requirements.

County parcel data indicate that you own the parcels listed at the end of this notice. The Board has identified these parcels as located within an unmanaged area. If you extract groundwater from an unmanaged area and you are not a small domestic user, SGMA requires that you file an annual groundwater extraction report for extractions made during the previous water year.

How to comply

Groundwater extraction reports must be filed with the Board through the online Groundwater Extraction Report website by December 15, 2017. You can access the website at www.waterboards.ca.gov/water_issues/programs/gmp/reporting.shtml.

The filing fee for a groundwater extraction report is currently $300 per well. Filing fees must be paid to the Board by February 15, 2018.

How to notify the Board if you believe you are not subject to SGMA reporting requirements

You can file an online form through the Groundwater Extraction Report website to notify the Board that you meet one of the following conditions:

- You do not own any of the parcels identified in the notice.
- You do not own or operate a well.
- You are a small domestic well user using less than two acre-feet for domestic purposes.
- You reported extractions for Water Year 2017 to the Division of Water Rights' Groundwater Recordation Program.

If you are not required to report, you will not be charged a filing fee for submitting the form.

Late filing and failure to file a Report

If you are required to file a groundwater extraction report and file after December 15, 2017, you will incur a late fee of $100 plus an additional late fee of $100 for each 30-day period that the report is late, pursuant to Section 1040, Chapter 4.5, Division 3, Title 23, of the California Code of Regulations. Failure to file a required groundwater extraction report may result in penalties of up to $500 per day pursuant to Section 5107 of the Water Code.

Resources to assist in completing the online Groundwater Extraction Report

Unmanaged Area Identification Map

The Board has developed an interactive map that shows the areas identified by the Board as unmanaged as of July 26, 2017. You will find more information and access to the map at www.waterboards.ca.gov/gmp.

Groundwater Extraction Report Guidance and FAQ

Guidance documents and answers to frequently asked questions are available online at www.waterboards.ca.gov/water_issues/programs/gmp/reporting.shtml.

Additional information

This notice is provided for your information, and is not an order or final action of the Board. The Board will not consider the filing of a groundwater extraction report as an admission by you that the report is required or as a waiver of the procedures for reconsideration that are available to you, including the opportunity to file a petition for reconsideration of fees pursuant to section 1045 of Chapter 4.5, Division 3, Title 23, of the California Code of Regulations.

If you have questions regarding this notice or need assistance completing the online groundwater extraction report, please contact Board staff by email at groundwater_management@waterboard.ca.gov or by phone at 916-322-6508.

Sincerely,

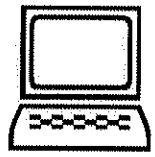
Sam Boland-Brien, Chief
Groundwater Management Program
Office of Research, Planning, and Performance

Enclosures: Groundwater Extraction Report Quick Guide

The following Assessor's Parcel Numbers (APN) prompted this letter:

553-080-019	WHITTIER
553-052-003	"
555-180-007	BAUTISTA
553-052-002	WHITTIER
553-052-002	"
553-080-012	"
553-080-023	"
553-210-003	BLACKBURN
553-090-009	WHITTIER
553-080-011	"
553-080-010	"
553-090-059	"
553-090-029	ADOBE
555-190-011	BAUTISTA
555-140-007	GRANT ST.
553-080-004	WHITTIER
553-090-041	"
555-300-008	BAUTISTA
553-080-018	WHITTIER
553-090-065	"

Groundwater Extraction Report *Quick Guide*



1 Sign up for an online account.

Register at https://public.waterboards.ca.gov/GRS/.

2 Review the User's Guide.

You should review the detailed User's Guide before you report.

3 Complete the User Form.

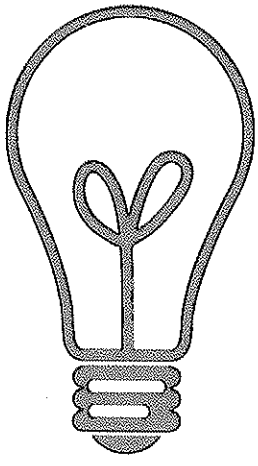
Tell us about the person who extracted groundwater.

4 Complete the Well Form.

Tell us about the well and the extracted groundwater.

5 Complete Report by December 15, 2017.

All forms must be completed by December



Things You Need To Know Before You Begin

- Contact information for the extractor.
- Location, depth, and capacity (flow rate) of the well.
- The method used to measure groundwater extraction volumes.
- Extraction volumes for July, August, and September 2017.
- What the extracted groundwater was used for.
- Where the extracted groundwater was used.

The reporting process takes about 60 minutes (per well) to complete.

Questions?

Email groundwater_management@waterboards.ca.gov or call 916-322-6508.

DRAFT MEMORANDUM

Project No.: 950009F-05

October 20, 2017

To: Ken McLaughlin – Soboba Band of Luiseño Indians

cc: Karl Johnson – Johnson Barnhouse and Keegan LLP

From: **Seann McClure**
Project Hydrogeologist

Erick W. Miller, CHG #371
Principal Hydrogeologist

Re: **Soboba Gravel Pit Infiltration Analysis**
WY 2017

This memorandum provides an updated analysis of the infiltration rate for the former Soboba Sand and Gravel Pit (pit), located in the San Jacinto River (SJR) floodplain upstream of the confluence with Poppet Creek. The pit is approximately 45 acres in size, and approximately 30 feet deep, and, as part of pit reclamation, has been maintained by removing silt to maximize infiltration capacity. Infiltration from the pit recharges the "Cienega" portion of the Canyon Groundwater Subbasin.

This memorandum focuses on pit infiltration estimated from a water balance for water year (WY) 2017 (starting October 1, 2016 ending September 30, 2017). The pit was dry by July 7, 2017, and, therefore the WY 2017 analysis period terminates on this date. This memorandum first provides a summary of findings followed by a description of the water balance, and concludes with discussion of pit conditions going into the 2017/2018 season.

Summary of Findings

For WY 2017, Pit recharge was estimated at 5500 acre feet (AF) (Table 1). Table 1 provides a yearly summary of the estimated pit infiltration volumes determined using a water balance method. The value of the recharged water was estimated based on Metropolitan Water District of Southern California (MWD) untreated, imported water. Eastern Municipal Water District (EWMD) has indicated the cost for untreated water from MWD is approximately $660/AF. Applying this unit cost, the value of Pit recharge during WY 2017 is estimated at $3.6 million.

Test pit explorations performed in September 2017 in the Pit found silt accumulations over most of the Pit floor. Removal of silt from the Pit floor and sidewalls should be performed in 2017 to maintain recharge.

Table 1: Water Year Estimated Pit Infiltration

2008	5,400 acre-feet
2009	400 acre-feet
2010	4,700 acre-feet
2011	11,800 acre-feet
2012	Minor infiltration*
2013	Minor infiltration*
2014	Minor infiltration*
2015	Minor infiltration*
2016	Minor infiltration*
2017	5,500 acre-feet

*minor infiltration (<~250 AF) may have occurred during these years.

2016 Pit Reclamation Activities

In 2016, the Pit maintenance activities included clearing vegetation and ripping the accumulated silt to enhance infiltration. The work was performed by the Tribe in cooperation with EMWD and Lake Hemet Municipal Water District (LHMWD). Photos 1 and 2 below show the pit after ripping and staff gage installation. Removal of silt has last occurred in November 2011.

Photo 1. December 2016 view of Pit to southeast showing staff gage.

Photo 2. December 2016 view of cleaned and ripped Pit.

Water Balance Analysis

The infiltration rate through the alluvial materials in the Canyon Subbasin have not been directly measured; however, groundwater levels measured in wells near the river have indicated substantial infiltration during recharge events. Infiltration can be estimated by analysis of stream flow data and pit water levels, as described below.

Pit infiltration was calculated from the following water balance continuity equation:

Inflows = Outflows + Change in Storage

The water balance equation was applied to the reach of the SJR between the USGS gage at the Cranston Bridge and the downstream margin of the Canyon Subbasin (located just below the confluence with Poppet Creek). Elements of this water balance include:

- **Inflows:** SJR flows, Indian Creek flows, and minor inflows (stormwater discharge, etc.).
- **Outflows:** Eastern Municipal Water District (EMWD) diversions for Grant Avenue Ponds, riverbed infiltration upstream of the pit, pit infiltration, spills from the pit, and minor outflows (evapotranspiration, etc.).
- The change in storage was correlated with measured change in pit stage (ΔStage).

Figure 1 shows a schematic of the major water balance elements. To simplify this water balance analysis, minor inflows and outflows were not included, and all EMWD diversions were assumed to infiltrate at the Grant Avenue Ponds (i.e., no systematic overflow return to the SJR). Details of the water balance are described below, starting with SJR flows.

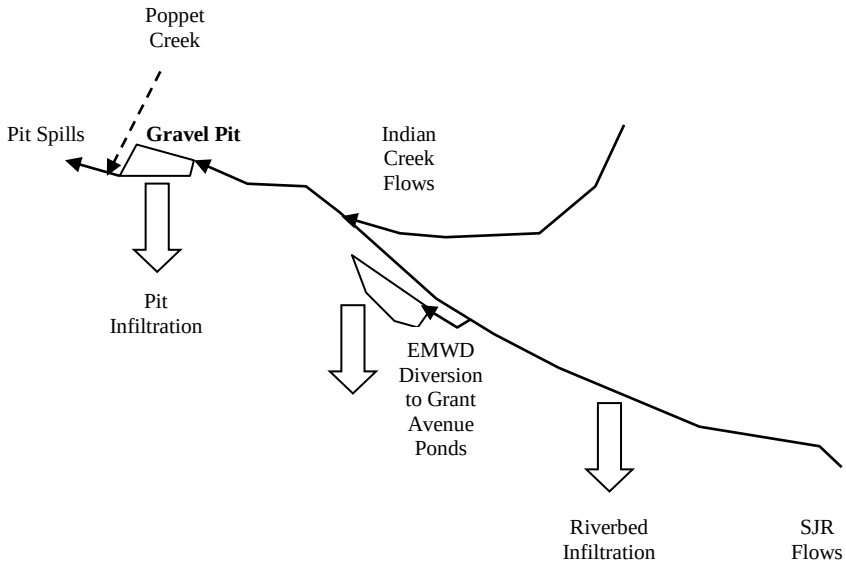
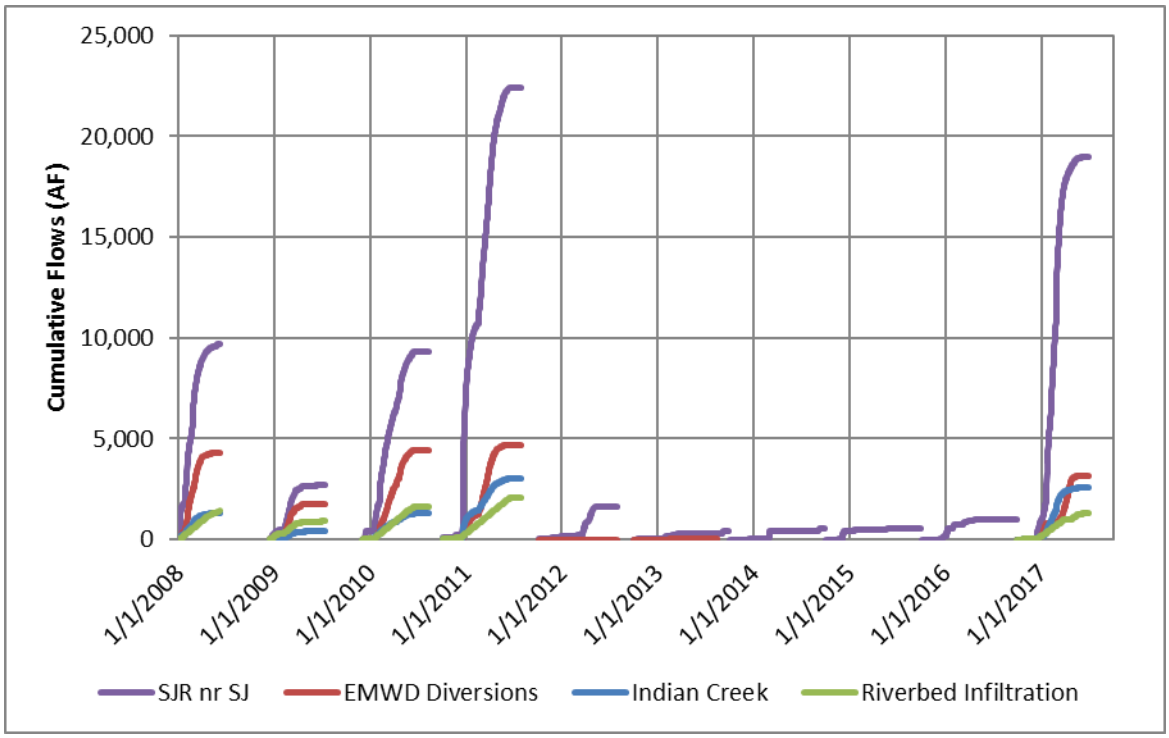


Figure 1: Schematic of Water Balance Elements

San Jacinto River Flows

Cumulative SJR flows were approximately 19,000 acre feet for WY 2017.

Daily average flow data were available for the USGS site number 11069500 "SAN JACINTO R NR SAN JACINTO," which is located about 5.7 miles upstream of the pit. Figure 2 shows the cumulative SJR flows during the 6 water years. SJR data used in this analysis were qualified by the USGS as "accepted", except "provisional" data after October 31, 2016.



Notes:
No significant gravel pit inflows occurred in WY 2012 and 2013.
Indian Creek flows not calculated in WY 2012 and 2013.
Riverbed infiltration not calculated in WY 2012 and 2013.
Because there was no SJR significant flow in WYs 2012 through 2016, infiltration and other water balance components were not computed.

Figure 2. Cumulative Surface Water Flows, Diversions, and Riverbed Infiltration

Riverbed Infiltration

Riverbed infiltration was estimated by identifying the difference in flows between the Cranston Bridge gage and Grant Avenue Pond diversions during periods when all flow was diverted to Grant Avenue Ponds. The difference in flow between these points is taken as the seepage rate between the Cranston Bridge gage and Grant Avenue Ponds and was extrapolated over the riverbed length between Cranston Bridge gage and the pit. Cumulative riverbed infiltration for WY 2017 was approximately 1300 AF.

The infiltration rate was determined from flows measured at the USGS site and diversions measured for Grant Avenue Ponds. Figure 3a and 3b show the daily diversions versus the daily average SJR flows during the first half of 2008 and for Jan 2016 through March 2017, respectively. For the conditions where diversions nearly equaled SJR flows, indicated by the trendline, it was assumed that all river water was diverted to Grant Avenue Ponds. Thus, the calculated infiltration was 7.5 acre-feet per day (maximum) for 2008 along this 2.8 mile reach, indicated by the offset value of the trendline. In other words, the trendline in the case of 2008 analysis indicates that a loss of 7.5 acre-feet per day occurs between the SJR gage and the Grant Avenue Ponds diversion. The 2008 and 2016/2017 data indicate an average loss of 6.8 acre-feet per day between Cranston gage and Grant ponds. It was assumed that there were no substantial changes in the channel between 2008 and 2017 and the average infiltration rate provides the best estimate. Increasing infiltration in proportion to channel length, the total calculated riverbed infiltration was 9.6 acre-feet per day (maximum) for the 4-mile reach between the USGS site and the confluence of the SJR and Indian Creek. Figure 2 shows the cumulative riverbed infiltration for 2016/2017.

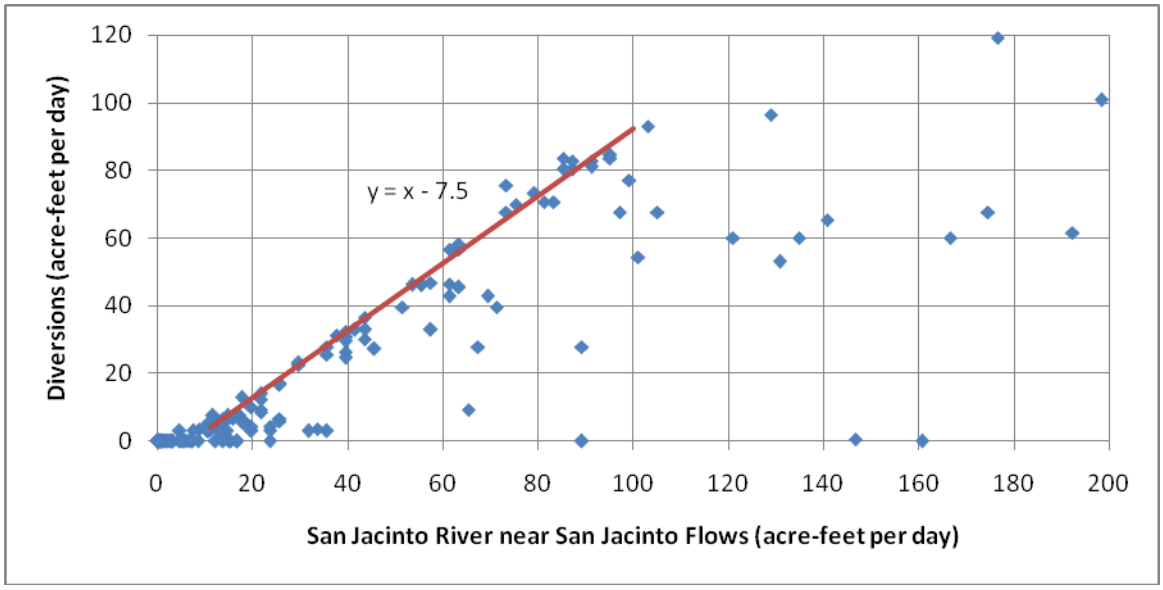


Figure 3a: Riverbed Infiltration Analysis - 2017

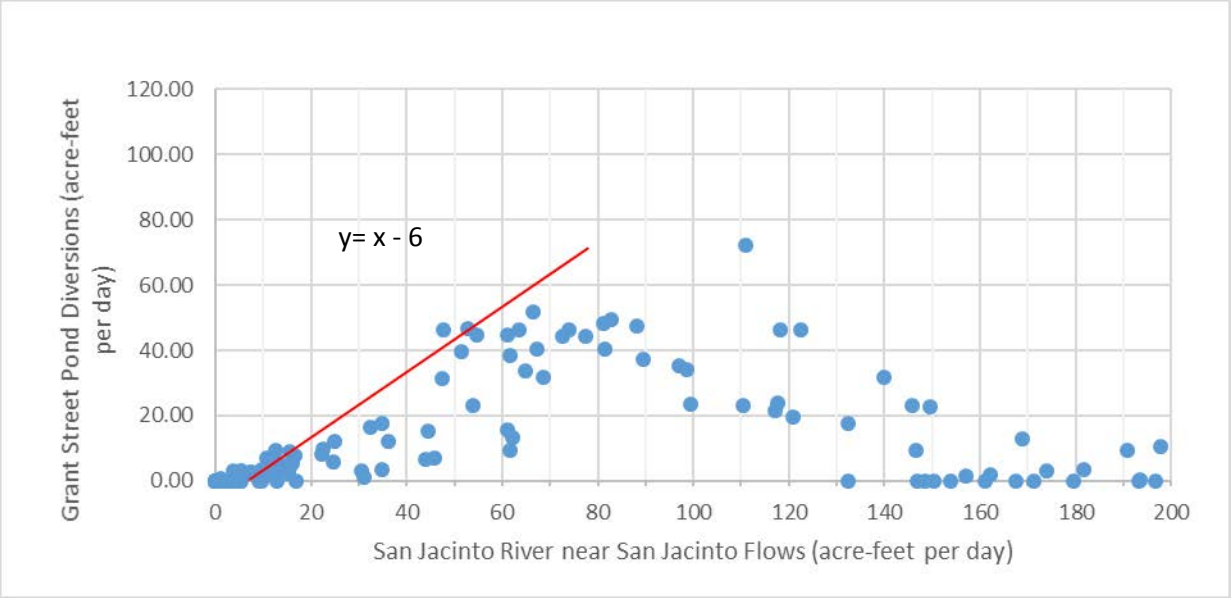


Figure 3b: Riverbed Infiltration Analysis - 2017

EMWD Diversions

Diversions were made by EMWD for the Grant Avenue Ponds, approximately 2.8 miles below the USGS gage. Cumulative diversions were approximately 3,150 acre-feet during WY 2017. Figure 2 shows the cumulative diversions during each water year.

Indian Creek Flows

Indian Creek is the primary tributary to the SJR between the USGS site and the pit, and below the EMWD diversions. Cumulative Indian Creek flows were approximately 2,600 acre-feet during WY 2017.

Indian Creek flows were calculated based on a correlation between Indian Creek flows and Sand Jacinto River flow as shown in Figure 4. The correlation was developed from data collected between 1936 and 1951, and adjusted to reflect summer base flow rates of about 9 acre-feet per month (equivalent to 0.15 cubic feet per second). Figure 2 shows the cumulative Indian Creek flows during the WY2017 analysis period.

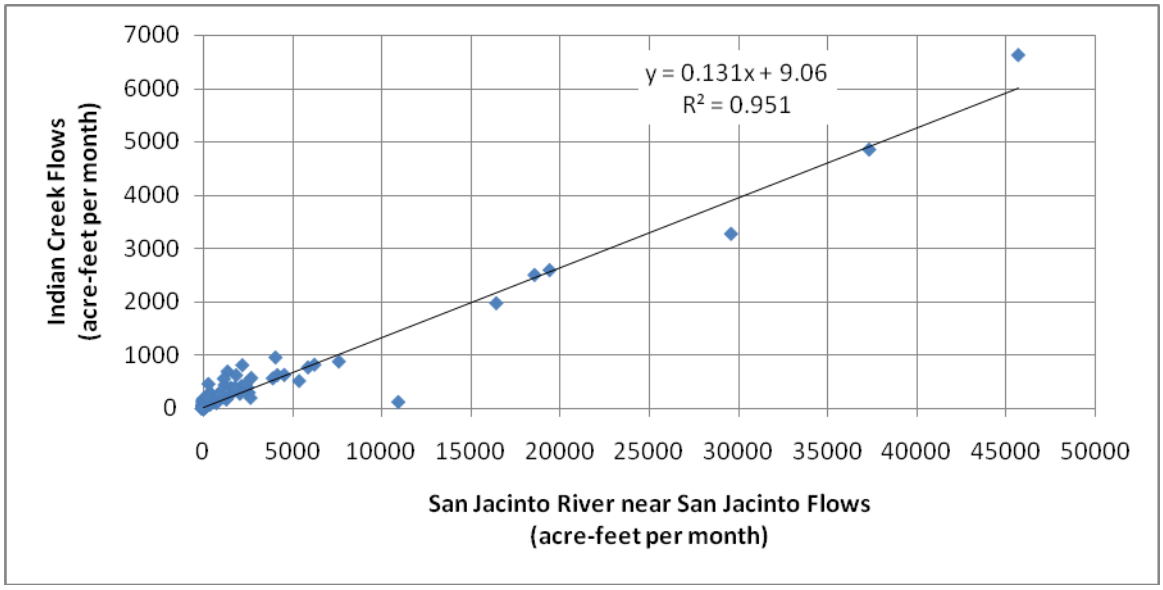


Figure 4: Flow Correlation: Indian Creek vs. San Jacinto River

Other Inflows

The Poppet Creek channel passes near the pit, and may have contributed to the pit inflows as seepage or direct discharge. However, the volume of Poppet Creek contributions were not measured or estimated for this analysis. In the past, seepage observed along the wall of the pit has been attributed to Poppet Creek.

Stormwater discharge to the SJR also contributes to flows upstream of the pit, but were not estimated for this analysis.

Gravel Pit Stage

Stage in the gravel pit was monitored in WY 2017 using a staff gage, pressure transducer, and field observations of Pit inflow and outflow. The transducer was damaged during Pit cleanout operations in fall 2016, was replaced, and became operational beginning April 5, 2017. Prior to the transducer gaging period, Pit stage was estimated by field observations by Soboba Public Works and Aspect staff.

The Pit fill period was between the first significant SJR flows on December 16, 2016 through January 23, 2017. From January 23 to March 5 (42-day period), the Pit was assumed to be filled and spilling continuously. There may have been periods during this timeframe when outflow stopped, but this is not expected to have had a significant effect on the calculated Pit infiltration. From March 5 to April 5, 2017, the Pit was no longer spilling but inflows were occurring. From April 5 to July 7, 2017, all outflow and inflow had ceased. The Pit was dry on July 7, 2017.

This water balance analysis assumed the pit spilled water to the downstream SJR when the stage was at or above 30.8 feet. Because the elevation of the outlet is subject to aggradation by Poppet Creek, the outflow elevation changes over time. The estimated outflow elevation of 30.8 feet is not expected to have a significant affect on calculated infiltration as discussed below.

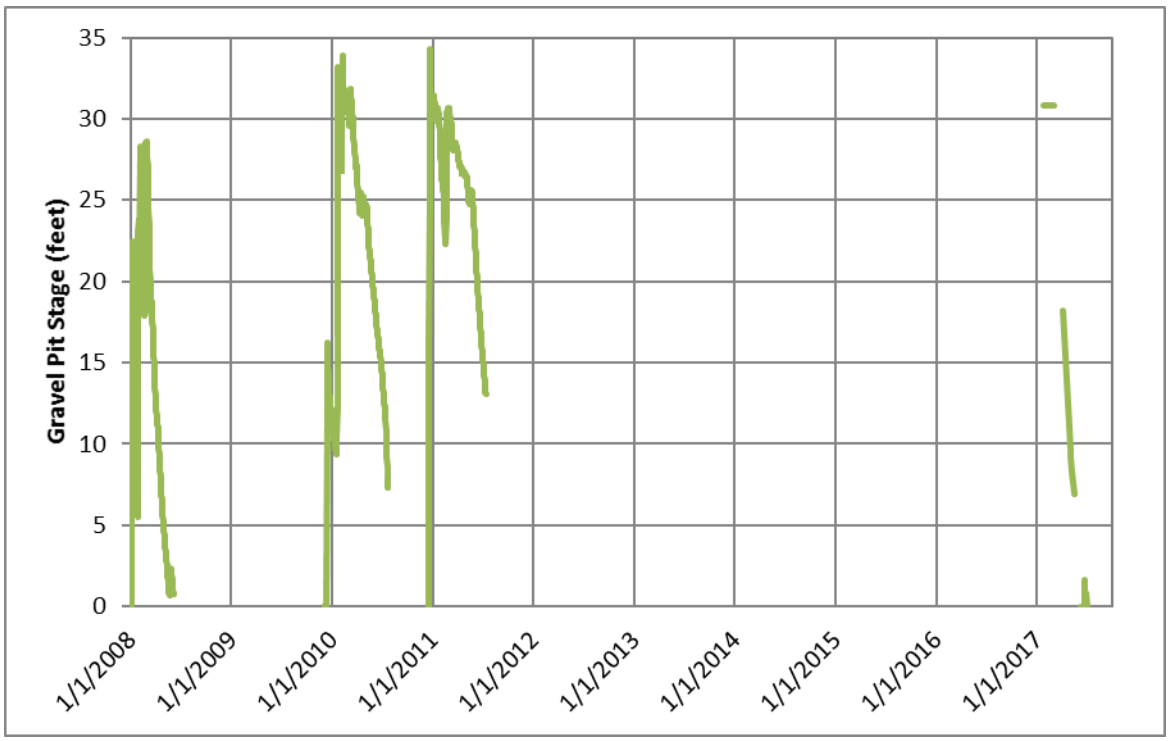


Figure 5: Gravel Pit Stage

Pit Infiltration

Pit infiltration could not be directly measured, but was calculated based on a water balance of the pit itself. The maximum estimated infiltration rate in the pit was approximately 2 feet per day for WY 2017, but depended on the water level in the pit (pit stage), and the condition of the pit floor

and sidewalls before and during the WY. **Cumulative pit infiltration was estimated at 5,500 acre-feet during WY 2017.** Figure 6 shows cumulative pit infiltration for each WY, along with gravel pit stage for reference.

Pit infiltration was calculated using the methods below for WY 2017 analysis, depending on whether the pit stage was less than 30.8 feet and rising, Pit was full, or the Pit stage was less than 30.8 feet and falling.

Rising Stage - Pit infiltration was based on the total inflows less the volume of water that filled Pit storage (change in stage). The sum of change in stage (ΔStage) and pit inflows normalized by the pit area (estimated at 45 acres based on aerial photographs) were calculated as follows:

$$\text{Pit Infiltration} = \text{Pit Inflows} - \Delta\text{Stage}$$

Pit inflows were calculated based on the water balance upstream of the gravel pit (see Figure 1), using the following equation:

$$\text{Pit Inflows} = \text{SJR Flows} - \text{EMWD Diversions} + \text{Indian Creek Flows} - \text{Riverbed Infiltration}$$

Pit Full - Pit infiltration was calculated using a stage-pit infiltration correlation.

A correlation between stage and pit infiltration rate was estimated based on collected stage data. Figure 7 presents the pit stage plotted as function of infiltration rate for WY 2017 and past years. Due to data collection difficulties, the stage observations for WY 2017 are limited to April through July 2017 when Pit stage was less than 20 feet. These WY 2017 lower stage values plot close to the lower stage-infiltration points for WY 2011; therefore, the stage-pit infiltration correlation was assumed to be the same as that for 2011 for higher stages and the WY2011 correlation was applied to the WY2017 data. Figure 7 shows the stage-infiltration correlations by water years, and the resulting exponential trendlines. (On a log-linear graph, such as Figure 7, exponential trendlines are straight.)

The infiltration rates shown in Figure 7 indicate that some infiltration capacity may have been lost after WY2008, but continued silt removal activities since then have maintained a similar range of infiltration rates. Future silt removal will be required to maintain the current range of infiltration rates.

Falling Stage – Pit infiltration was calculated based on inflows plus decline in Pit storage.

$$\text{Pit Infiltration} = \text{Pit Inflows} + \Delta\text{Stage}$$

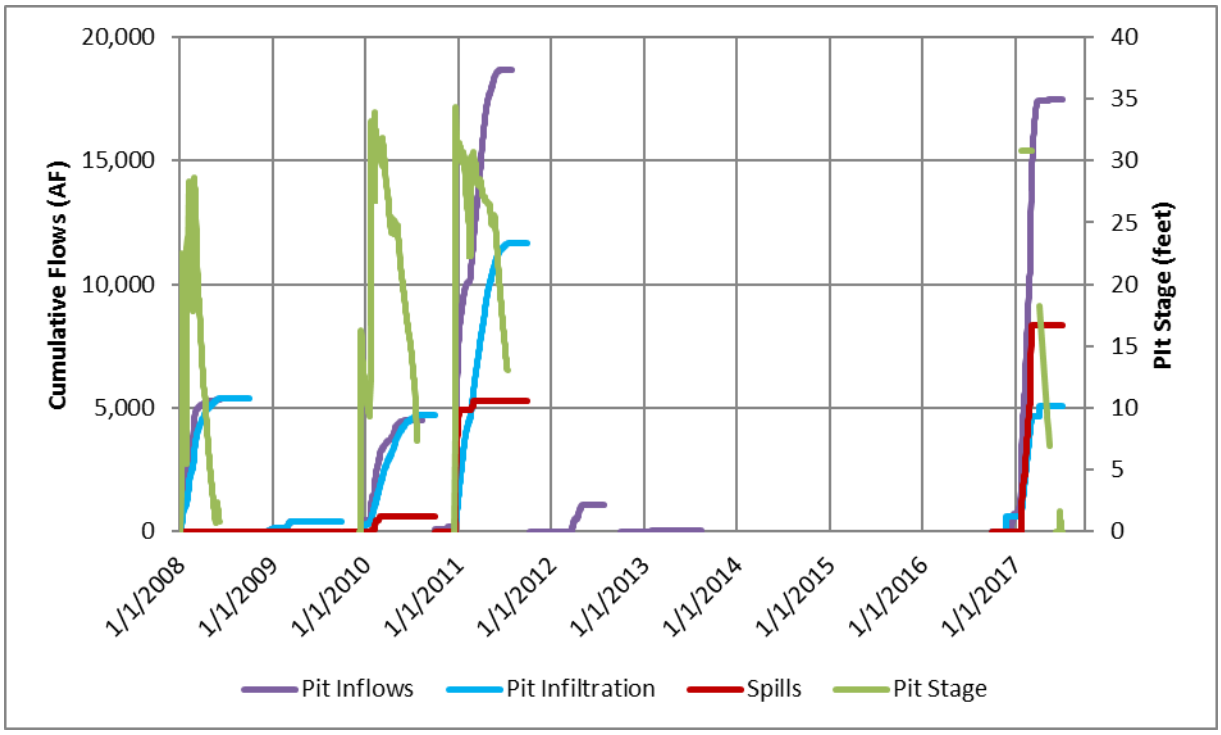


Figure 6: Cumulative Gravel Pit Inflow, Infiltration, and Spills

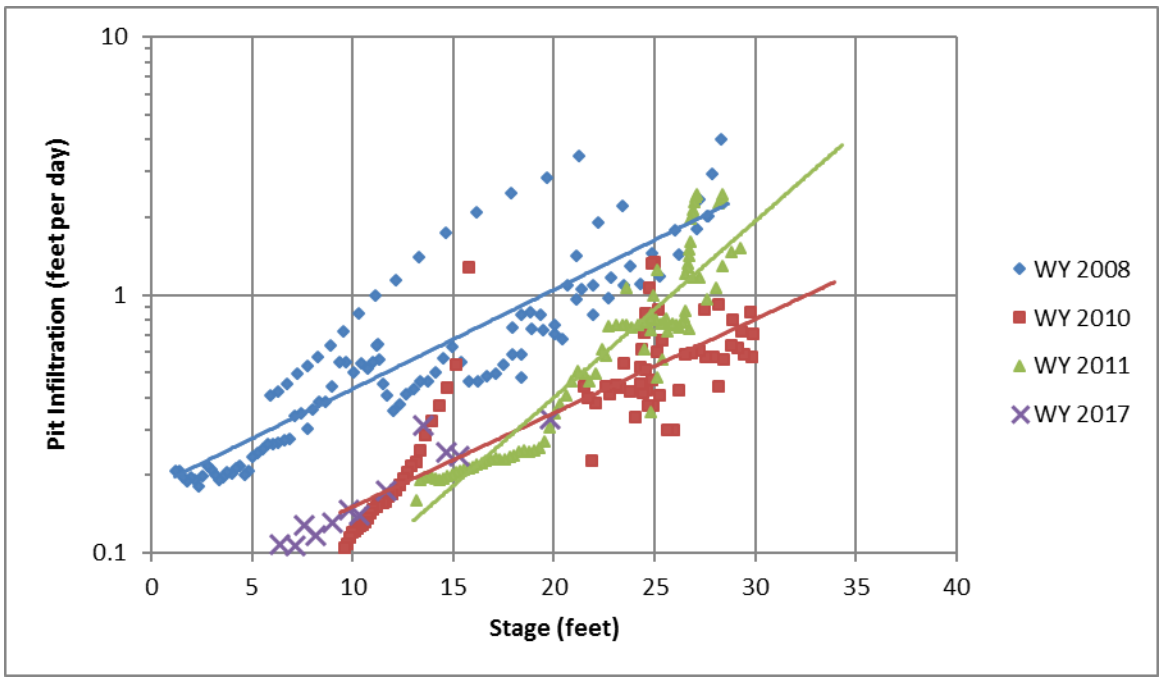


Figure 7: Stage-Infiltration Correlations by Water Year

Pit Spills

The gravel pit spills water to the downstream SJR when it is filled with water. The cumulative spills for WY2017 was approximately 8400 acre-feet. Pit spills were calculated as the difference between pit inflows and pit infiltration for the estimated Pit full period (1/23/17 through 3/5/17). Figure 6 shows the cumulative spills for each WY.

Infiltrated Water Value

San Jacinto flows that infiltrate into the gravel pit provide a significant volume of recharge to the Canyon Aquifer, at the cost of ongoing pit maintenance. Favorable infiltration conditions are achieved through a combination of silt removal and ripping to maintain high infiltration areas in the pit bottom. Achieving an equivalent volume of recharge to the Canyon Aquifer would require the construction and maintenance of additional recharge facilities, and potentially the cost of imported water. EMWD has indicated a value of $660 AF for untreated water purchased from MWD. Recent costs for silt removal are on the order of $100K-$200K depending on the level of effort and pit maintenance activities. Applying the cost of 2011 silt removal (low bid of $172,000) to the recharge that occurred in WY2017, the cost per acre foot of recharge is approximately $31/acre-foot.

2017 Silt Accumulation and Cleanout

Twelve test pits were excavated in the pit in September 2017 to estimate the thickness and distribution of silt accumulations in the pit. Results are presented in Figure 8 (attached). Photo 3 shows typical silt surface in the Pit and desiccation cracking. Results of the test pits indicate that most of the Pit floor now has significant accumulations of silt that should be removed prior to WY 2018 recharge.

A delta has been prograding into the Pit, filling the upstream portions of the pit with sand. Silt accumulations are smallest near the delta front where higher energy flows are present as water enters the pit. Silt accumulations are greatest along the western part of the north pit boundary and in the middle of the Pit (Figure 8). Silt accumulations are somewhat less in the western part of the Pit and along the south pit boundary. Silt should be removed from the Pit in 2017 to maintain recharge.

An elevation survey was initiated in 2016 to serve as a baseline for quantifying the accumulation of silt and Pit infill rate. Results of the baseline survey are attached to this memorandum. The survey should be repeated annually by reoccupying the same elevation control points.

Photo 3. September 2017 accumulated silt in the pit

Limitations

Work for this project was performed for the Soboba Band of Luiseño Indians (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Attachments:

Figure 8: 2017 Silt Thickness Map
2016 Baseline Spot Elevation Survey of Pit Bottom

V:\Soboba Indian Reservation\950009F\Deliverables\2017 Gravel Pit Infiltr Memo Draft.doc

Test Pit Name
TP-10
Silt Thickness (ft) 0.7 ft
Moderate
Field Estimated Relative Infiltration Rate of Sands Underlying Silt 1.2 ft
Depth to Field Estimated High Infiltration Rate Sands
Test Pit

DRAFT

0 300 600
Feet

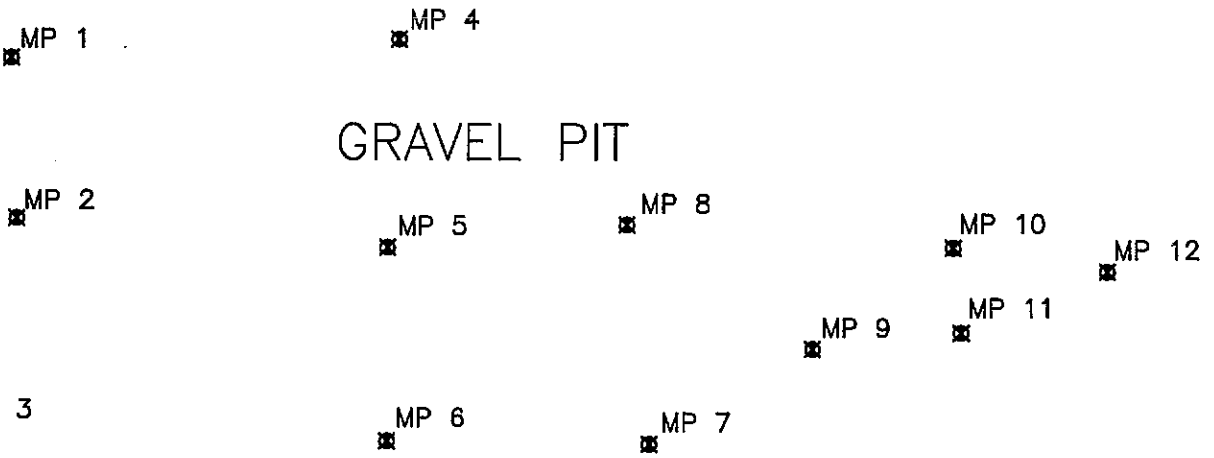
2017 Silt Thickness Map

Soboba Gravel Pit Infiltration Analysis
Soboba Indian Reservation,
Riverside County, California

Aspect CONSULTING	OCT-2017	BY: EWM / EAC	FIGURE NO. 8
	PROJECT NO. 950009J-05	REVISED BY: ---	

Basemap Layer Credits || Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

GIS Path: T:\projects_8\Soboba\Soboba_950009J\Delivered\GravelPit_05\Soboba Gravel Pit Infiltration Analysis\08 2017 Silt Thickness.mxd || Coordinate System: NAD 1983 UTM Zone 11N || Date Saved: 10/10/2017 || User: ecrumbaker || Print Date: 10/10/2017



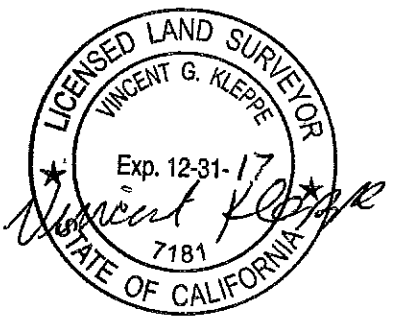
COORDINATE TABLE

DESCRIPTION		NORTHING	EASTING	ELEVATION	DATE
	PT#				SURVEYED
MP1	511	2223494.09	6361917.01	1622.69	8-22-16
MP2	510	2223243.87	6361926.41	1623.75	8-22-16
MP3	509	2222909.64	6361833.54	1627.11	8-22-16
MP4	508	2223522.57	6362526.84	1626.72	8-22-16
MP5	507	2223197.92	6362508.62	1625.55	8-22-16
MP6	506	2222896.49	6362507.62	1626.25	8-22-16
MP7	505	2222891.95	6362921.09	1629.84	8-22-16
MP8	504	2223233.41	6362886.12	1629.16	8-22-16
MP9	503	2223040.43	6363178.03	1634.08	8-22-16
MP10	502	2223198.53	6363400.02	1636.64	8-22-16
MP11	500	2223066.08	6363412.52	1636.41	8-22-16
MP12	501	2223161.41	6363642.31	1641.07	8-22-16

COORDINATES ARE FOR CALIFORNIA NAD83 ZONE 6
HORIZONTAL COORDINATE ACCURACY:± 0.05'
VERTICAL COORDINATE ACCURACY:± 0.10'

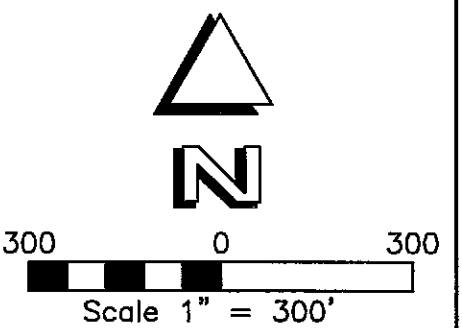
LEGEND

▣ MONITORING POINT



BENCH MARK:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT CONTROL POINT "STA 1" (BRASS DISC STAMPED "STA 2079+01.34) AS SHOWN ON DISTRICT FLOOD CONTROL MAP OF SECTION 36, TOWNSHIP 4 SOUTH, RANGE 1 WEST, SAN BERNARDINO MERIDIAN, DATED 1989, 740'± SOUTHEASTERLY FROM MAIN STREET ALONG THE WESTERLY LEVEE OF THE SAN JACINTO RIVER AS SHOWN ON SAID MAP.
ELEVATION: 1603.51 (NAVD88)



BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM NAD 83 (2011) ZONE 6, AS DETERMINED LOCALLY BY THE LINE BETWEEN USC&GS CORS STATIONS DH7093 AND AF9684, SHOWN HEREIN AS:
S 31°22'20" E, 2010.0000 EPOCH.

ASPECT CONSULTING

DRAWN BY: VGK DATE: 9-19-16 JOB. NO.: 16-020 FILE: P:P:\TPG\16\16-020 \16-020CONTROL.DWG	CIVIL ENGINEERS AND LAND SURVEYORS THE PRIZM GROUP • CYRAX 3-D LASER SCANNING • GPS & ROBOTIC SURVEYING • GEOMATIC ENGINEERING • CIVIL ENGINEERING • LAND PLANNING 310 N. COTA ST. SUITE I, CORONA, CA 92880 PHONE: (951) 737-4406 • tpg@the-prizm-group.com	PROJECT: SOBOBA INDIAN RESERVATION GRAVEL PIT SEDIMENT ELEVATION MONITORING SURVEY	SHT. NO. 1 OF 1

Proposed Water Banking and Conjunctive Use in San Jacinto Valley Technical Basis for a Storage Agreement

Summary of Preliminary Results

Presented to:

Watermaster TAC

November 13, 2017

emwd EASTERN MUNICIPAL WATER DISTRICT

Hemet-San Jacinto Watermaster

RMC water and environment

WOODARD &CURRAN

National Experience. Local Focus.

Agenda

1. Groundwater Banking Operation
2. Baseline Hydrology
3. Groundwater Banking Scenarios
4. Baseline & Scenario Model Runs
   - Assumptions
     - Baseline, Scenario A, B1 and B2
   - Results
     - Basin Storage
     - River Recharge
     - Groundwater Levels
     - Recharge Water Fate
5. Summary & Next Steps
6. Questions

Program Goals and Objectives

Water Banking and Conjunctive Use Program:

- Increase local supply reliability
- Create the ability to bank low cost supplies when available
- Overcome a water shortage for three consecutive drought years
- Replenish over-draft and improve long term stability
- Integrate different programs and opportunities including salt balance
- Provide recharge and extraction capacity for other agencies

Proposed Facilities

Proposed Facilities

Phase 1 Facilities

- Develop Mountain Avenue West site
- Construct 3 production wells

Proposed Bank Size:

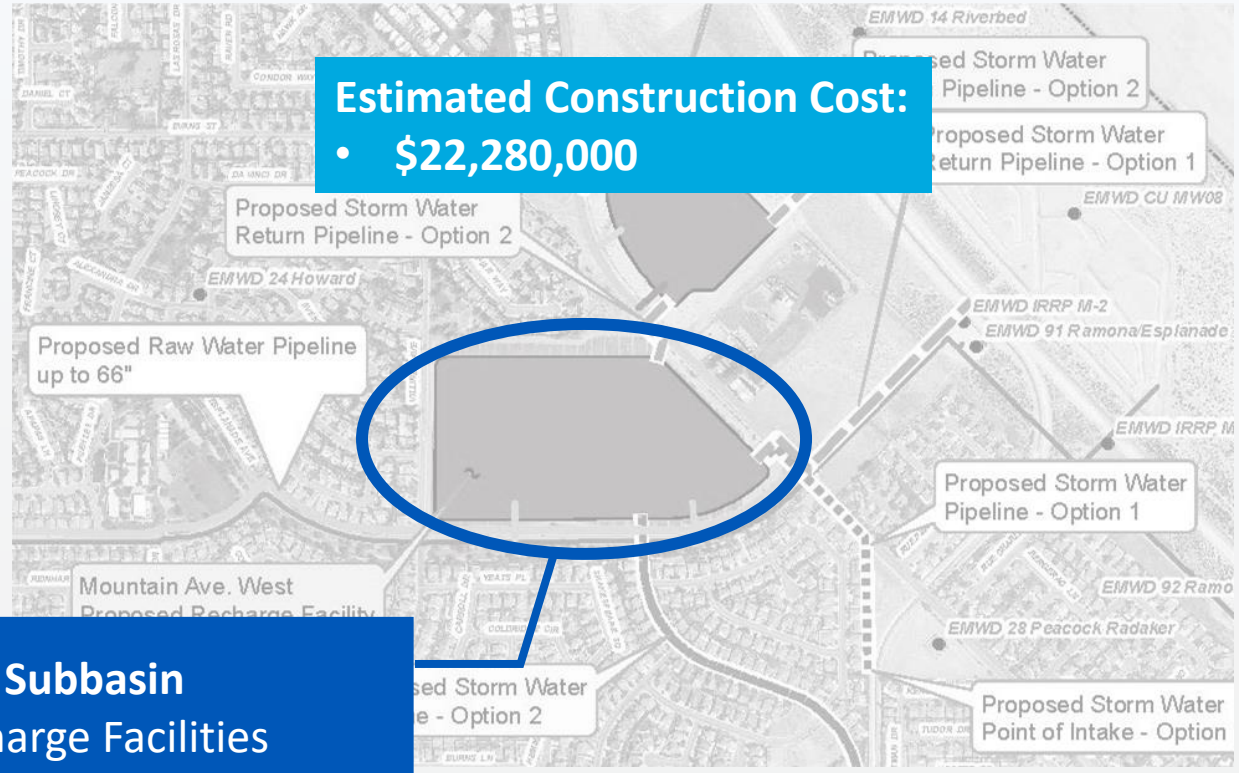
- 7,000 afy x 3 years = 21,000 af

Extraction Capacity:

- 3 wells x 2,333 gpm = 7,000 afy

Recharge Capacity:

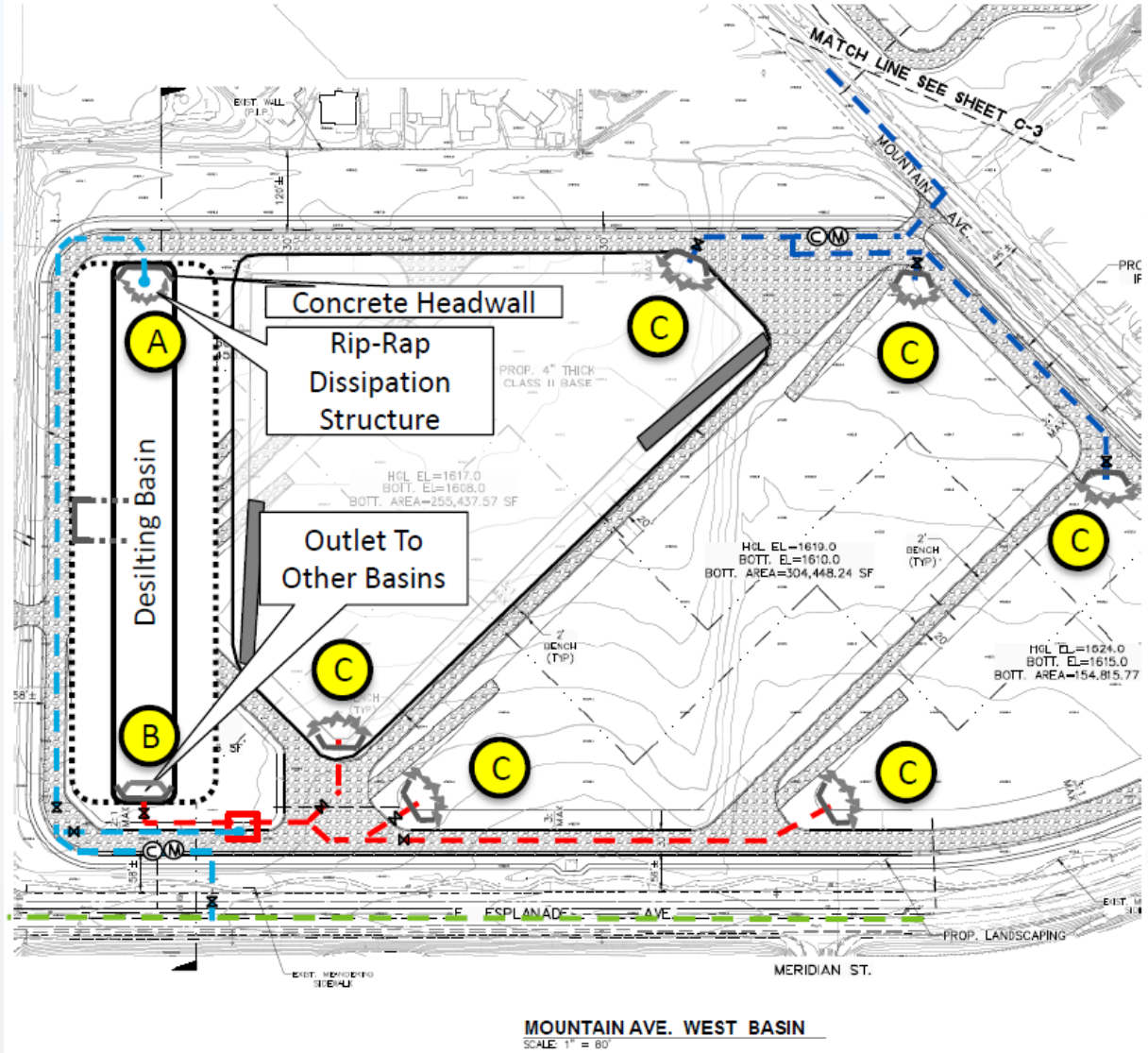
- Minimum 7,000 afy

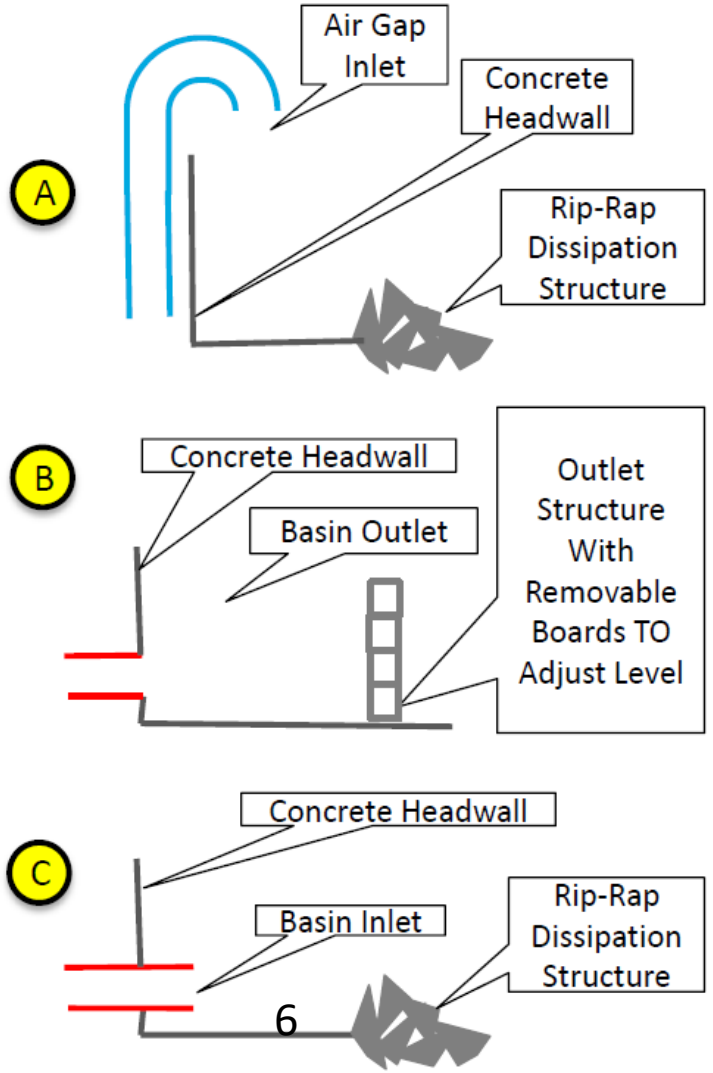


San Jacinto Upper Pressure Subbasin

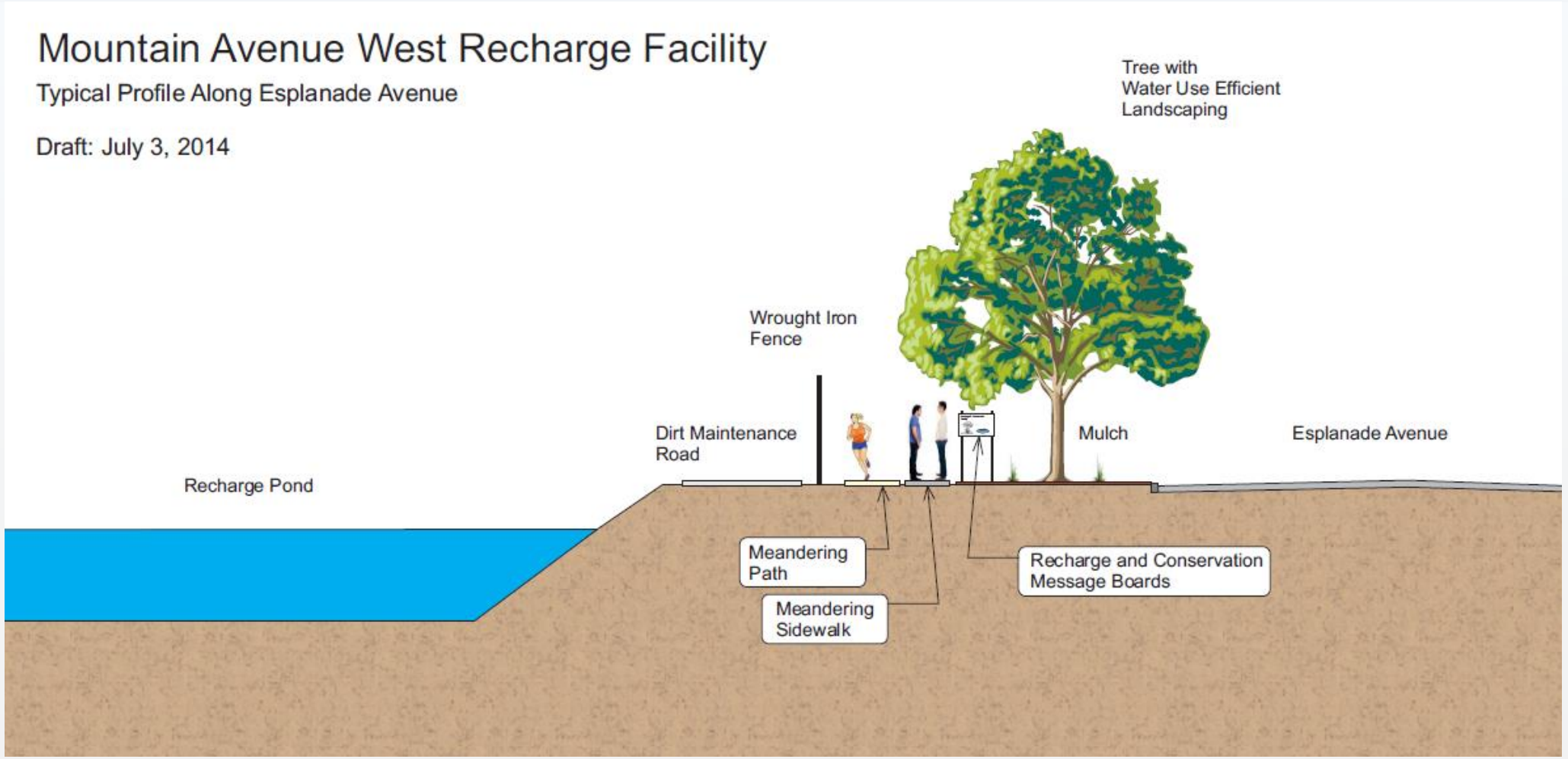
- Mountain Ave West Recharge Facilities
- 3 Production Wells (sites being investigated)

Proposed Facilities





Proposed Phase 1 Program



Proposal

Proposal

EMWD Proposes to:

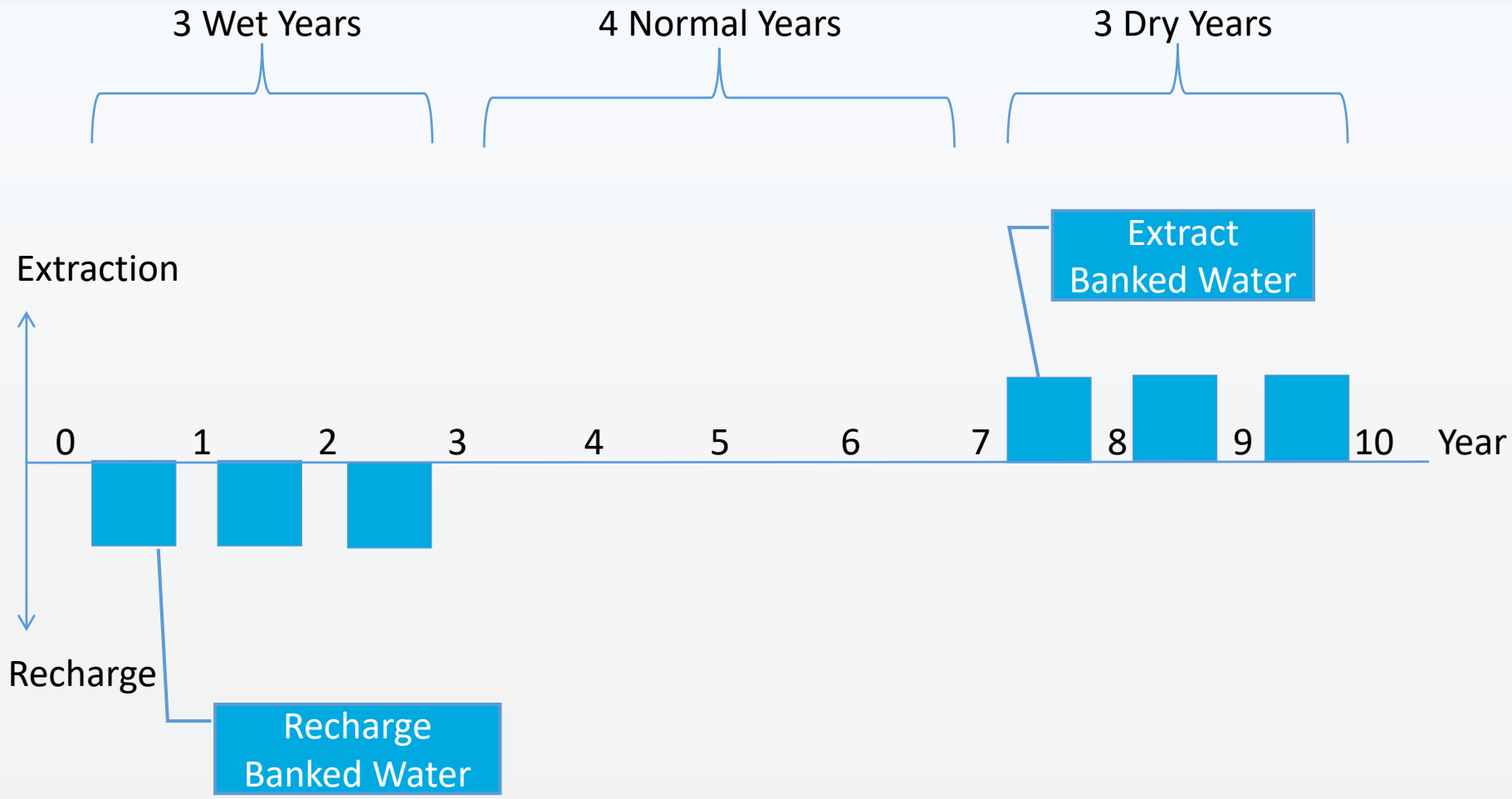
1) Water Banking up to 21,000 af at the Mountain Ave. West recharge facility for specific uses
   - Extract the banked water only during an emergency or Drought/MWD Allocation at a rate of up to 7,000 af per year
2) Conjunctive Use (put and take) up to 7,000 af per year

- Recharge & extraction only in Upper Pressure GMZ
- Water must be recharged before it could be pumped
- Total recharge could exceed 7,000 af in any given year to maximize purchase of lower cost water
- Total extraction in any given year would not exceed 7,000 af from banked or conjunctive use supplies
- Recharge of Soboba Settlement Water would remain at the highest priority

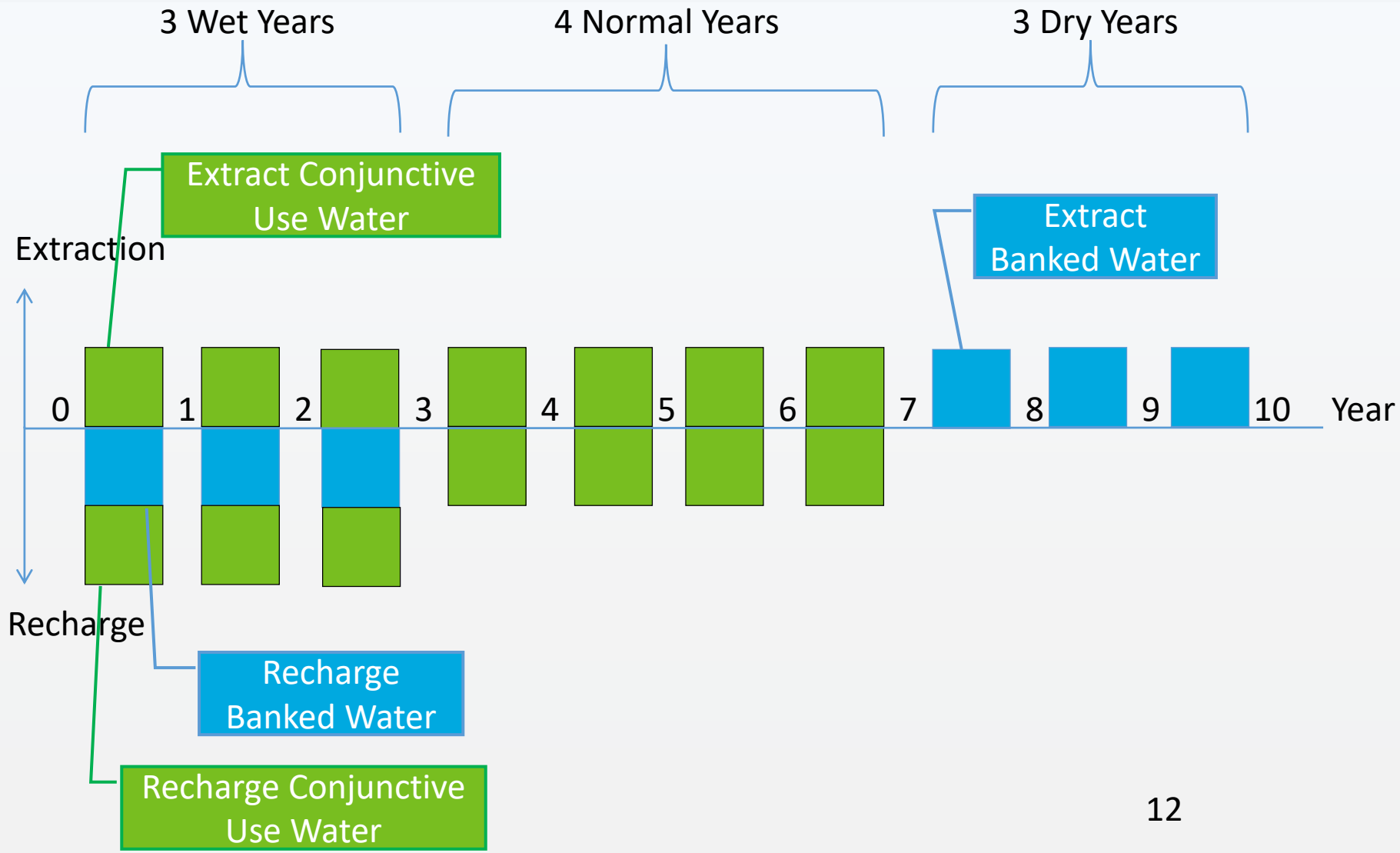
Stakeholder Issues Addressed

Stakeholder Issues	Agency	Approach to Address Issues	Slides Addressing Issues
Location of Extraction Wells			
- Downstream/North of recharge ponds - Not east of recharge ponds - Not in Canyon	LHMWD, Watermaster, Soboba	Proposed recharge/extraction operations will be simulated. Extraction locations will be identified to have minimum impact on LHMWD wells.	38 - 49, 59 - 64
Groundwater Elevation Monitoring			
- Groundwater drawdown must be intensively monitored to ensure the project does not interfer with or limit the ability of the Tribe and others to pump	LHMWD, Watermaster, Soboba	Several monitoring wells will be used to monitor the impact of recharge and recovery operations on groundwater levels	33 - 49, 57 - 64, 73
Residence Time			
- Estimate duration that the recharged water will be in groundwater storage	LHMWD. Watermaster	Based on recharge and extraction schedule residence time of the recharged water will be quantified	71, 72
Storage % Fee & Recharge Losses			
- Assign Basin Storage % Fee - Fee Basis: - Recovery of the Safe Yield - Groundwater elevation - Quantify evaporative, boundary and other losses	LHMWD. Watermaster, Soboba	- Basin Storage % will be included in simulation of extraction wells operations. - Different Fee Basis will be simulated. - Years for imposing/removing the fee will be identified	53 - 56
Loss of Natural Recharge			
- Project impact on loss of natural recharge should be mitigated	LHMWD	- Naturally occurring recharge will be simulated in scenarios with & without the project Reduction/loss of natural recharge will be quantified	66
Water Quality Impacts			
- Project impact on water quality and salt loading should be analyzed - recharge water quality must meet all applicable standards and agreements	LHMWD, Soboba, City of Hemet	- Transport model will be used for assessing migration of recharged water	71, 72
Existing Agreements / MWD Priorities for Water Deliveries			
- All storage and recovery operations must be consistent with existing agreements such as the Soboba Settlement Agreement - Watermaster's IRRP should be in first priority over MWD deliveries to other recharge projects - Storage agreement should be for a limited term to allow assessment of the operations	LHMWD, Soboba	Delivery priorities and storage and recovery operations will be identified in the Storage Agreement	Slide 74; Assumed as part of the fundamental project operational approach
Mounding Impacts and Production Requirements			
- Project impact on groundwater elevations and additional mounding impacts	City of Hemet	Proposed recharge/production operations will be simulated. Production requirements will be identified for high water level conditions.	67 - 69

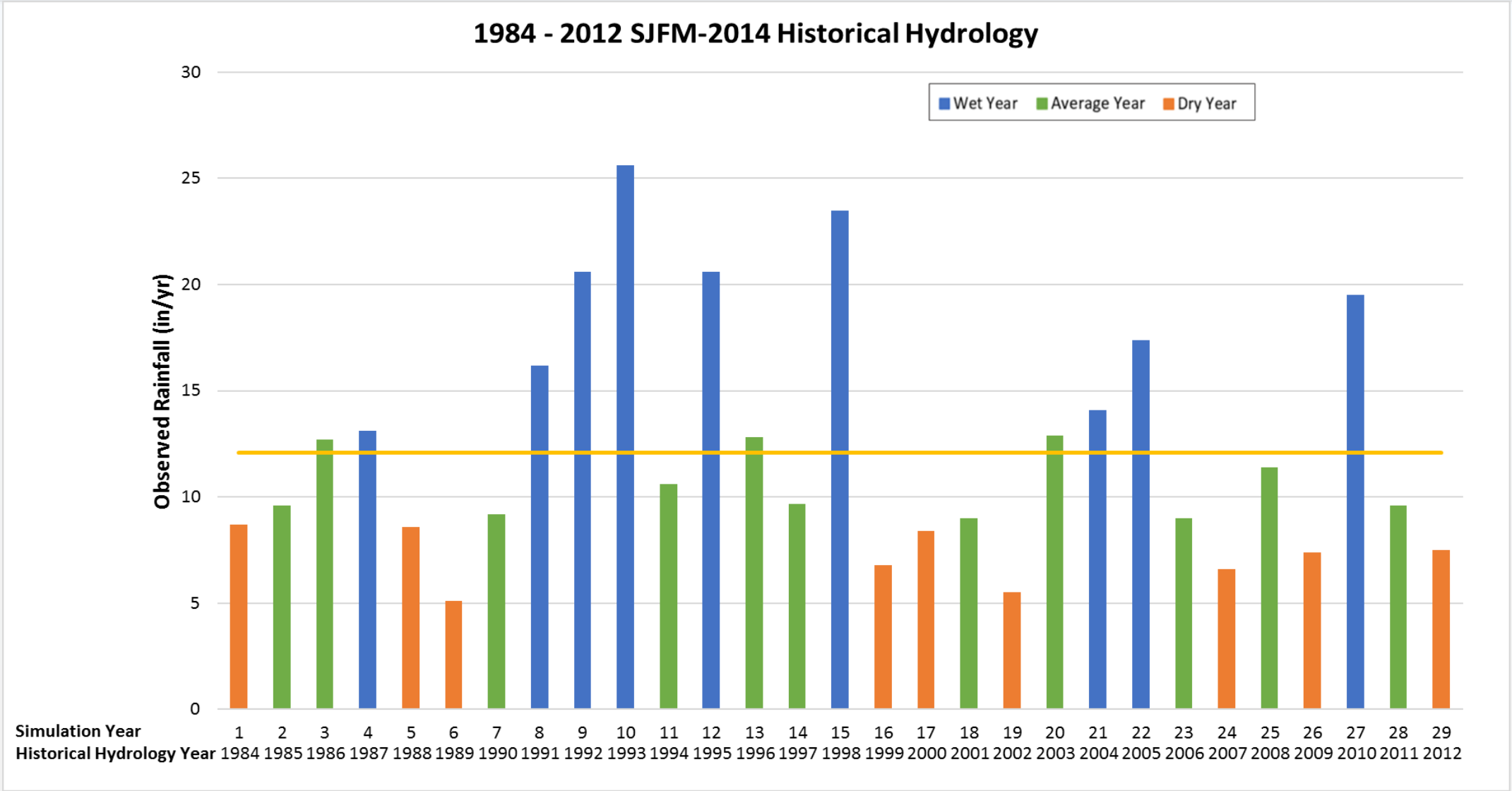
Proposal – Water Banking



Proposal – Water Banking & Conjunctive Use

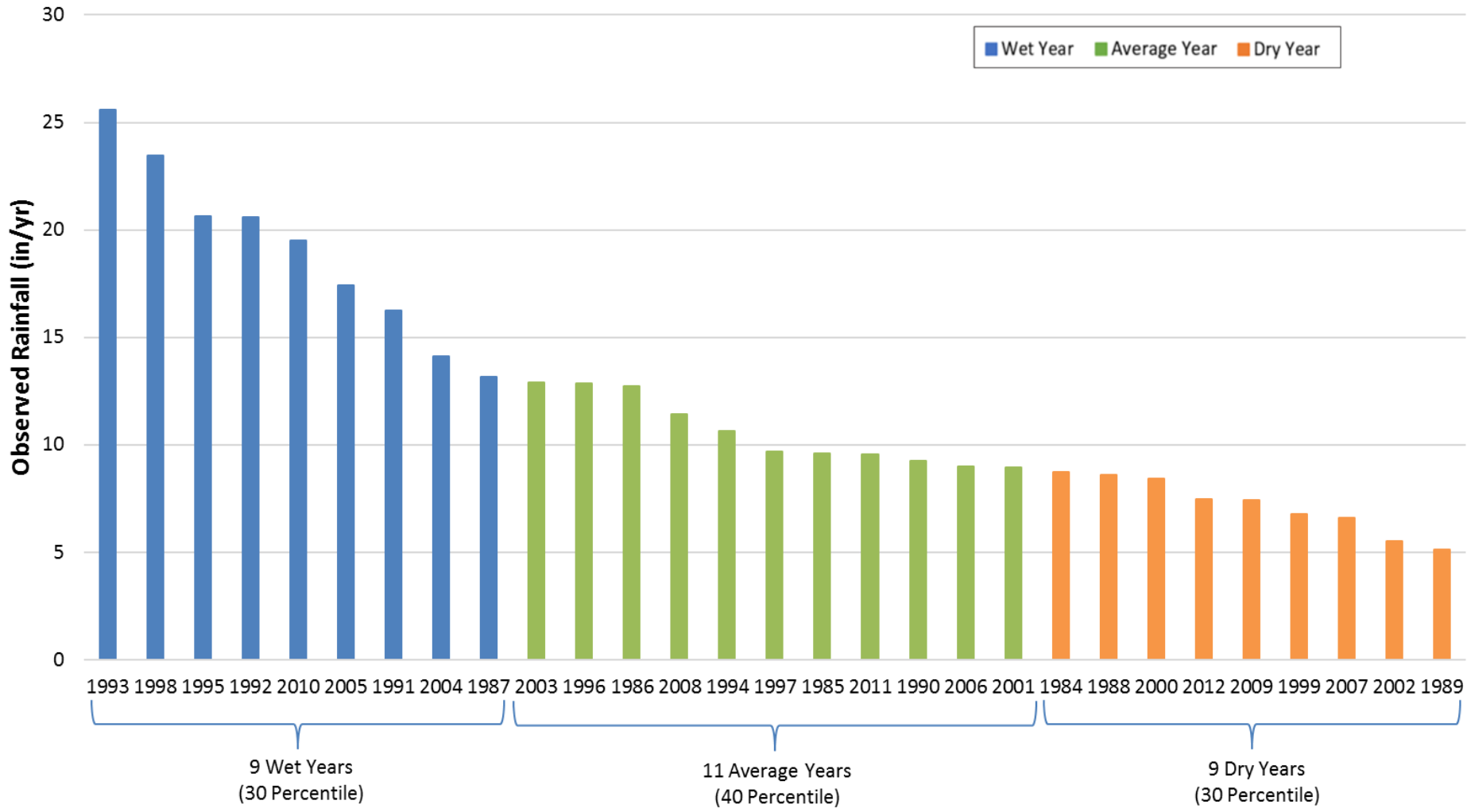


Model Historical Hydrology



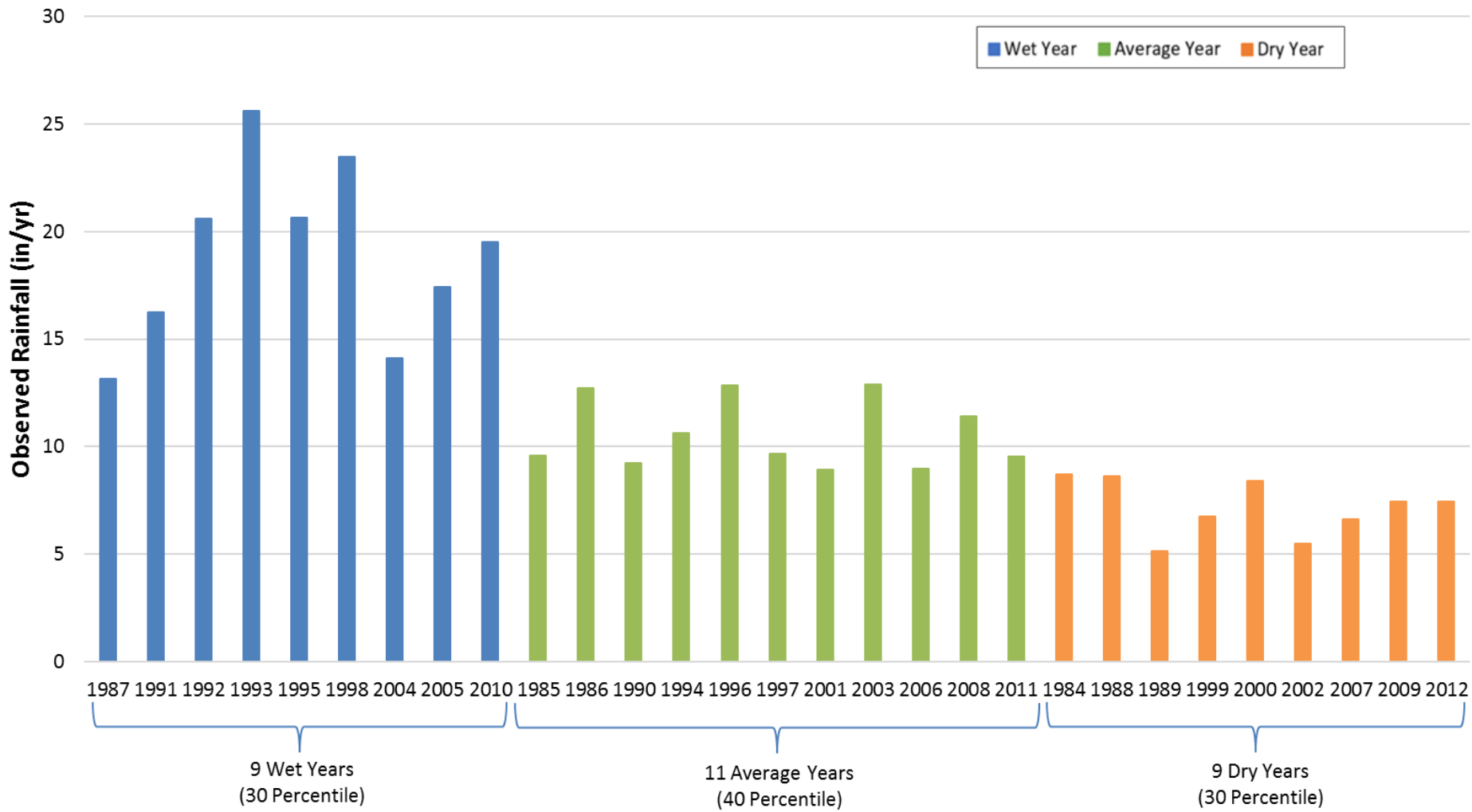
Model Hydrology Sorted in Rank Order

30/40/30 Percentiles for Wet/Avg/Dry years



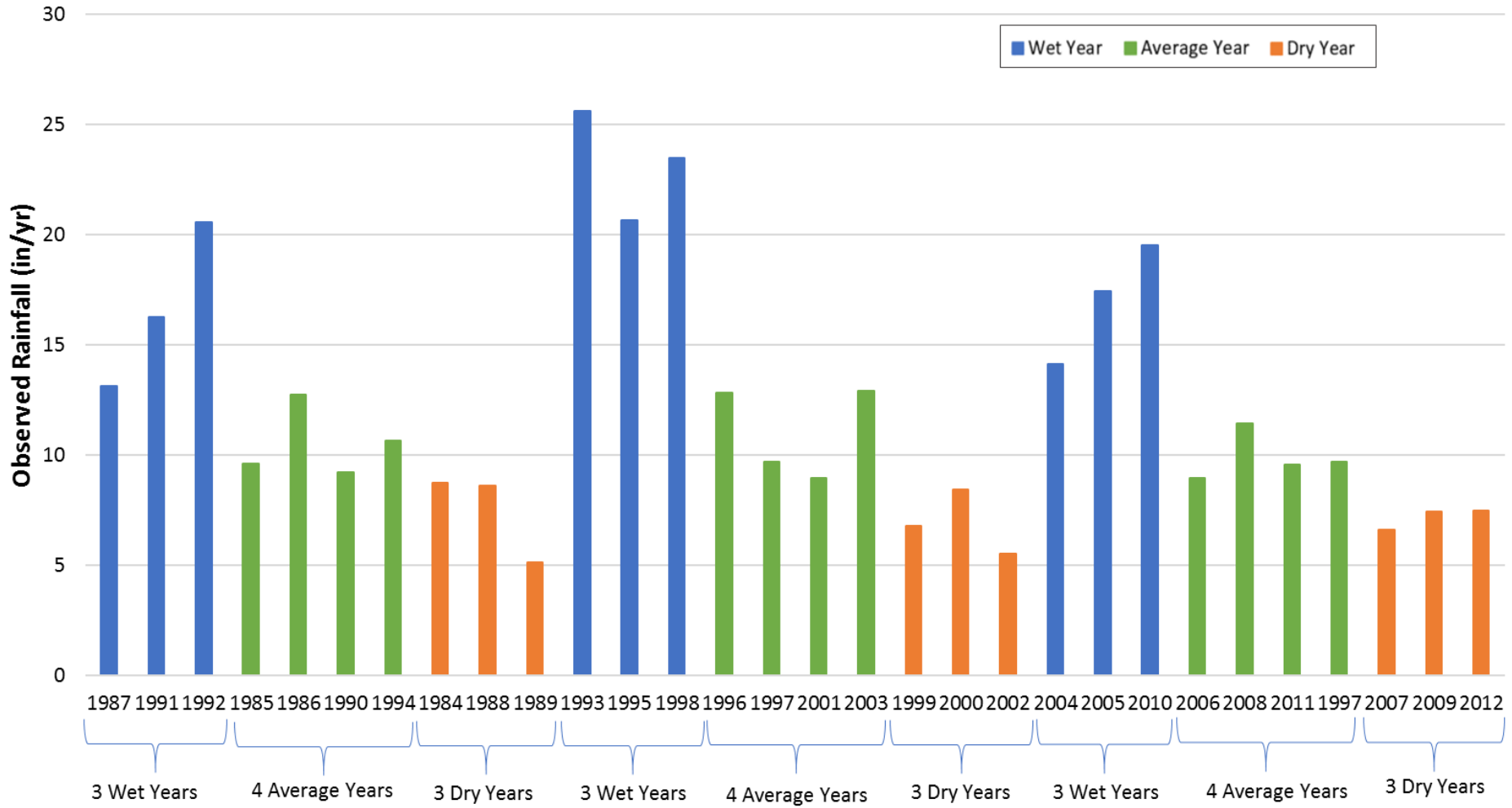
Model Hydrology Ranked Based on Year Type & Date

30/40/30 Percentiles for Wet/Avg/Dry years



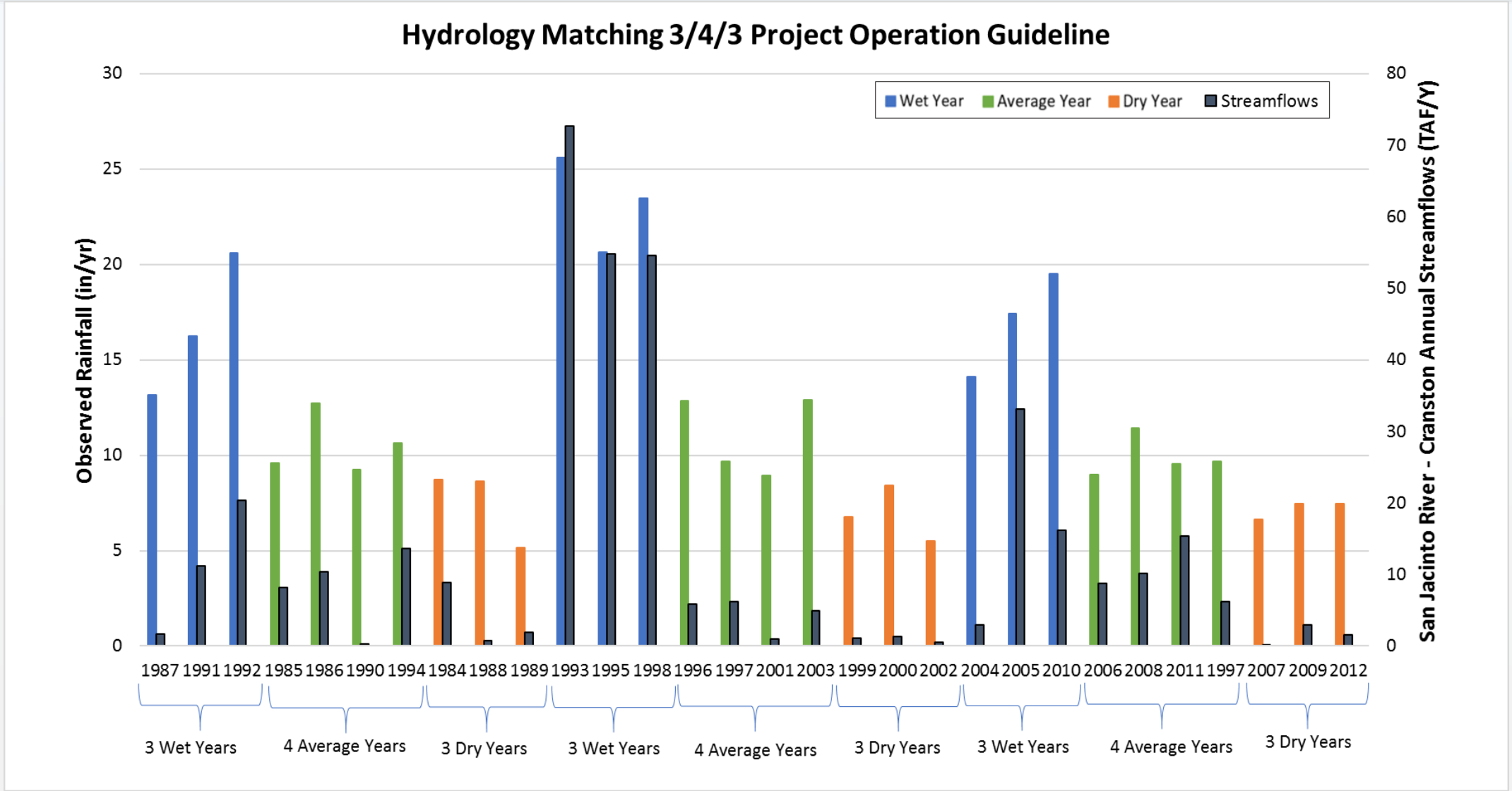
Baseline GW Banking Hydrology

30-Year Cycle



Baseline GW Banking Hydrology & Streamflow

30-Year Cycle



Project Operational Objectives

- **GW Storage:**
  - Utilize available aquifer space to store recharged water
  - Maximize extraction of previously stored water with no losses
- **GW Levels:** Minimize impacts on nearby production wells
- **GW Quality:** Minimize adverse water quality conditions
- **Streamflow:** Minimize impacts on stream recharge during wet years
- **Operations:** Honor previous Agreements and priorities

Scenarios Definition

Schedule of Operation			Scenario A (Only Banking)	Scenario B1 (Project Wells)	Scenario B1b (Distributed)	Scenario B2a (5% Project Wells)	Scenario B2 (2% Project Wells)	Scenario B2c (2% Distributed)	Scenario C (7-yr Extraction)	Scenario D (2 Cycles)
Recharge	Amount (AFY)	Wet Years	7,000	14,000	14,000	14,700	14,280	14,280	14,000	14,000
		Average Years	0	7,000	7,000	7,350	7,140	7,140	7,000	7,000
		Dry Years	0	0	0	0	0	0	0	0
	GW Banking		✓	✓	✓	✓	✓	✓	✓	✓
	Conjunctive Use			✓	✓	✓	✓	✓	✓	✓
	Offset					5%	2%	2%		
Extraction	Amount (AFY)	Wet Years	0	7,000	7,000	7,000	7,000	7,000	7,000	7,000
		Average Years	0	7,000	7,000	7,000	7,000	7,000	7,000	7,000
		Dry Years	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
	GW Banking		✓	✓	✓	✓	✓	✓	✓	✓
	Conjunctive Use			✓	✓	✓	✓	✓	✓	✓
	Use Project Wells Only (Well 201, 202, 203)		✓	✓		✓	✓		✓	✓
	Use All EMWD Wells				✓			✓		

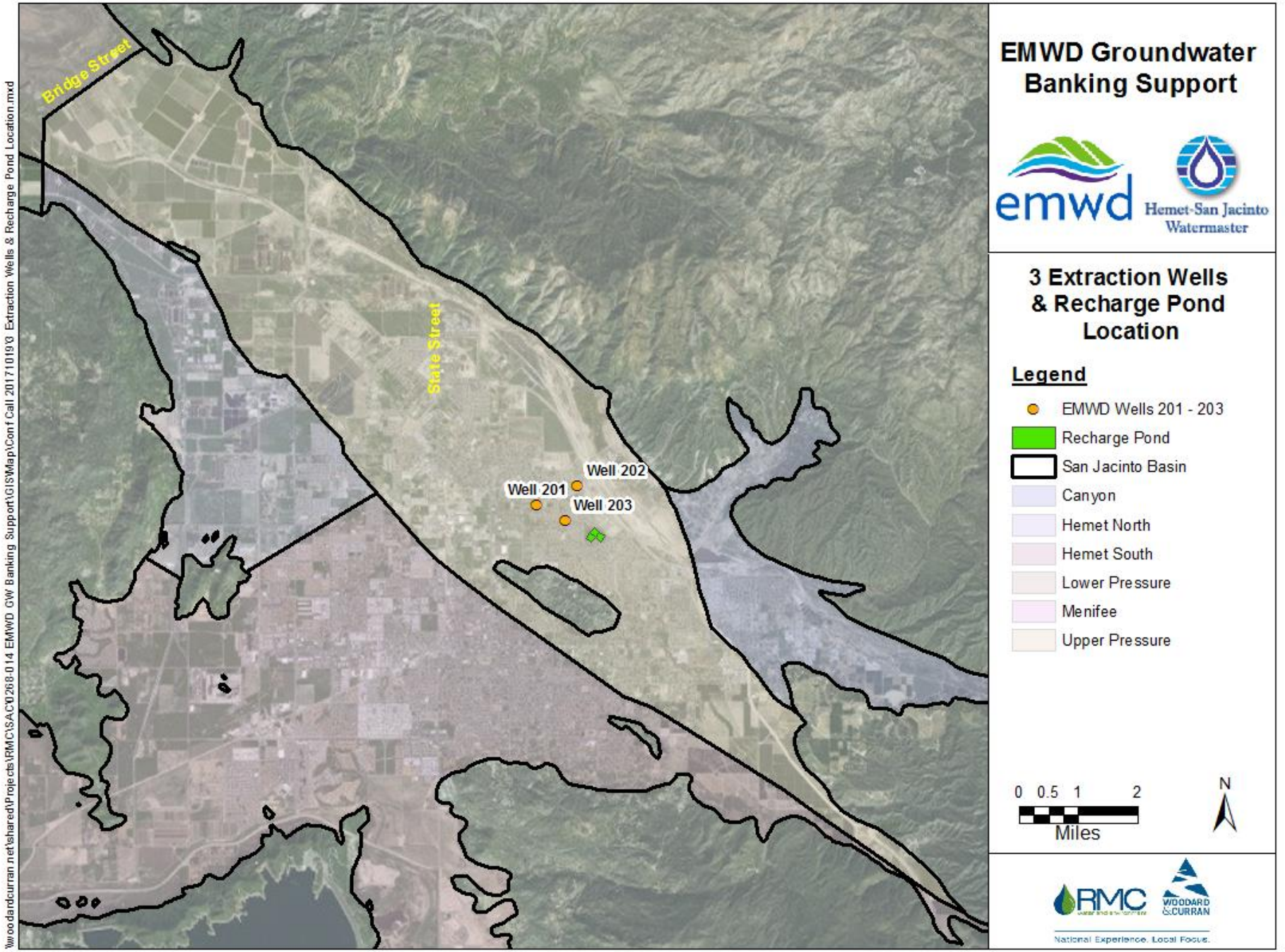
Scenarios Considered for Detail Analysis

Schedule of Operation			Scenario A	Scenario B1
Recharge	Amount (AFY)	Wet Years	7,000	14,000
		Average Years	0	7,000
		Dry Years	0	0
	GW Banking		✓	✓
	Conjunctive Use			✓
Extraction	Amount (AFY)	Wet Years	0	7,000
		Average Years	0	7,000
		Dry Years	7,000	7,000
	GW Banking		✓	✓
	Conjunctive Use			✓

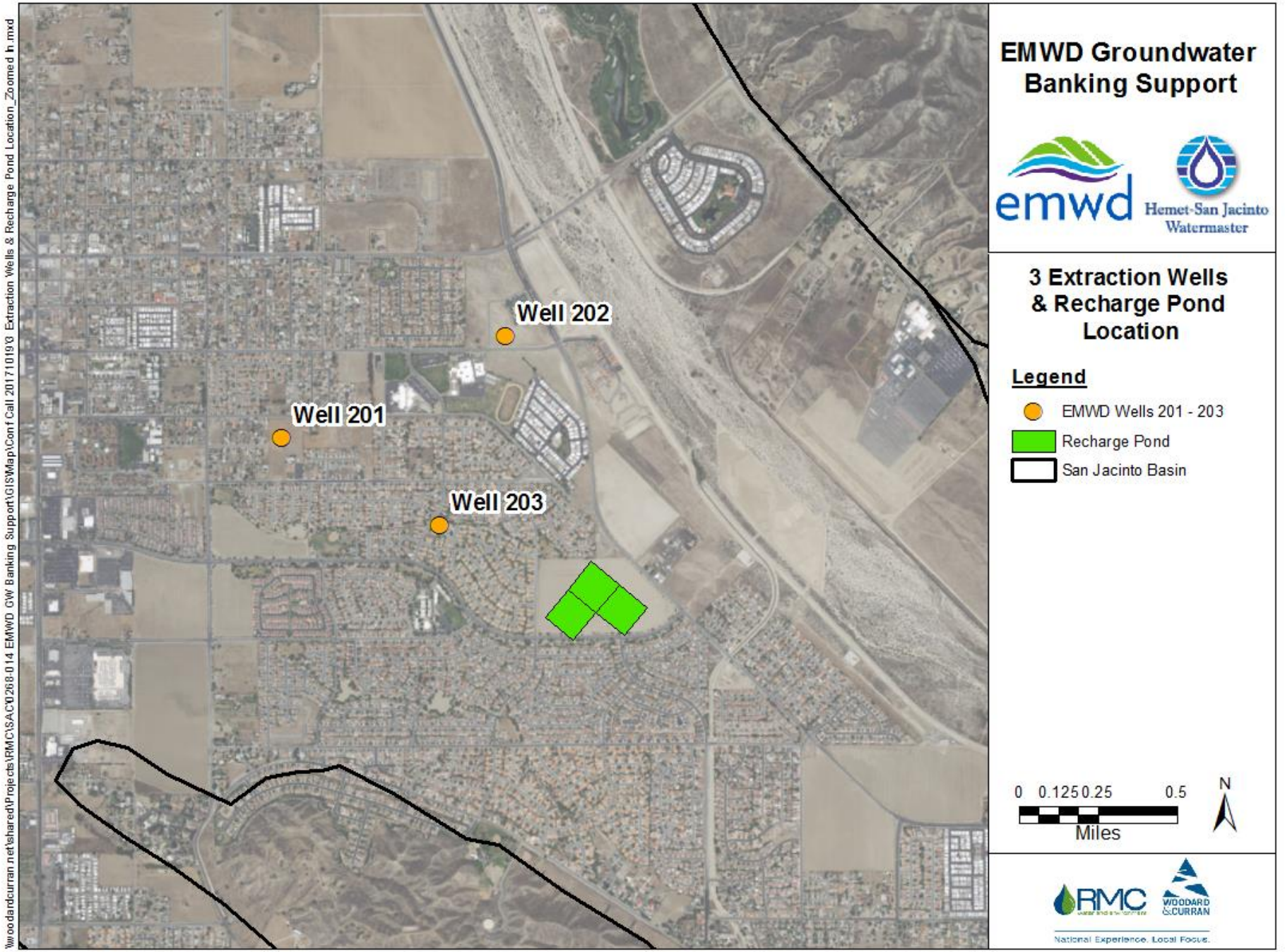
Baseline & Scenario Assumptions

- **Baseline Model Run**
  - Use Variation of historical hydrology
  - 3 complete operational cycles for a 3/4/3 Wet/Average/Dry conditions
  - Soboba settlement water to the IRRP Ponds: 7,500 AFY
- **Scenario Model Runs:**
  - **Scenario A - GW Banking Operation**
    - Assumption:
      - Only IRRP and GW Banking will be active
      - Extract the Banked water only
    - Recharge: 7,000 AFY for wet years - 21,000 AF/cycle
    - Extraction: 7,000 AFY for dry years - 21,000 AF/cycle
  - **Scenario B1- GW Banking & Conjunctive Use Operation**
    - Assumption:
      - IRRP, GW Banking and CU Operation will be active
      - Extract both the Banked water and the CU water
    - Recharge: 14,000 AFY for wet years (7,000 AFY for GW Banking + 7,000 AFY for CU), 7000 AFY for average years (for CU) – 70,000 AF/cycle
    - Extraction: 7,000 AFY for 30 years - 70,000 AF/cycle

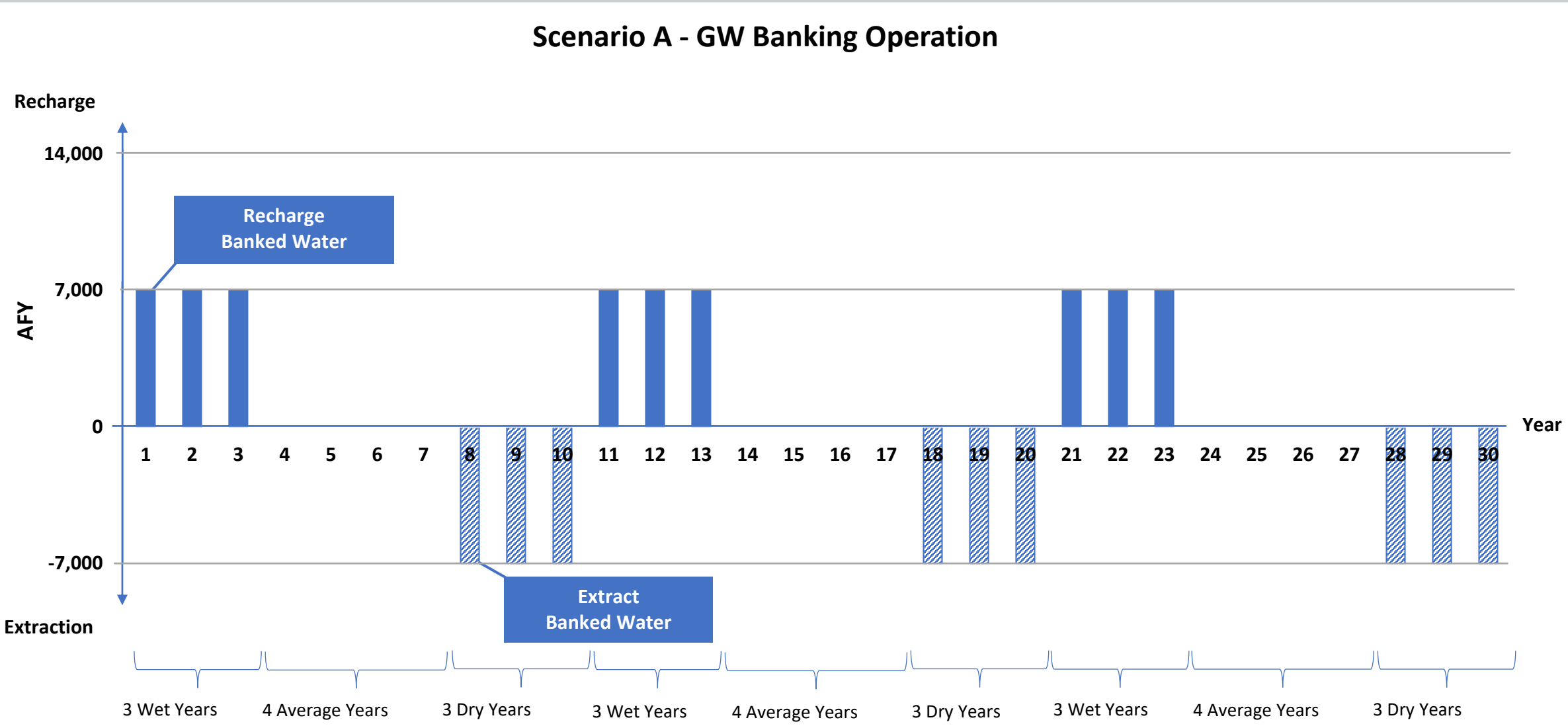
Location of 3 Extraction Wells & Recharge Pond



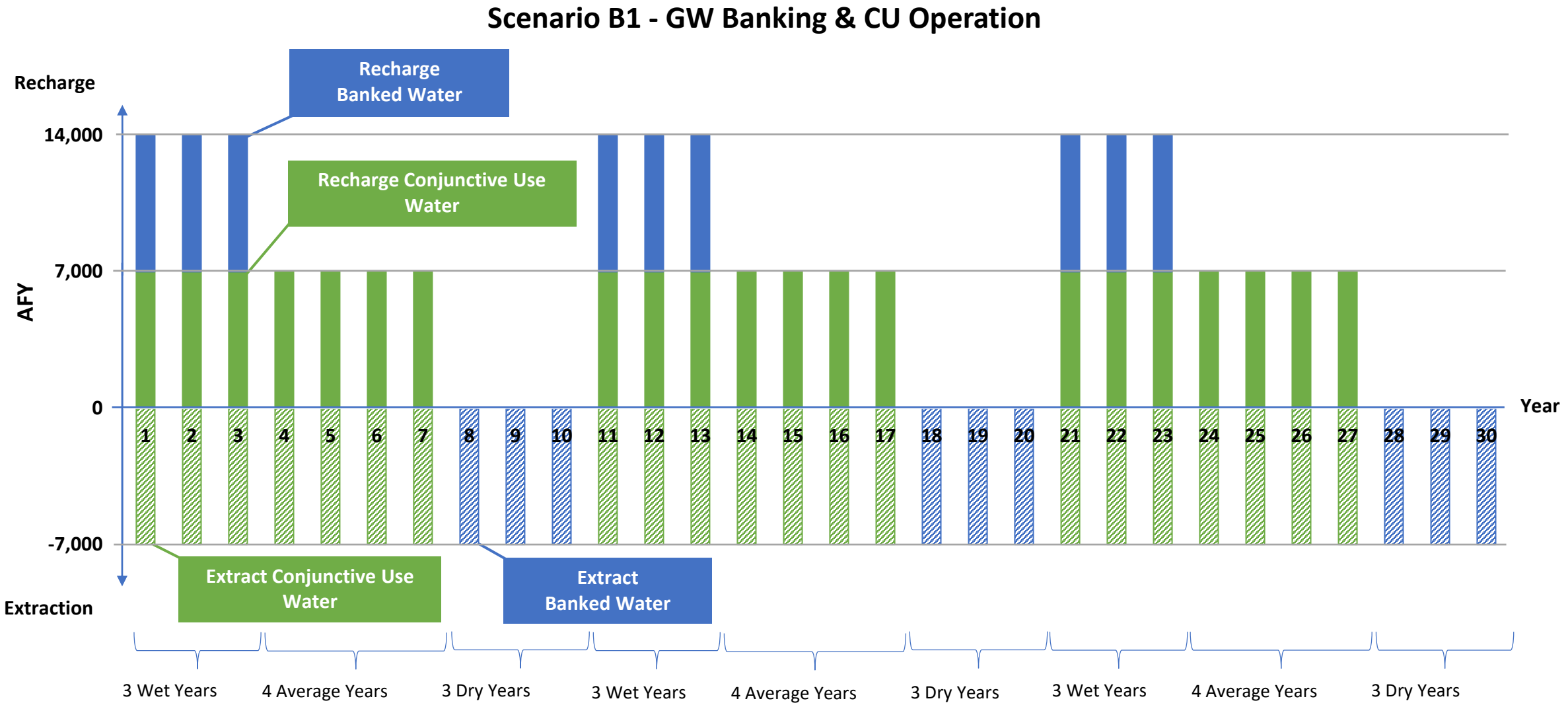
Location of 3 Extraction Wells & Recharge Pond



Scenario A
GW Banking Operation

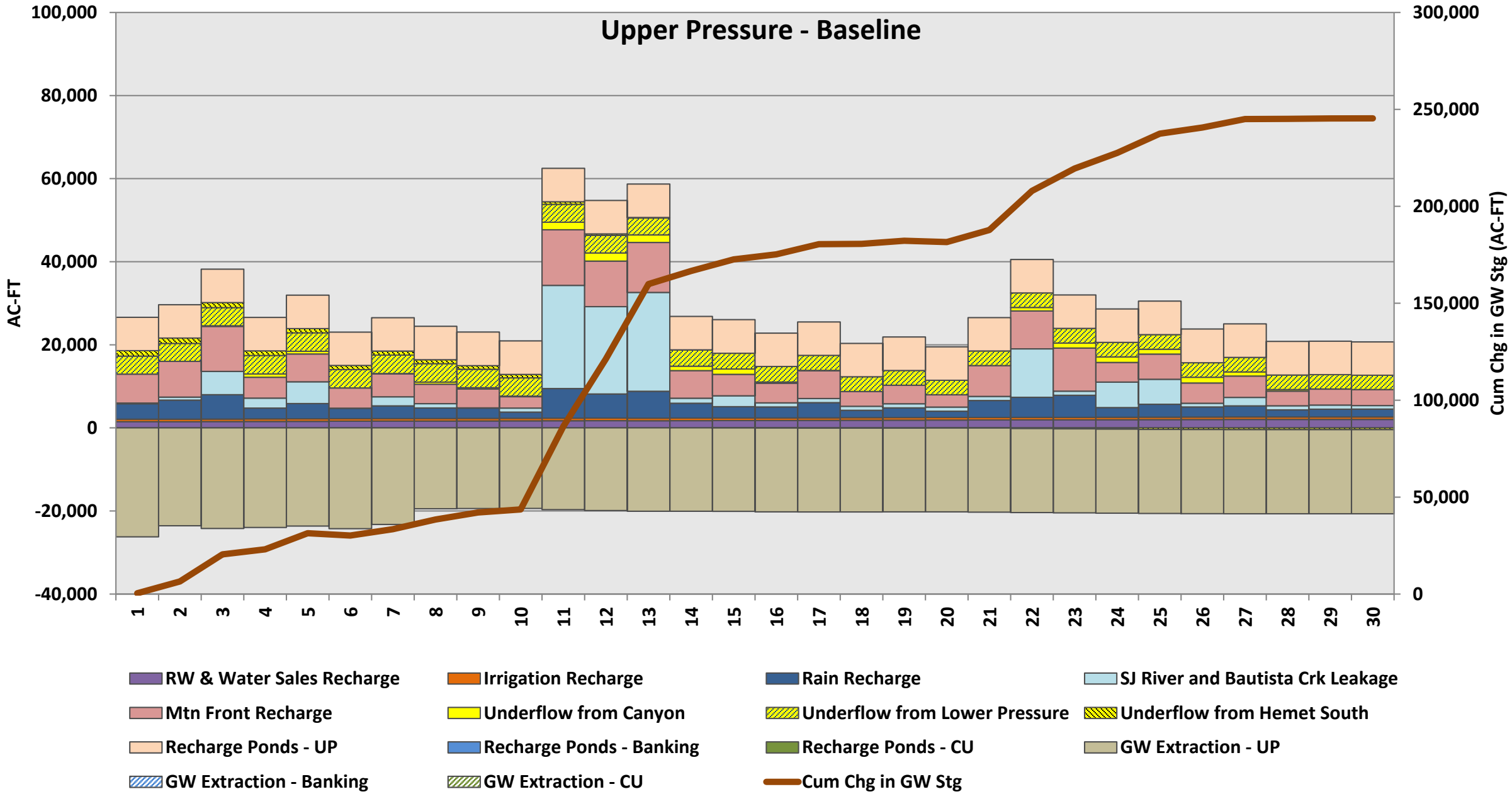


Scenario B1
GW Banking & Conjunctive Use Operation

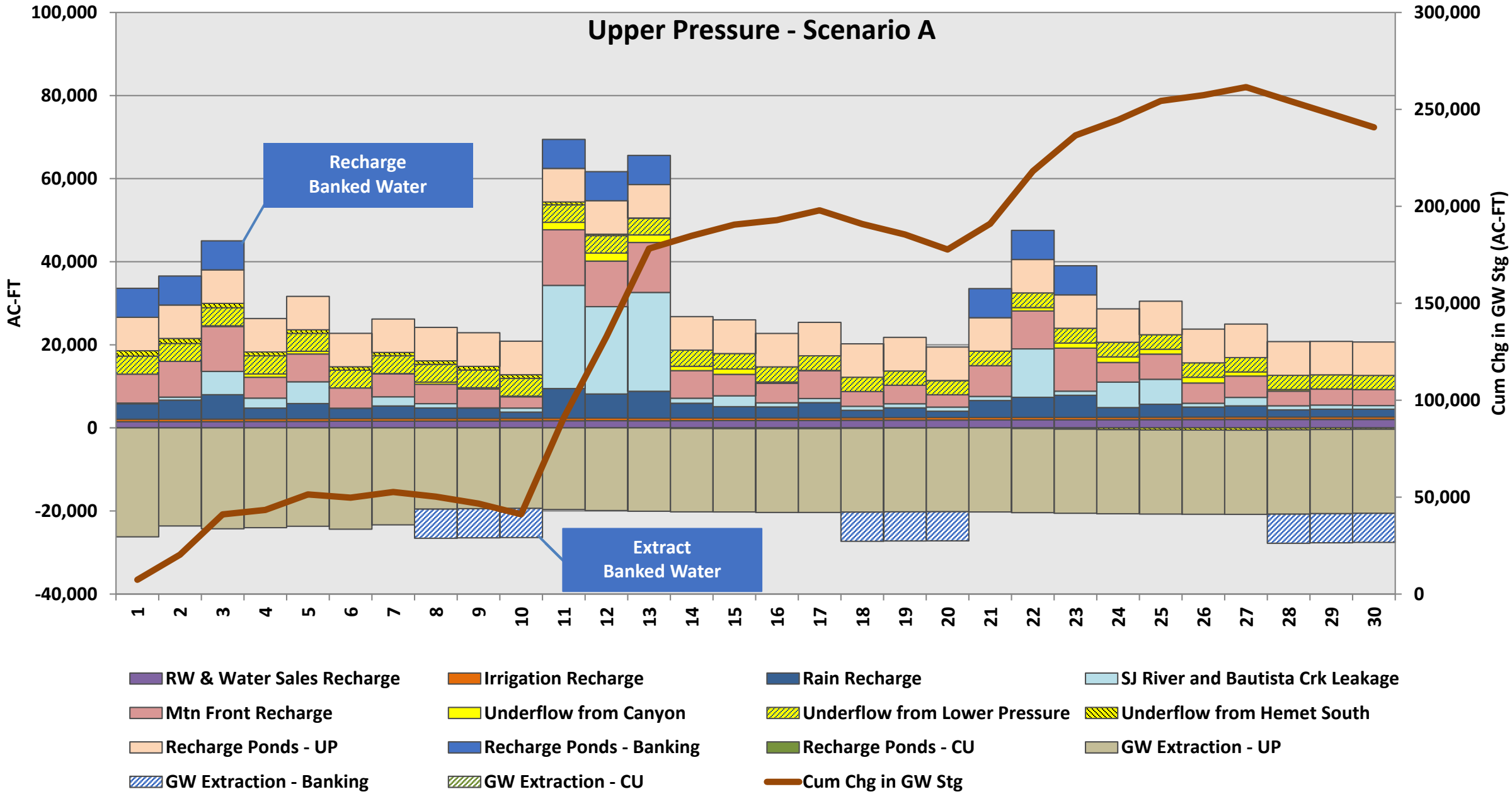


Basin GW Budget & Storage

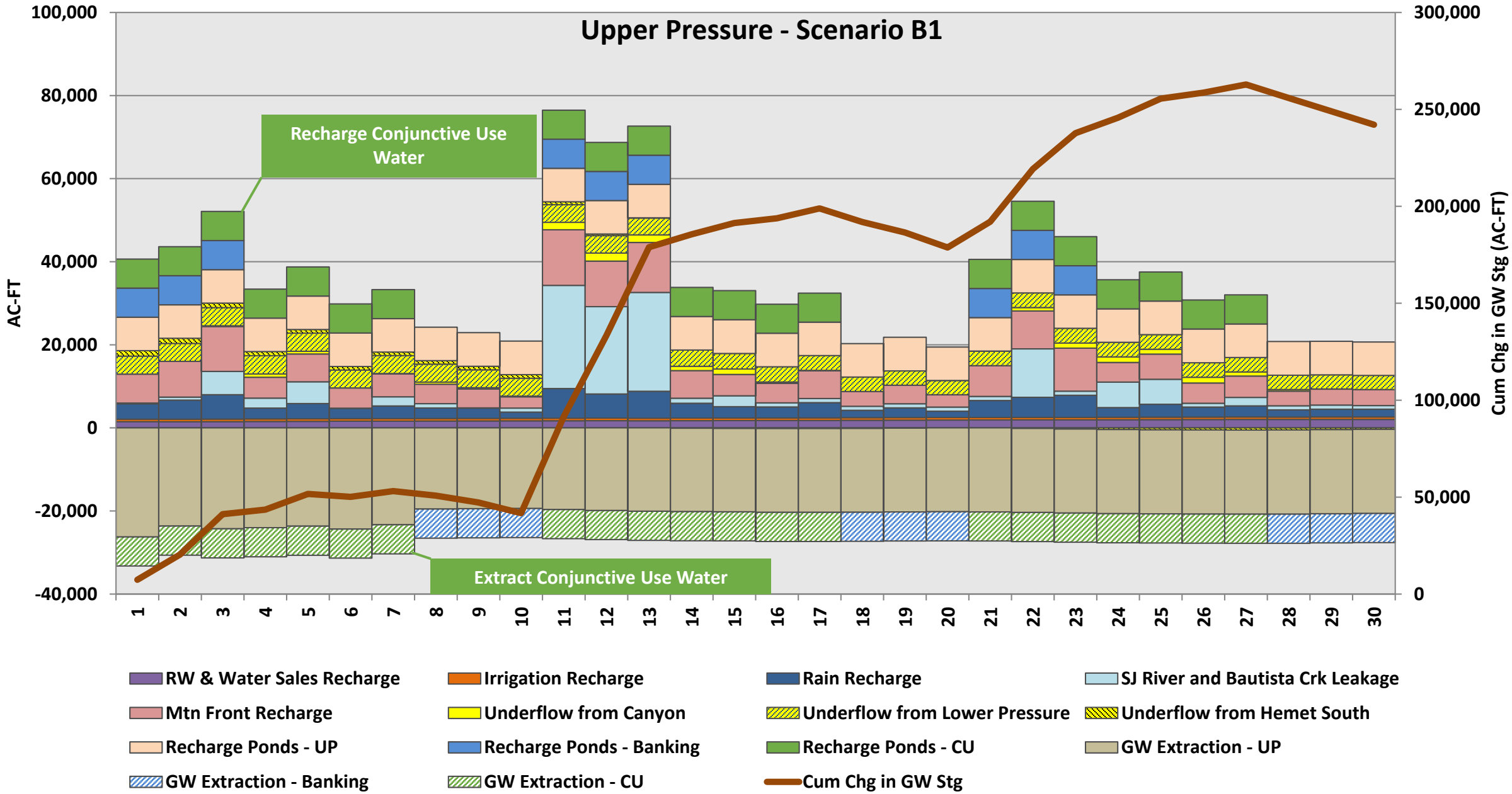
Water Budget: Baseline



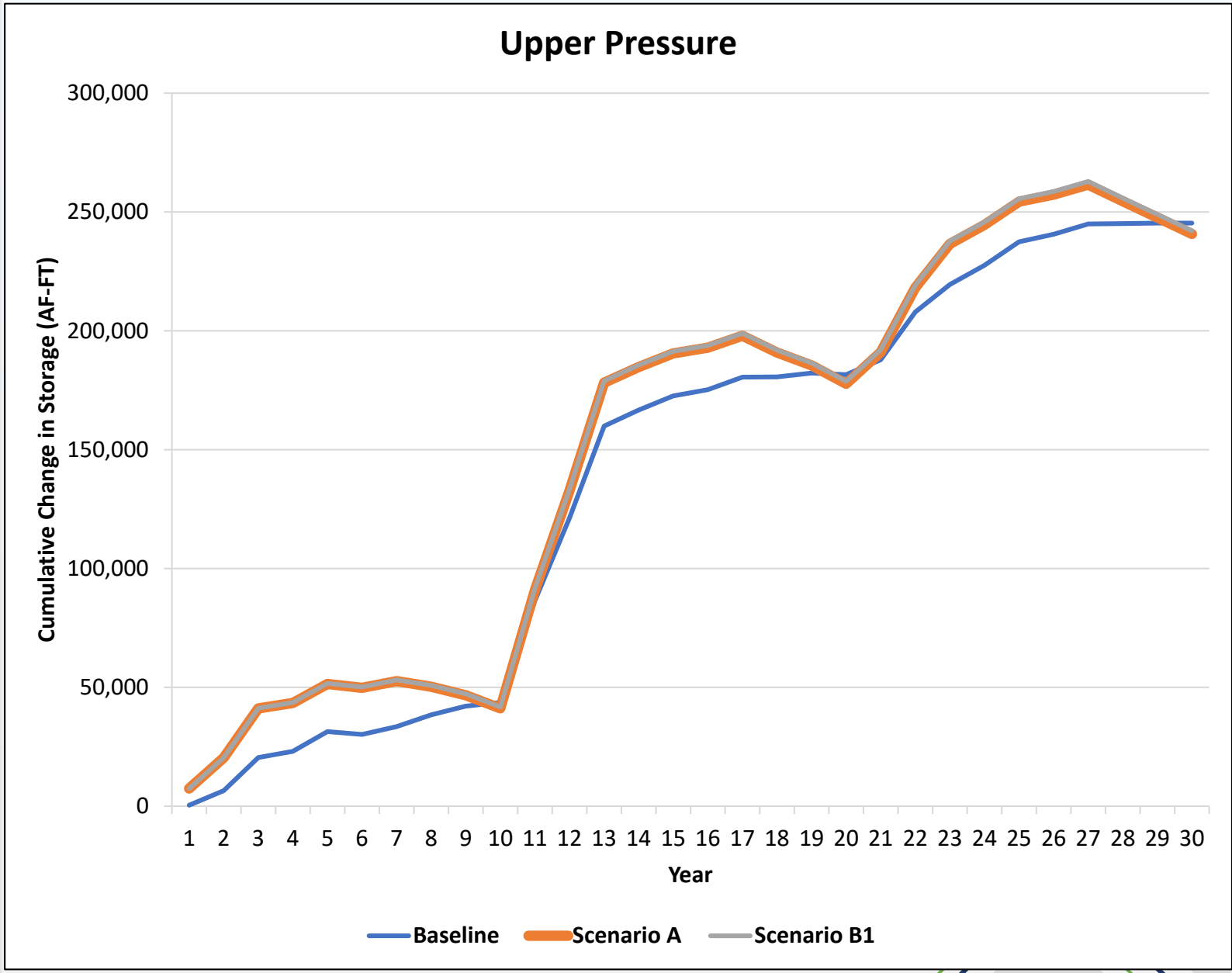
Water Budget: Scenario A



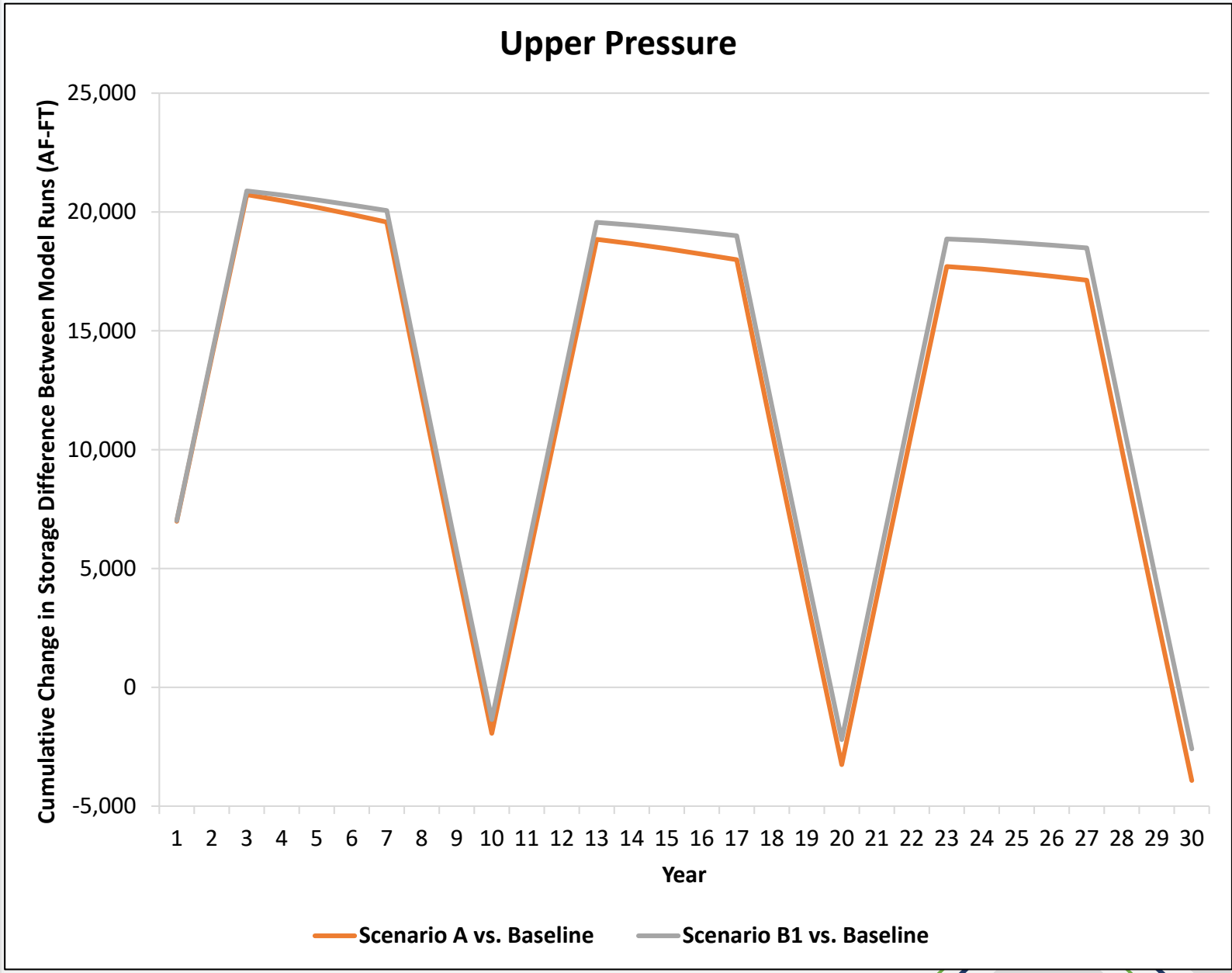
Water Budget: Scenario B1



Cumulative Change in Storage Comparison



Scenarios - Cumulative Change in Storage Difference



Scenario B1 - Cumulative Change in Storage Difference

HS Displaced Storage:

30 Year Total: 1,572 AF

Avg. Annual: 52 AFY

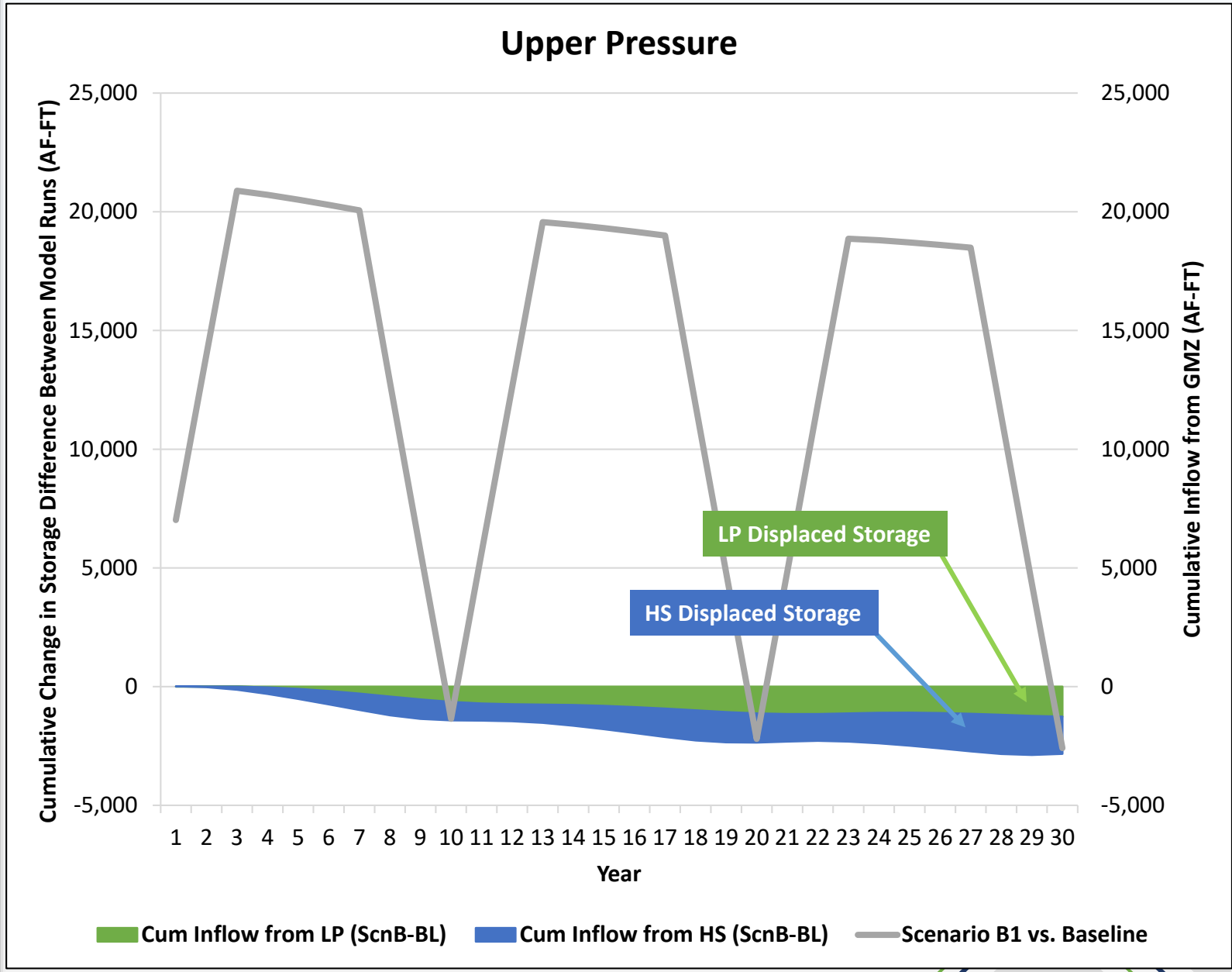
LP Displaced Storage:

30 Year Total: 1,264 AF

Avg. Annual: 42 AFY

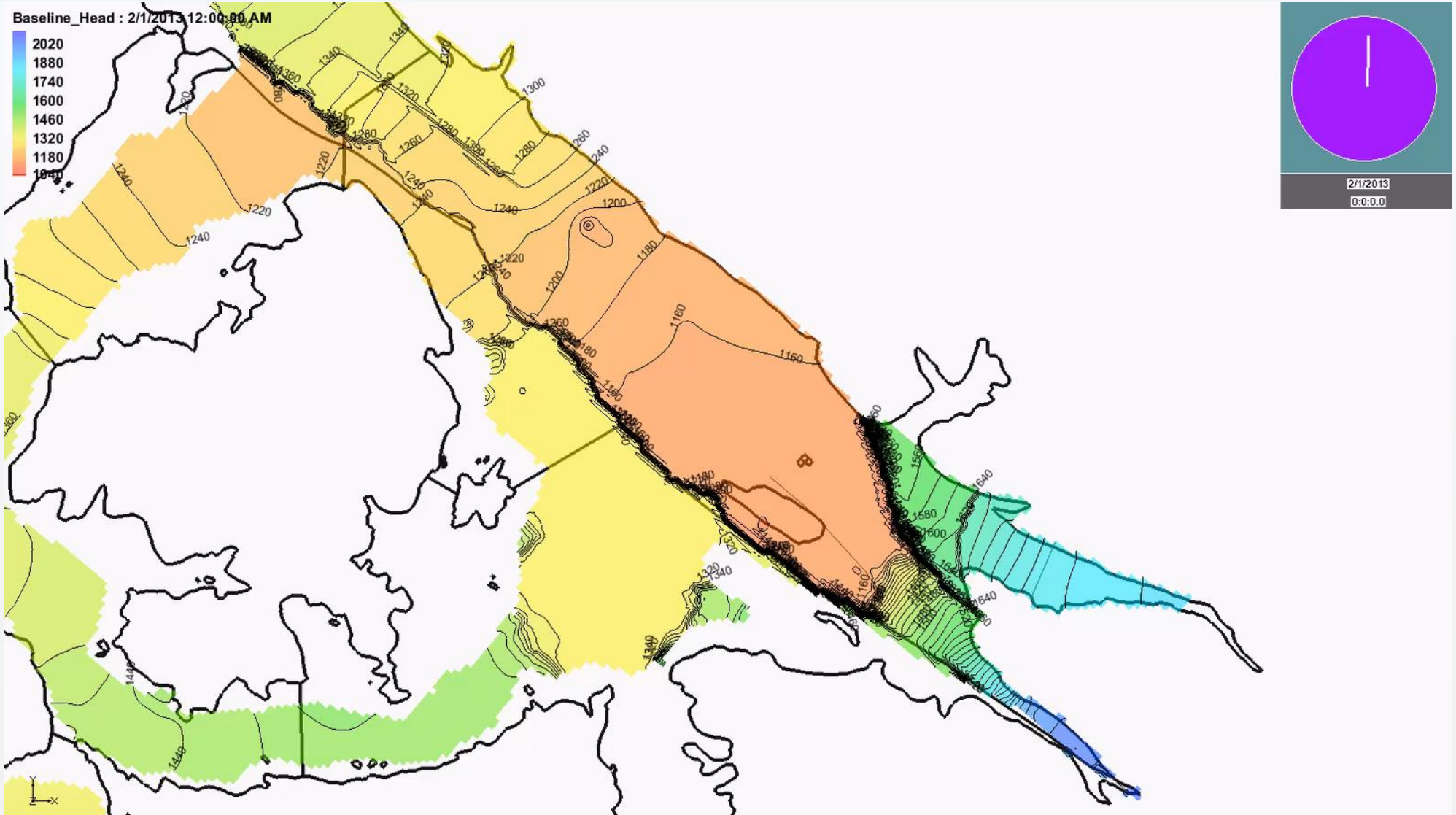
Storage Operation:

30 Year GW Banking:	63,000 AF
30 Year CU:	147,000 AF
Total:	**210,000 AF**

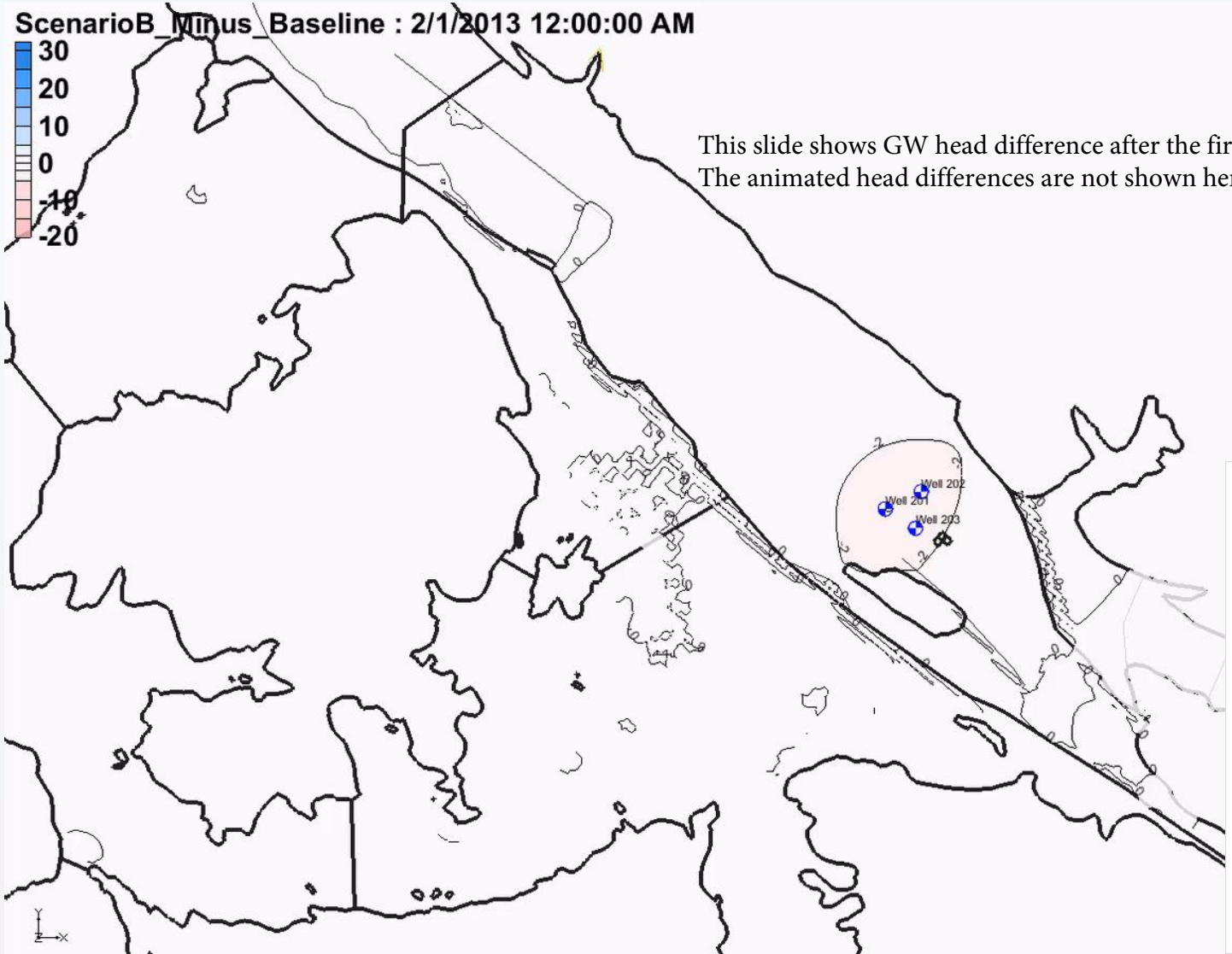


Groundwater Levels

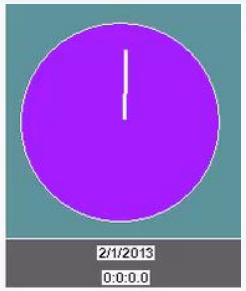
Baseline - Head Animation

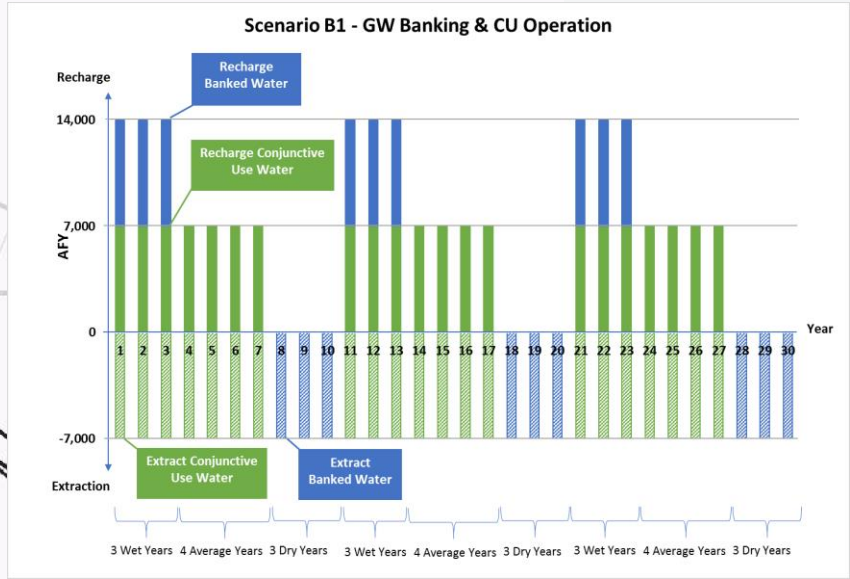


Head Difference Animation
Scenario B1 vs. Baseline

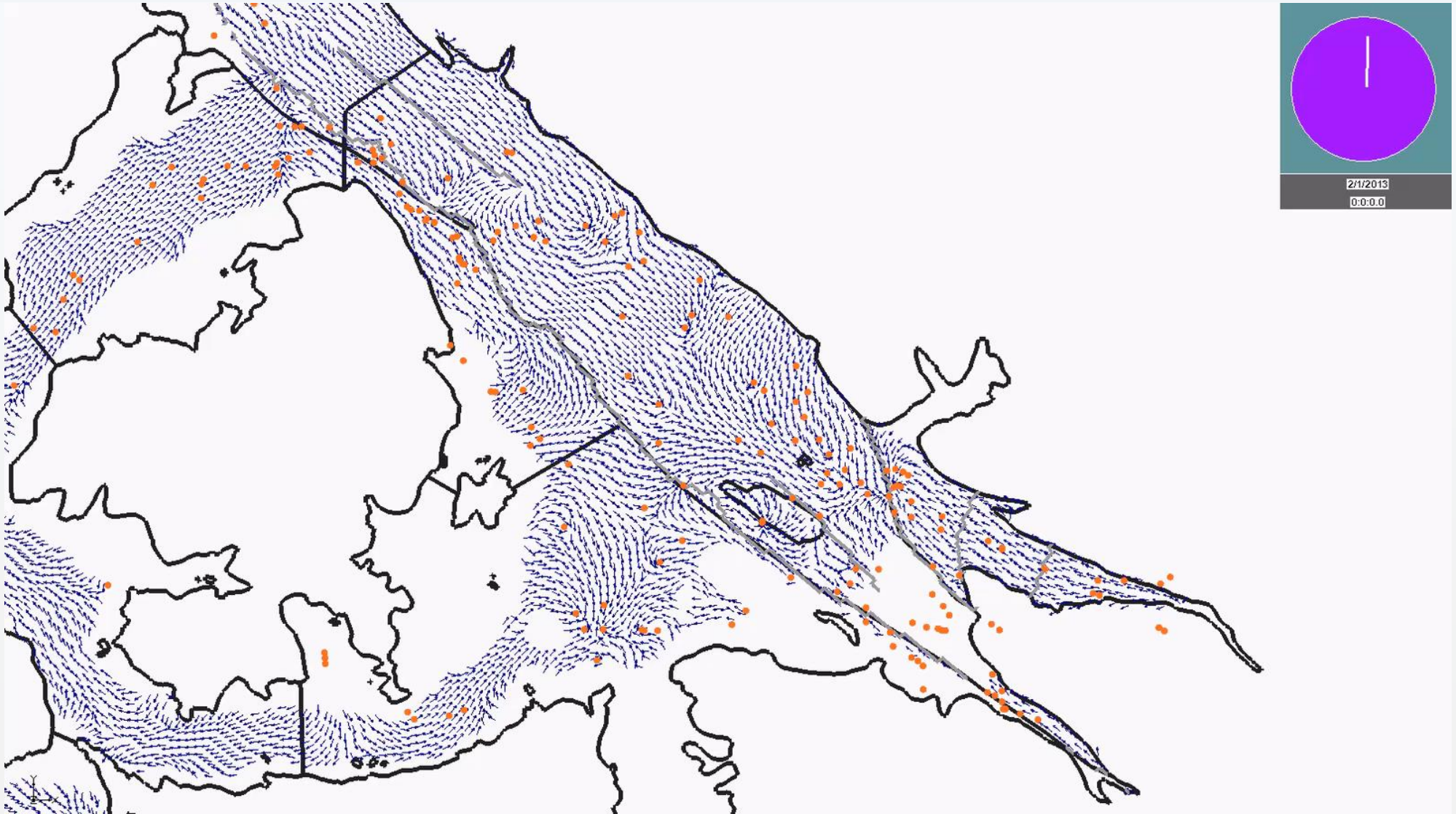


This slide shows GW head difference after the first month of simulation.
The animated head differences are not shown here.

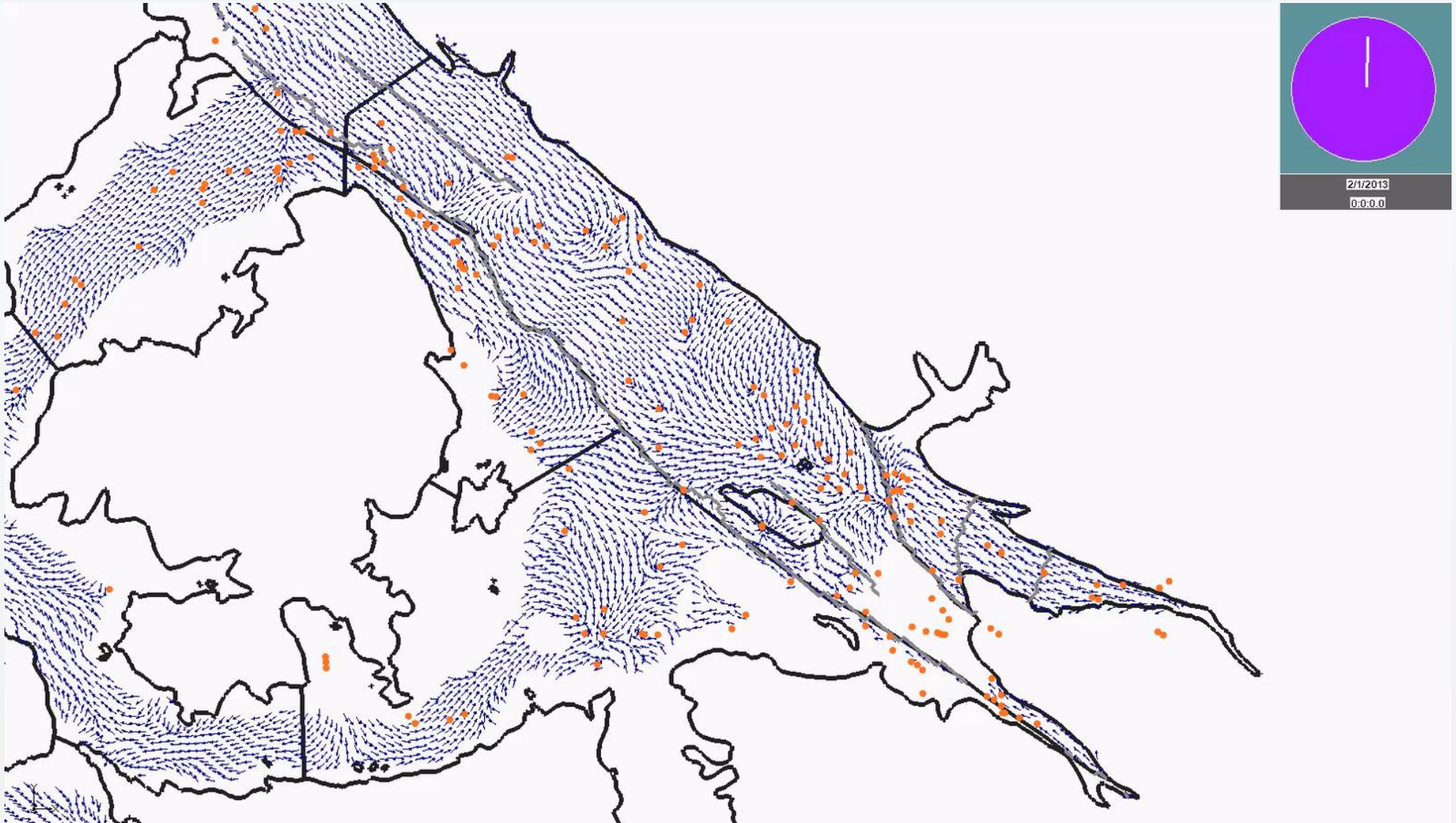




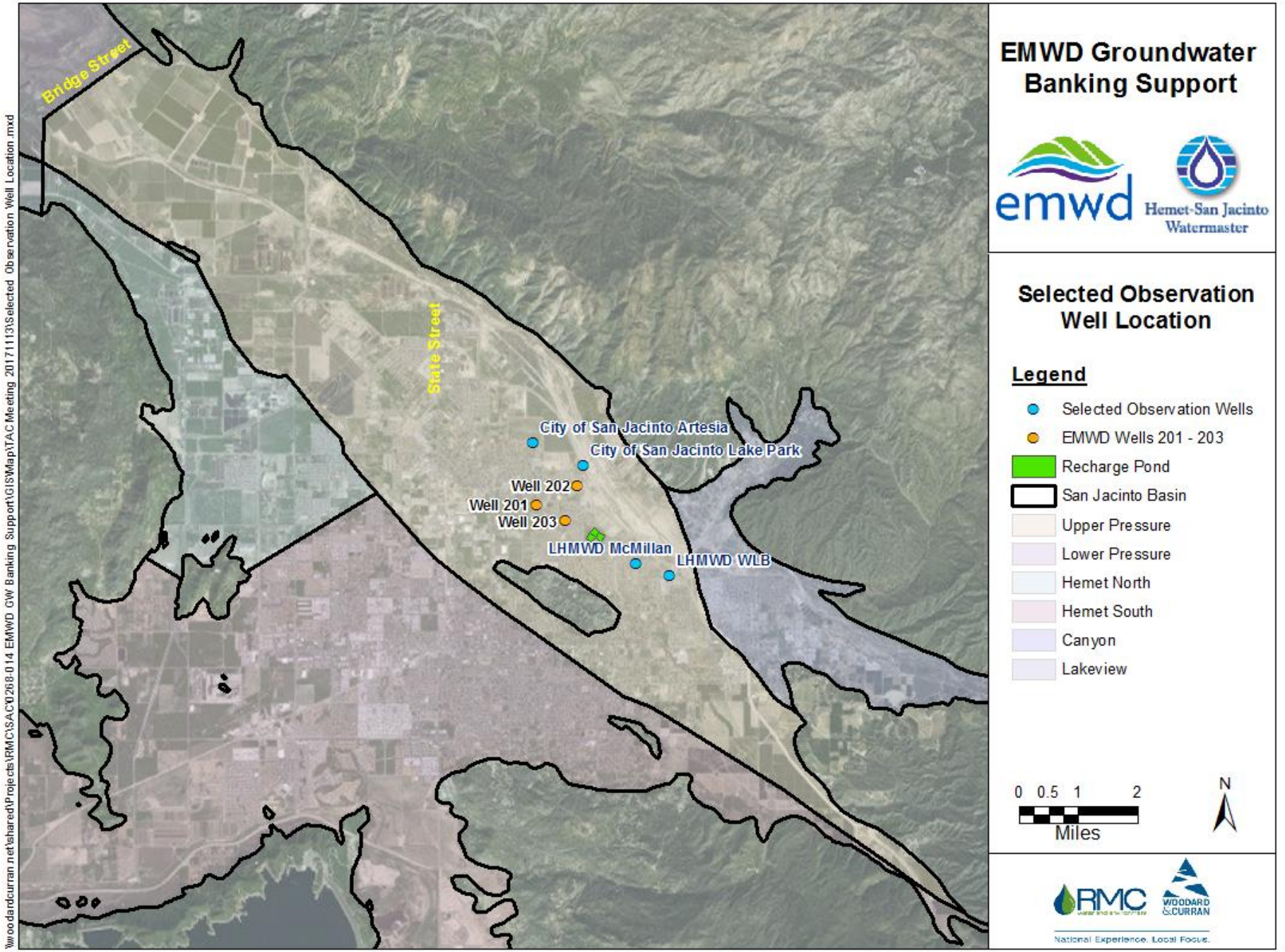
Flow Vector Animation (Baseline)



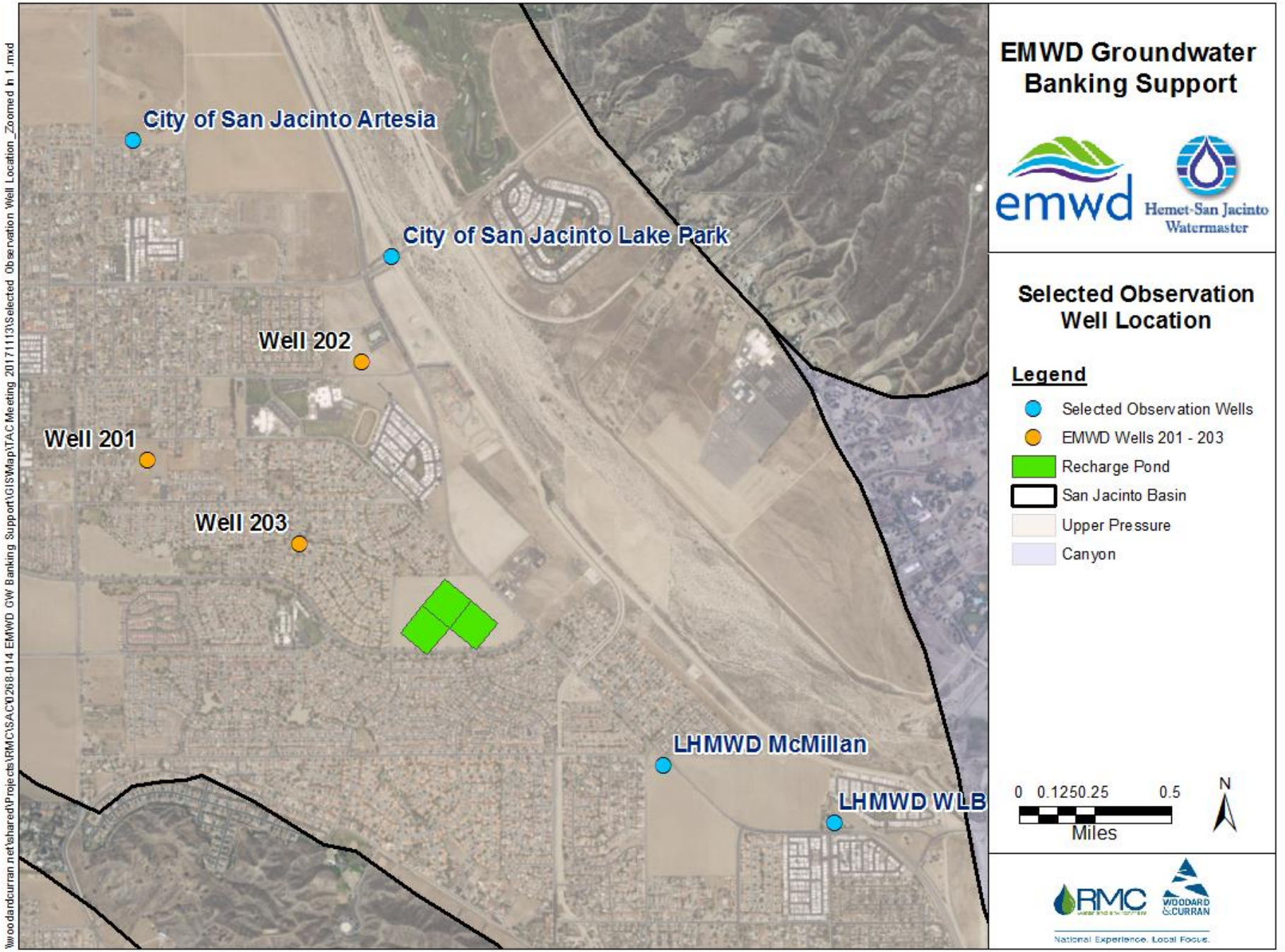
Flow Vector Animation (Scenario B1)



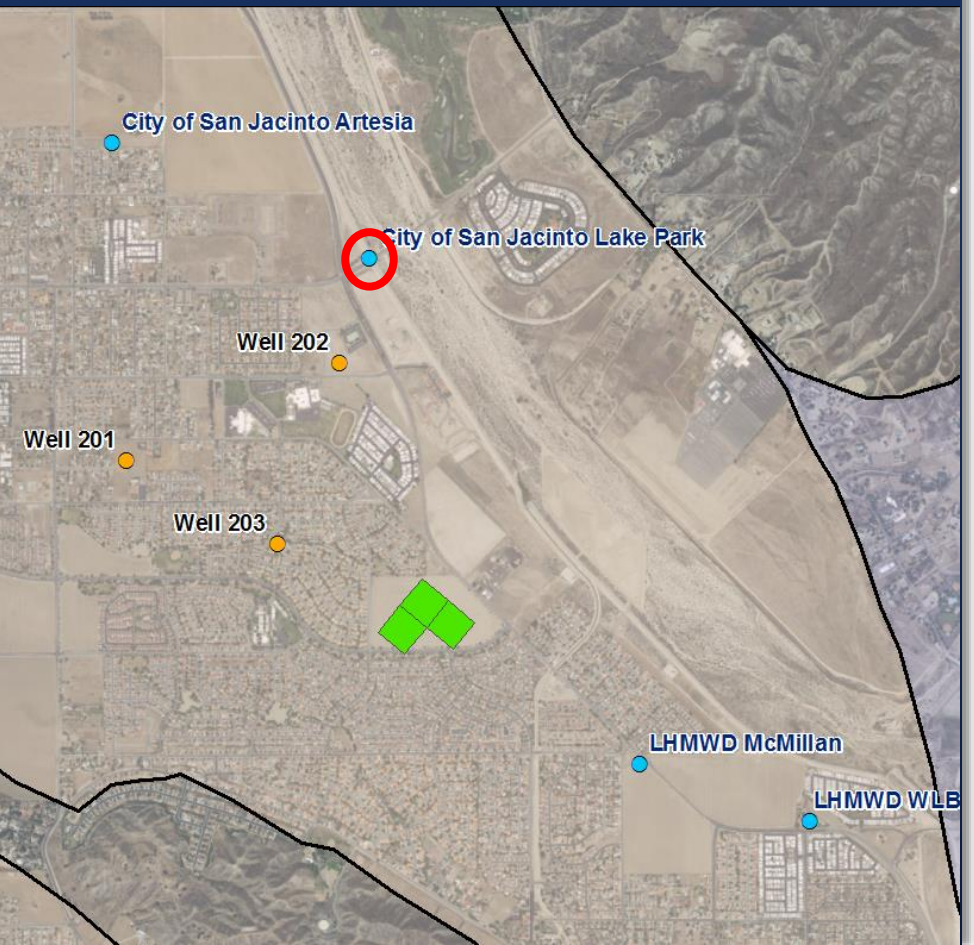
Selected Observation Well Location

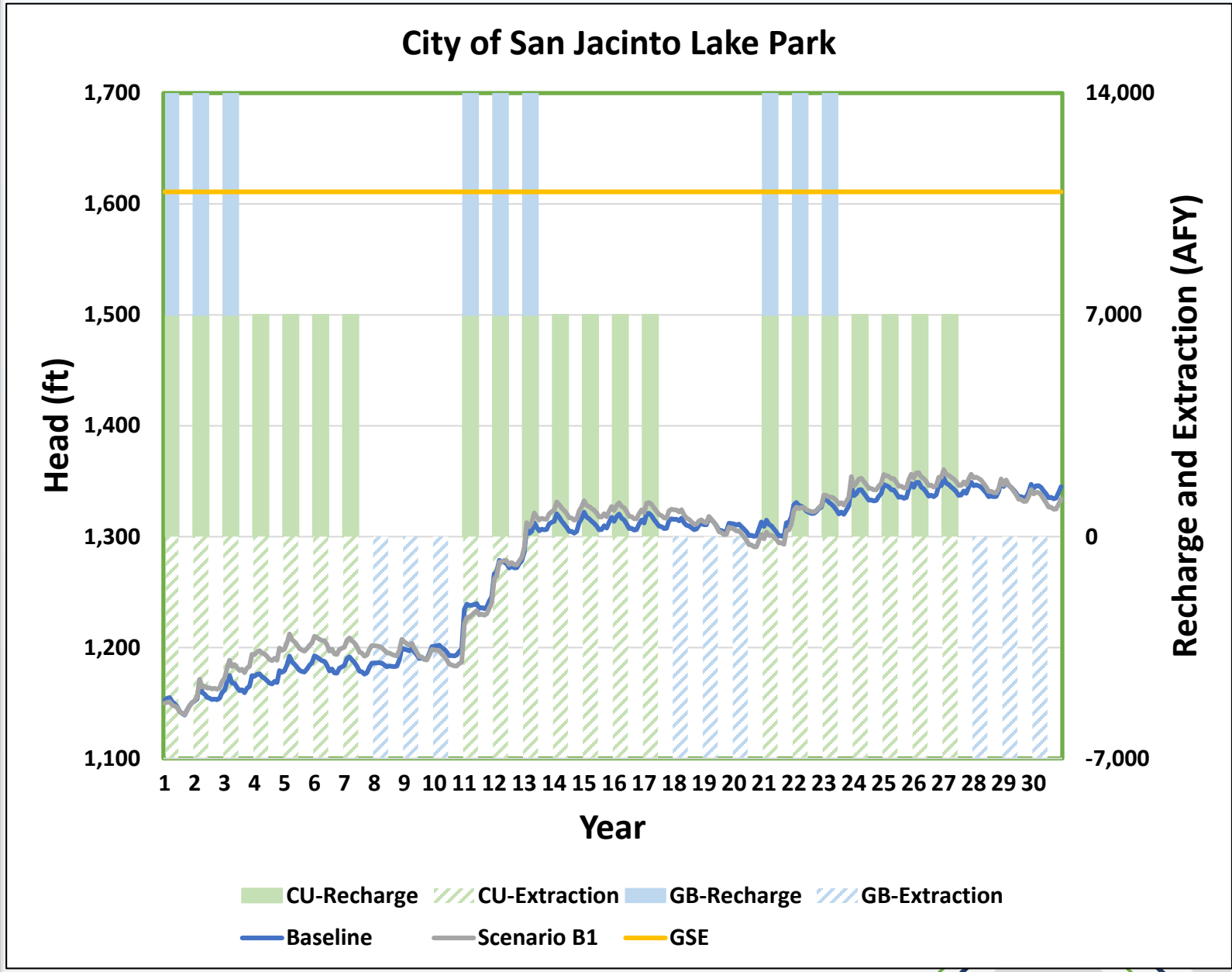


Selected Observation Well Location

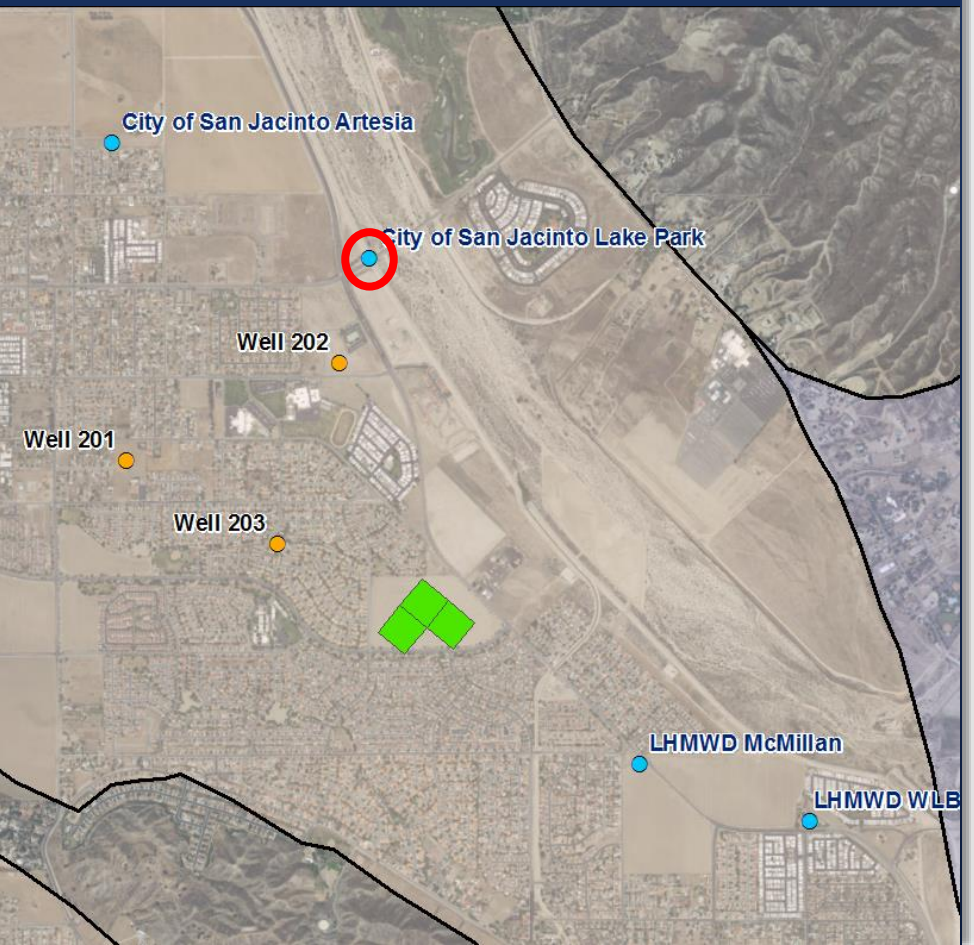


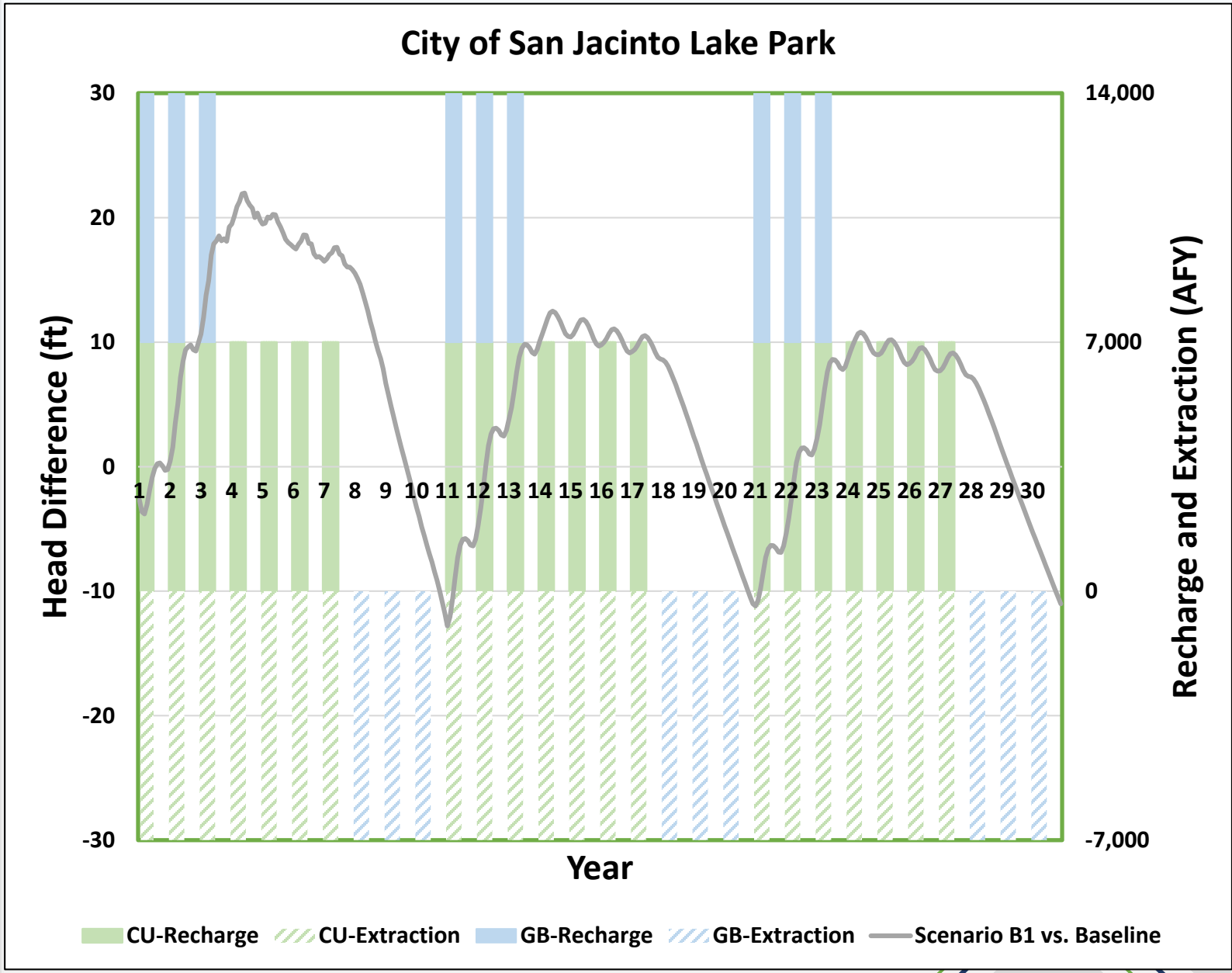
City of San Jacinto Lake Park



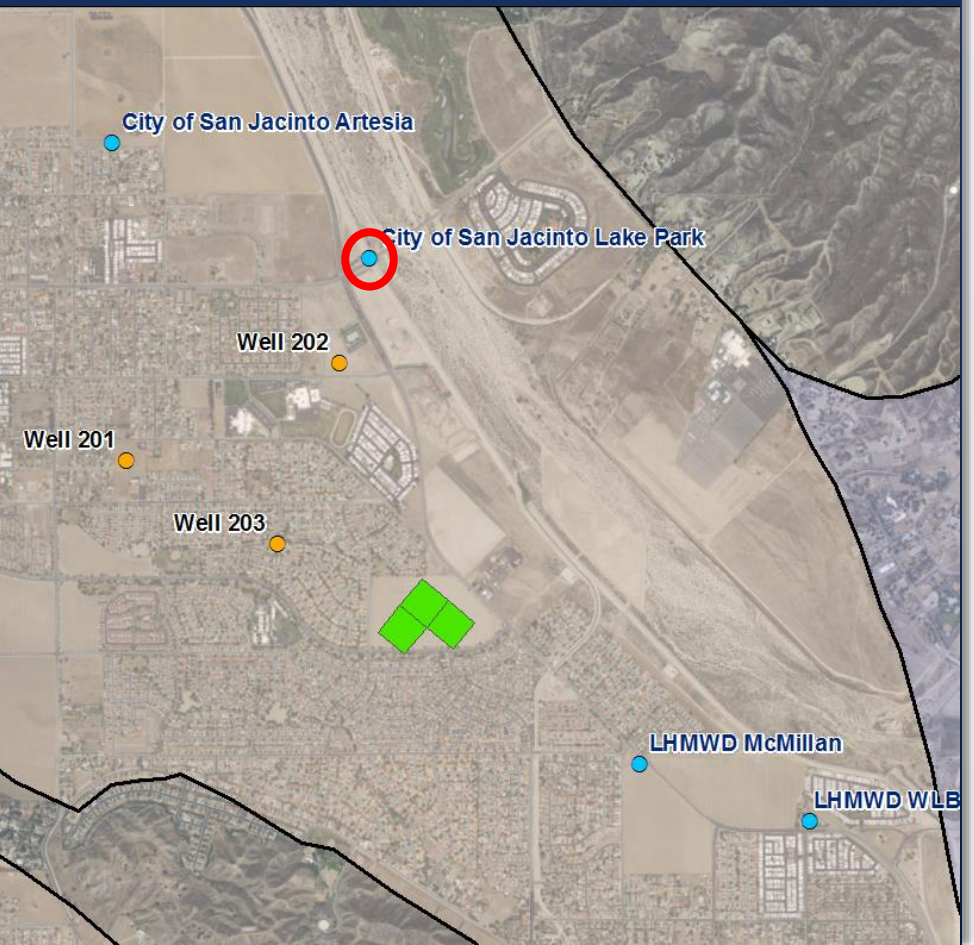


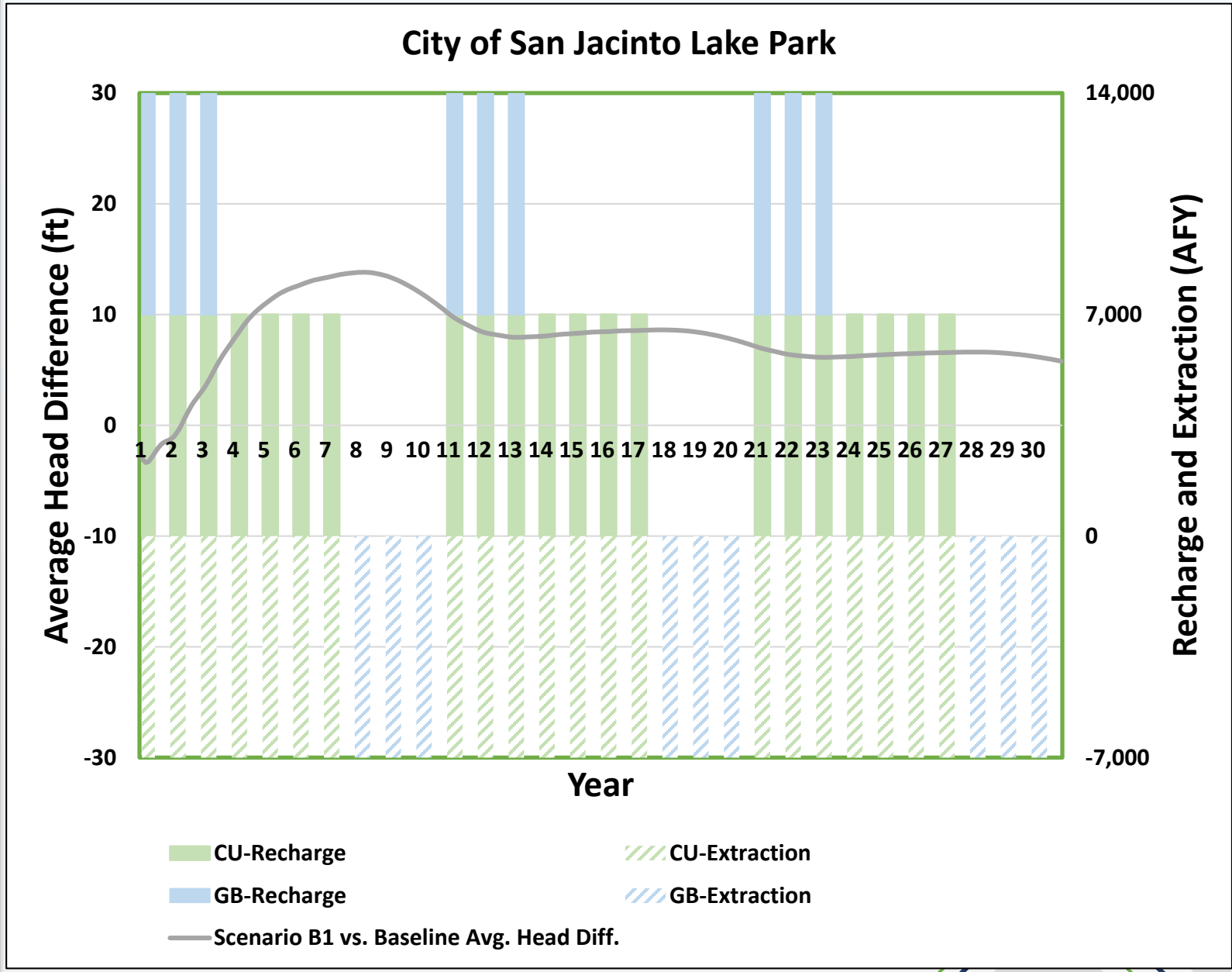
City of San Jacinto Lake Park



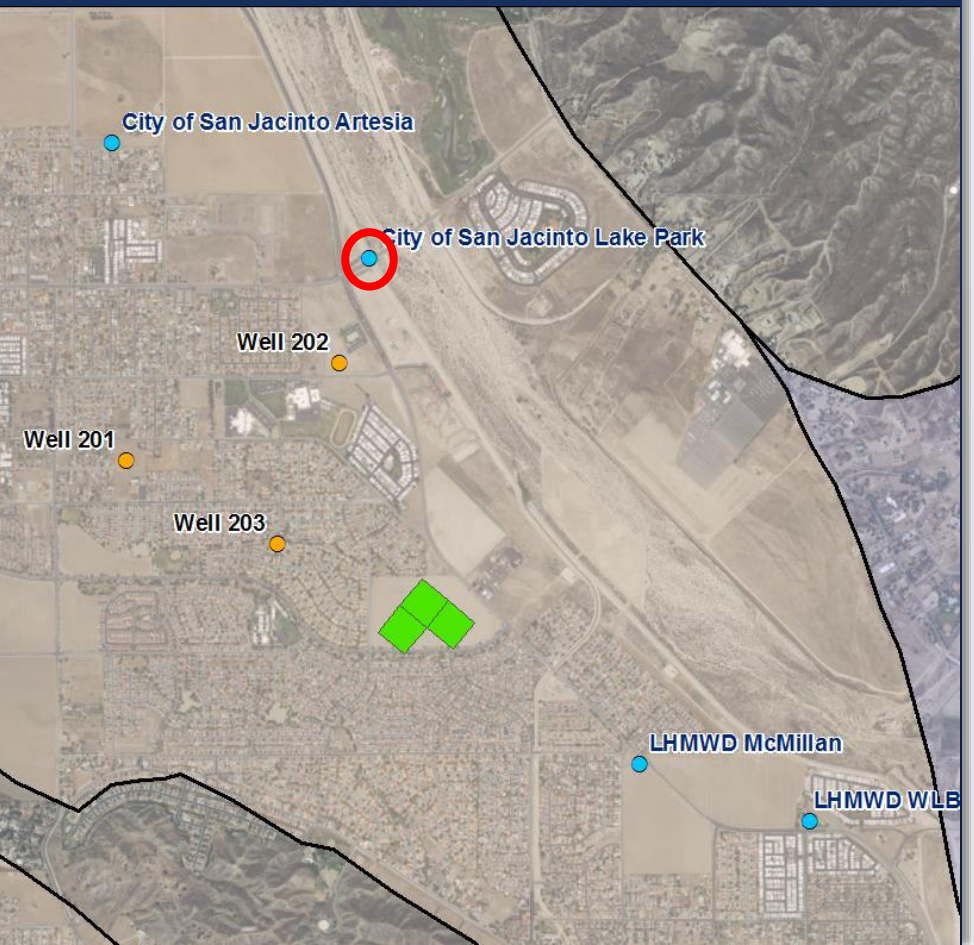


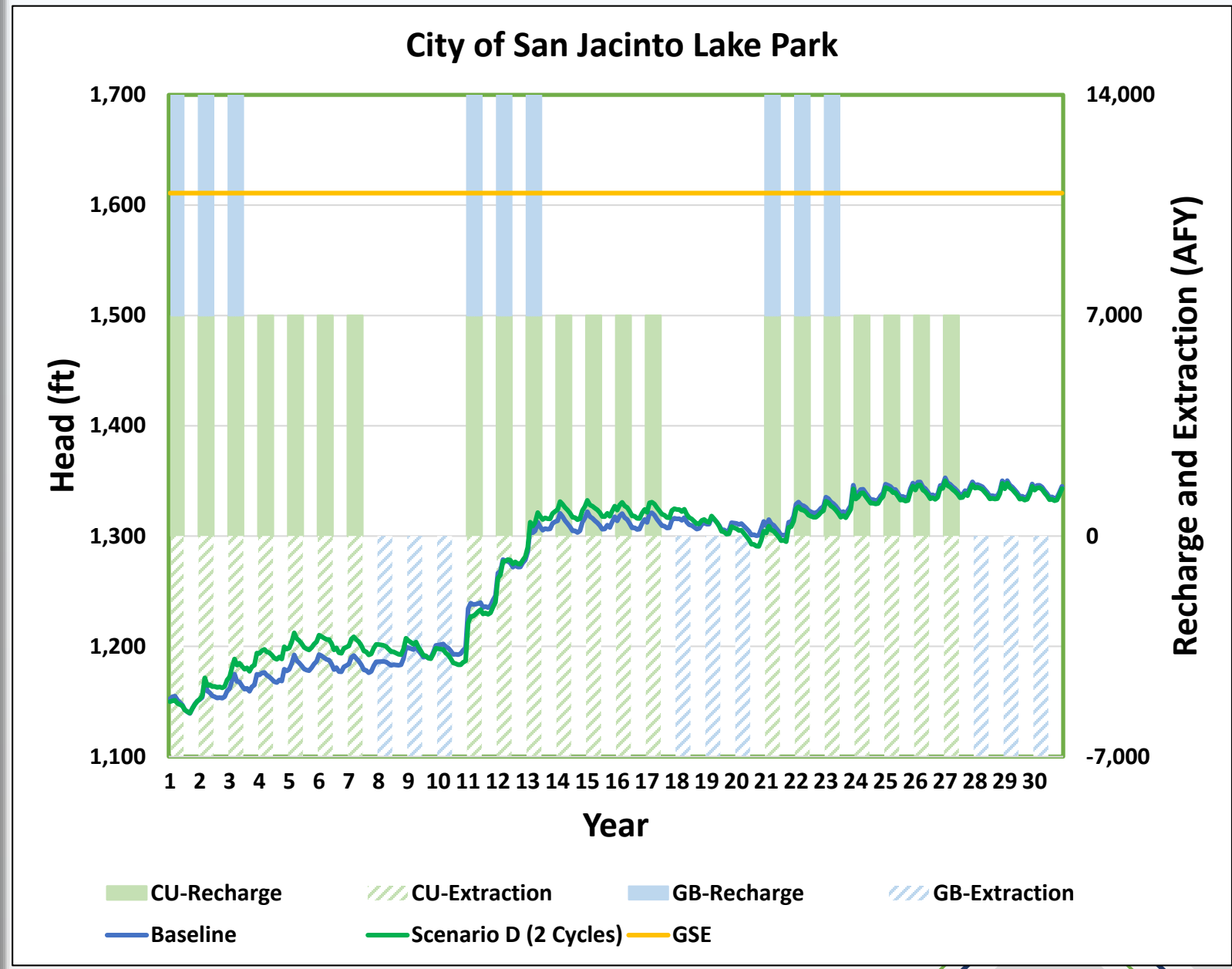
City of San Jacinto Lake Park



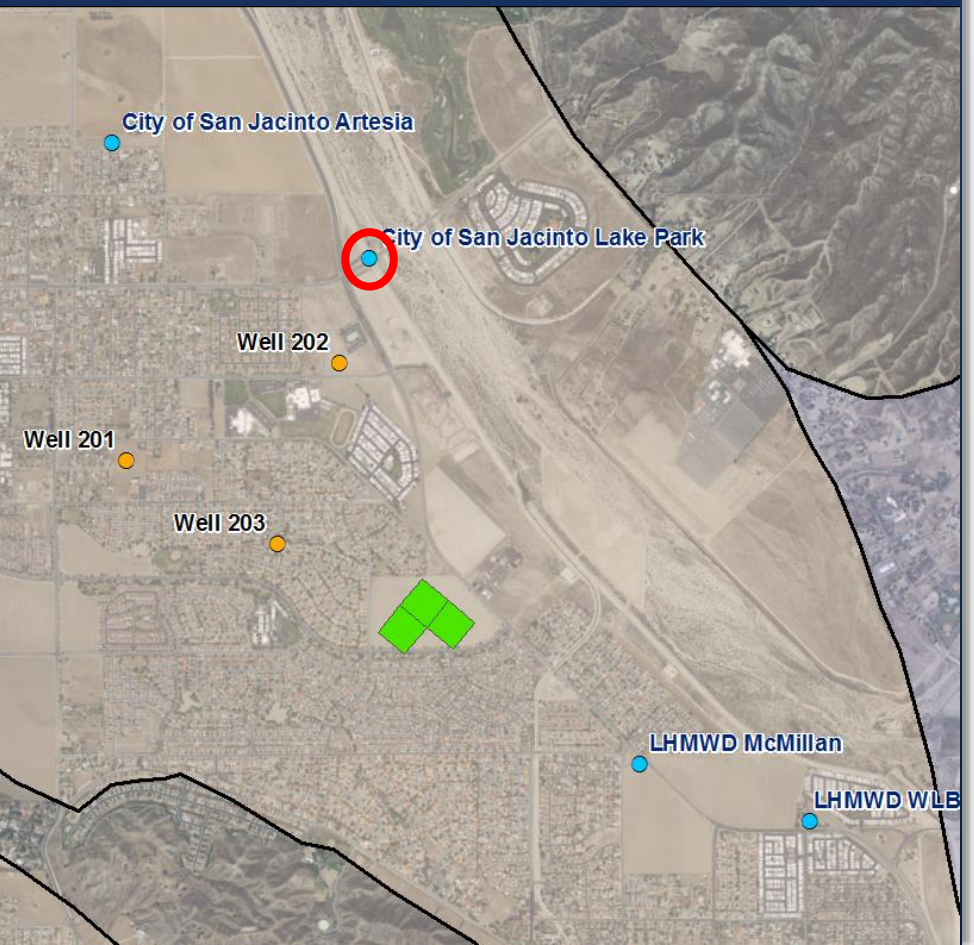


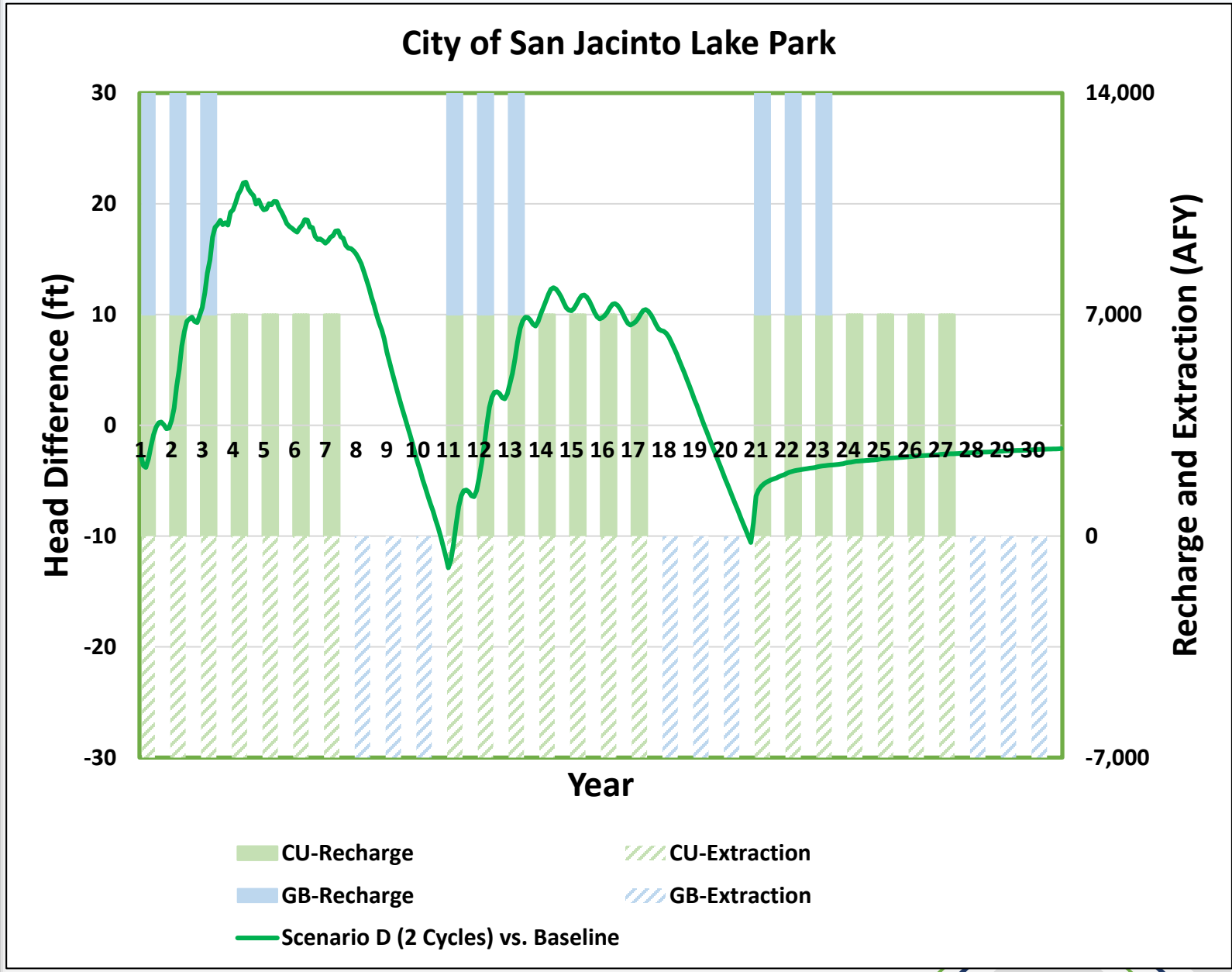
City of San Jacinto Lake Park



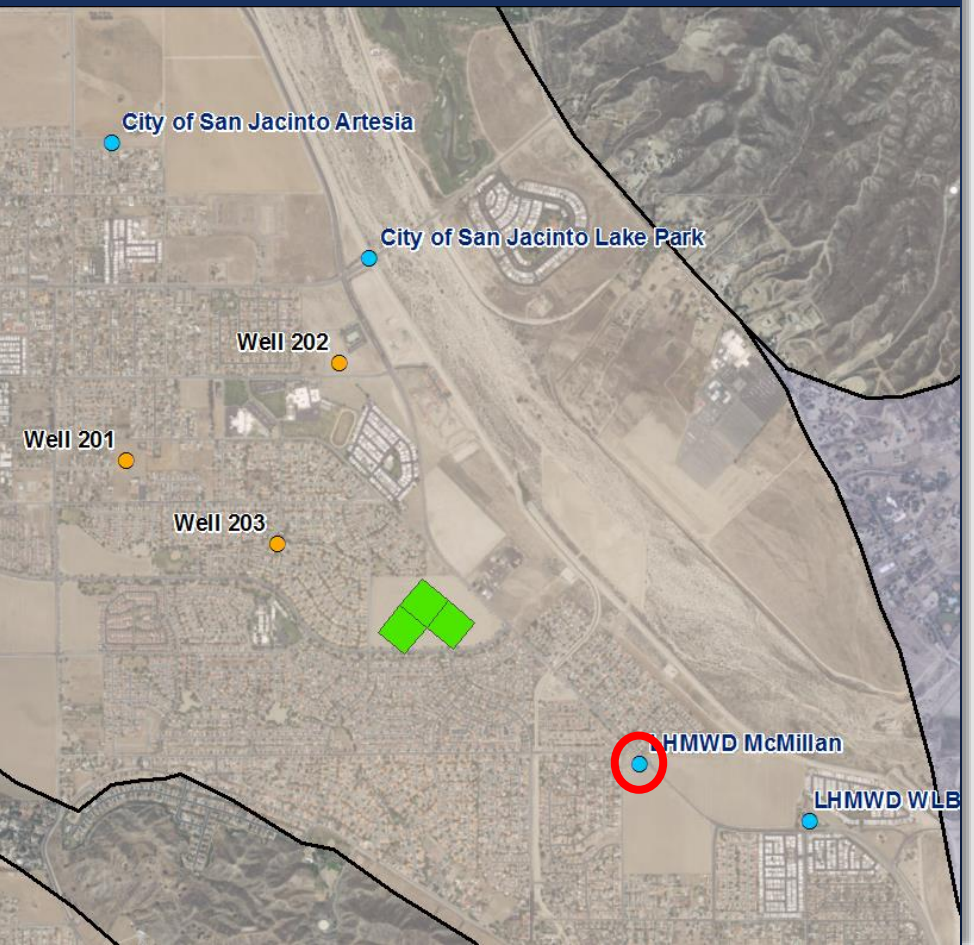


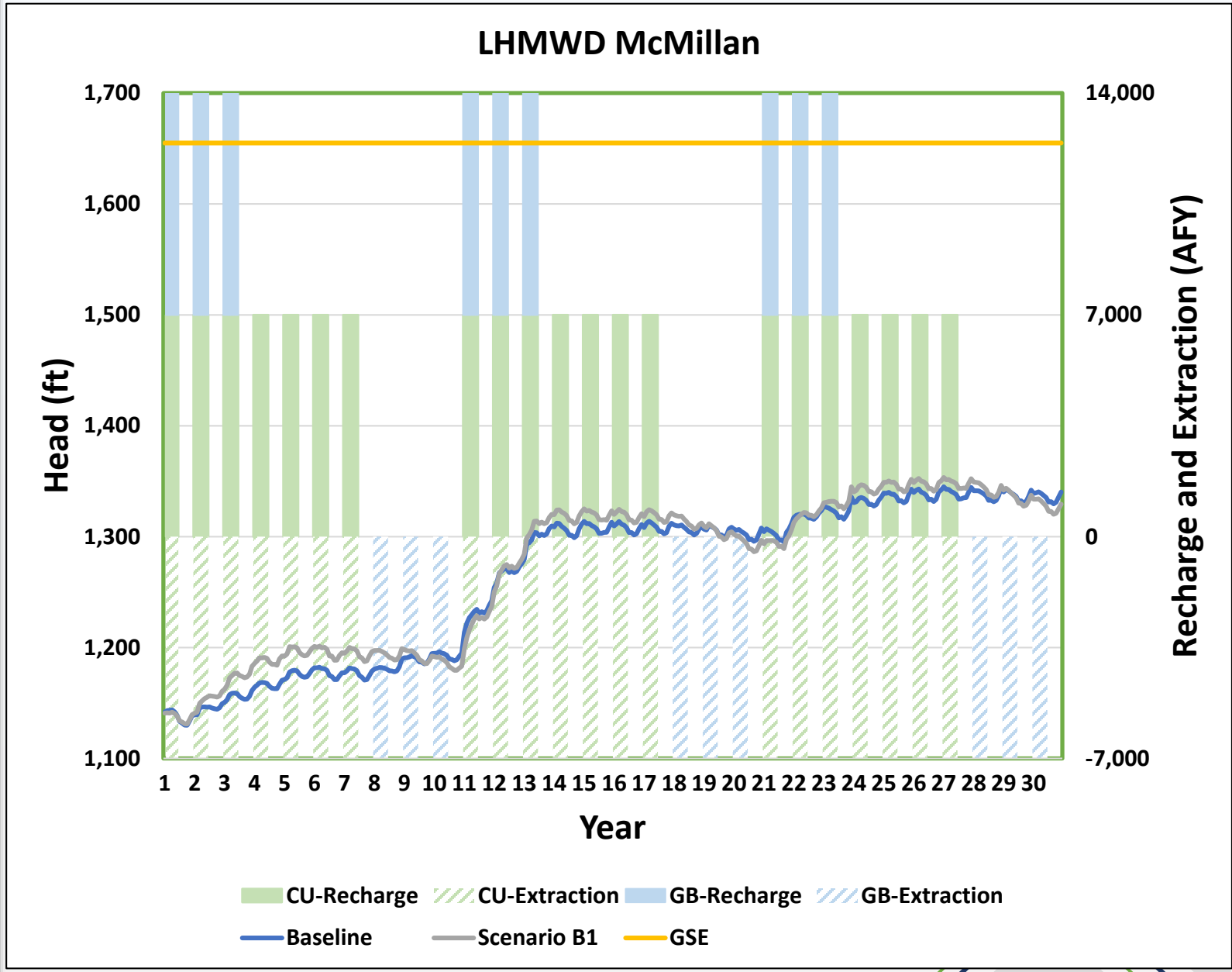
City of San Jacinto Lake Park



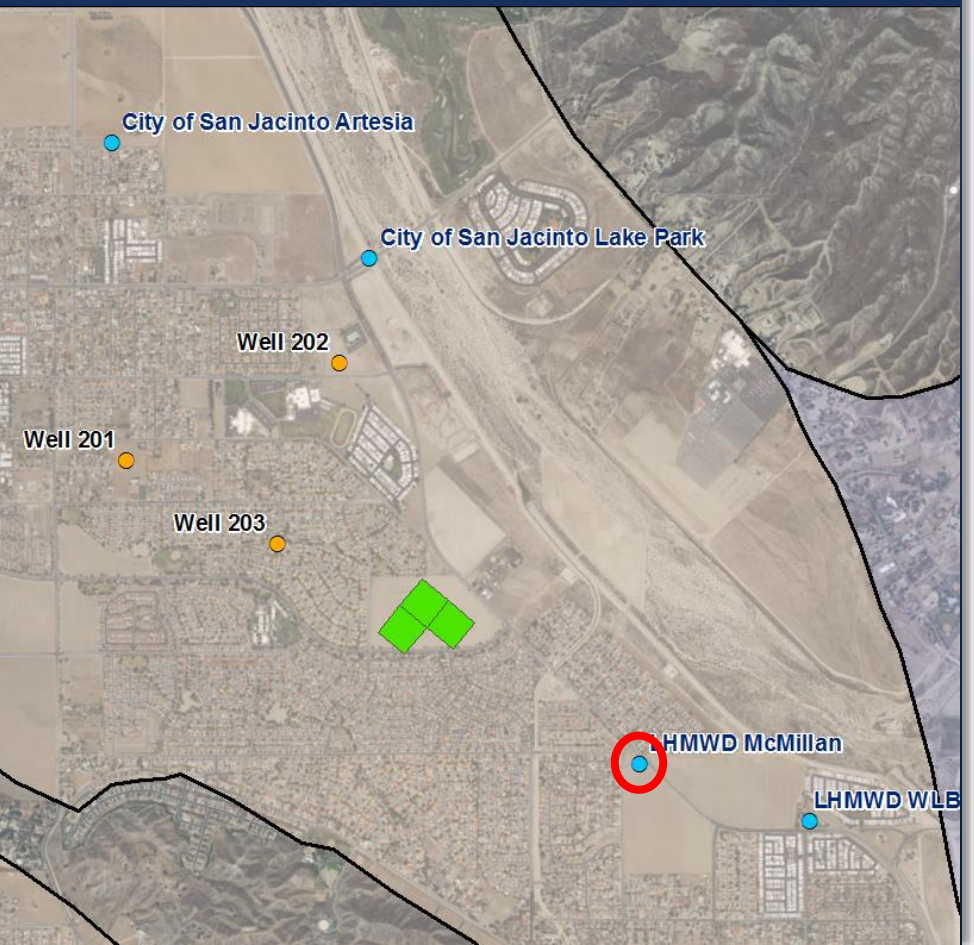


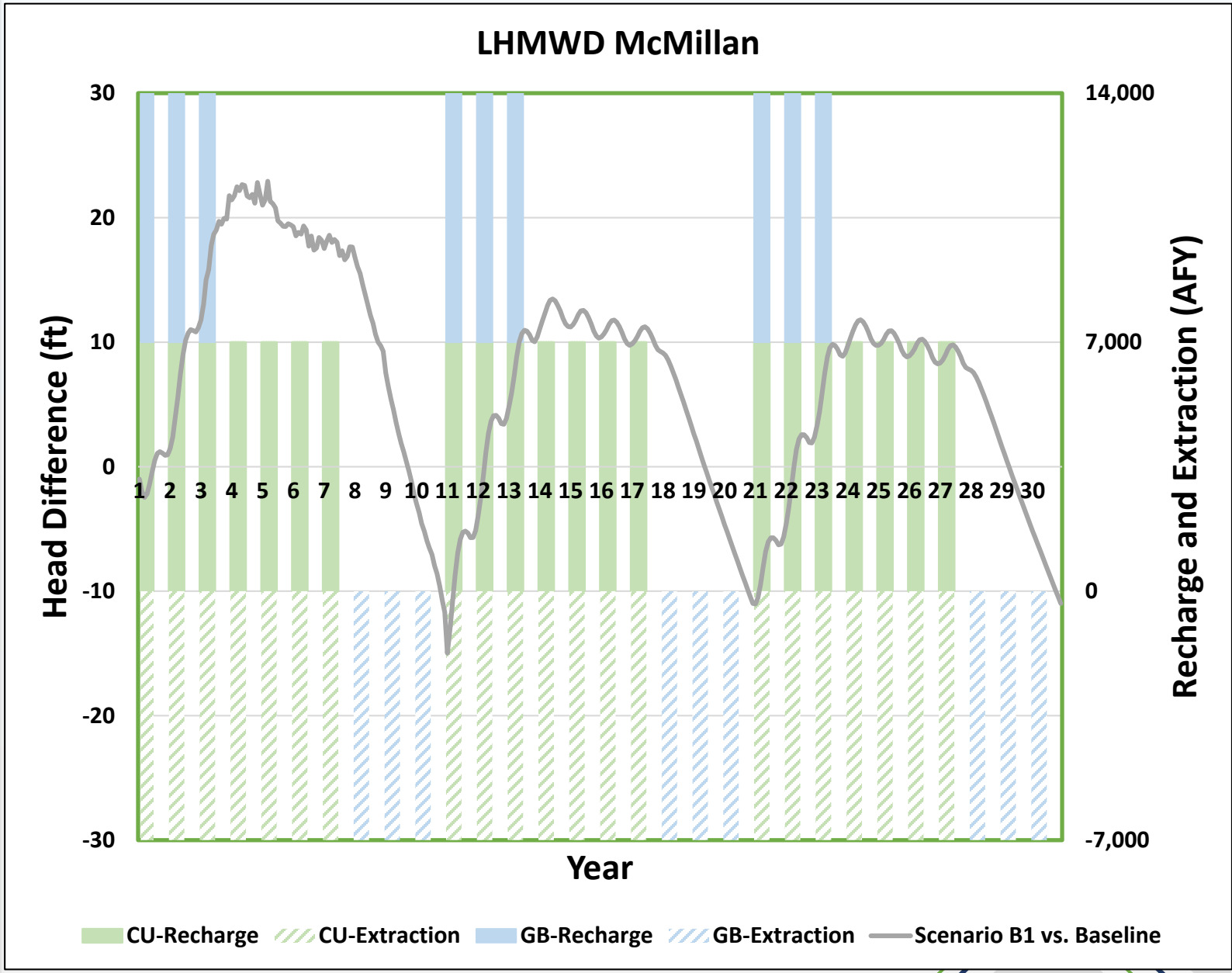
LHMWD McMillan



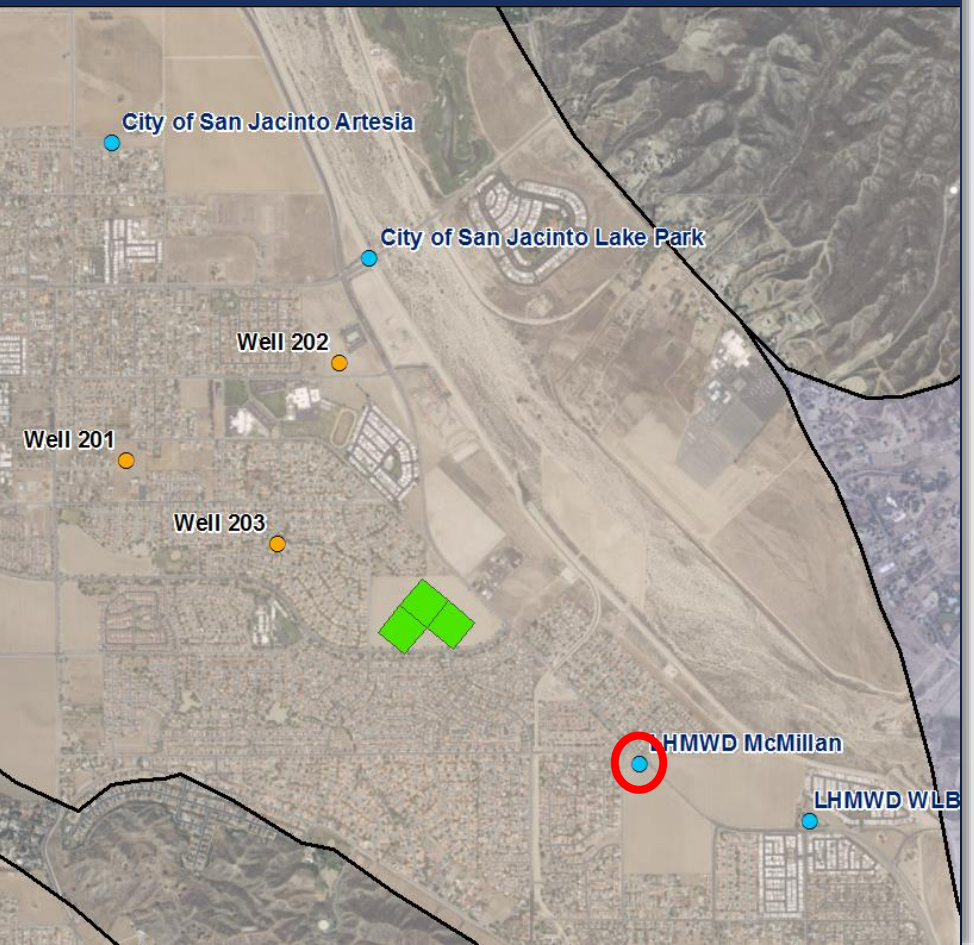


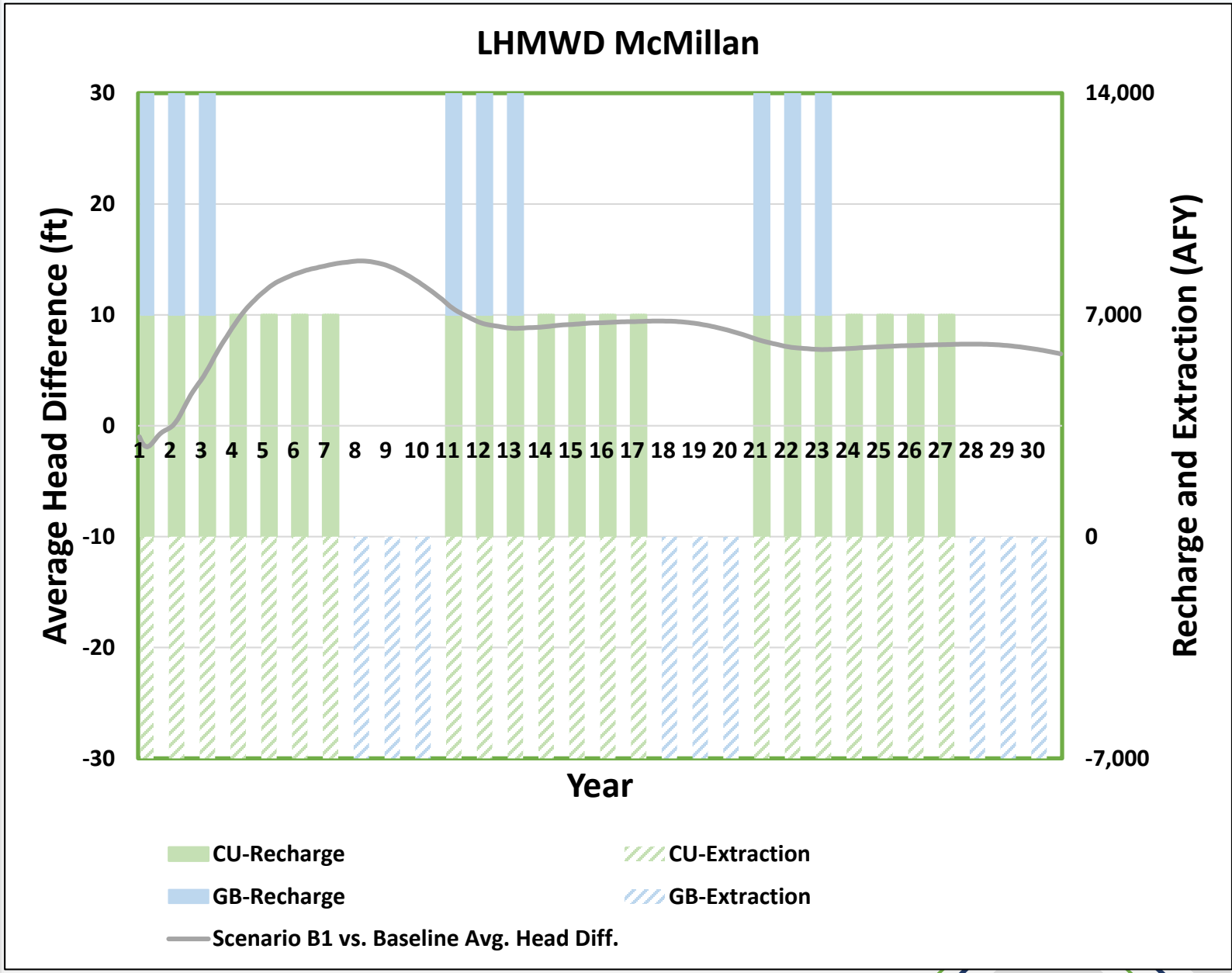
LHMWD McMillan



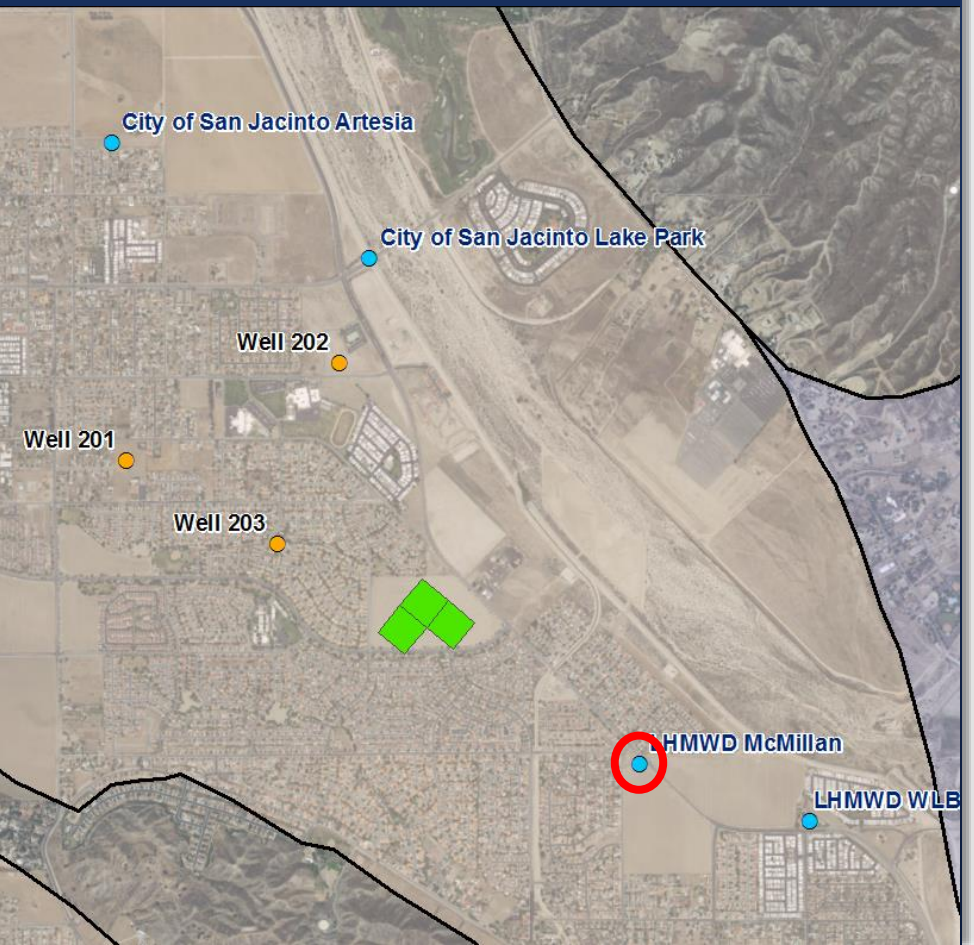


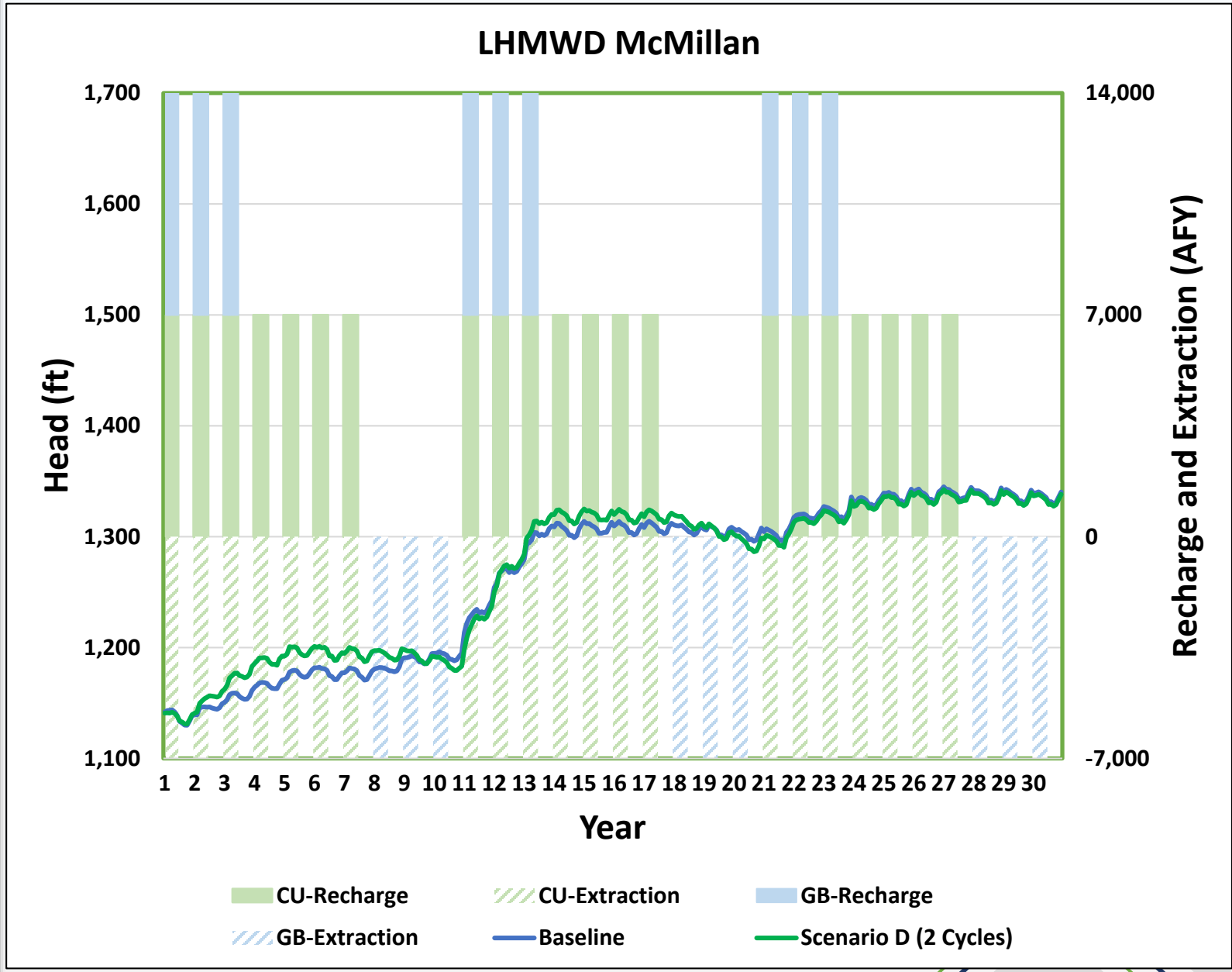
LHMWD McMillan



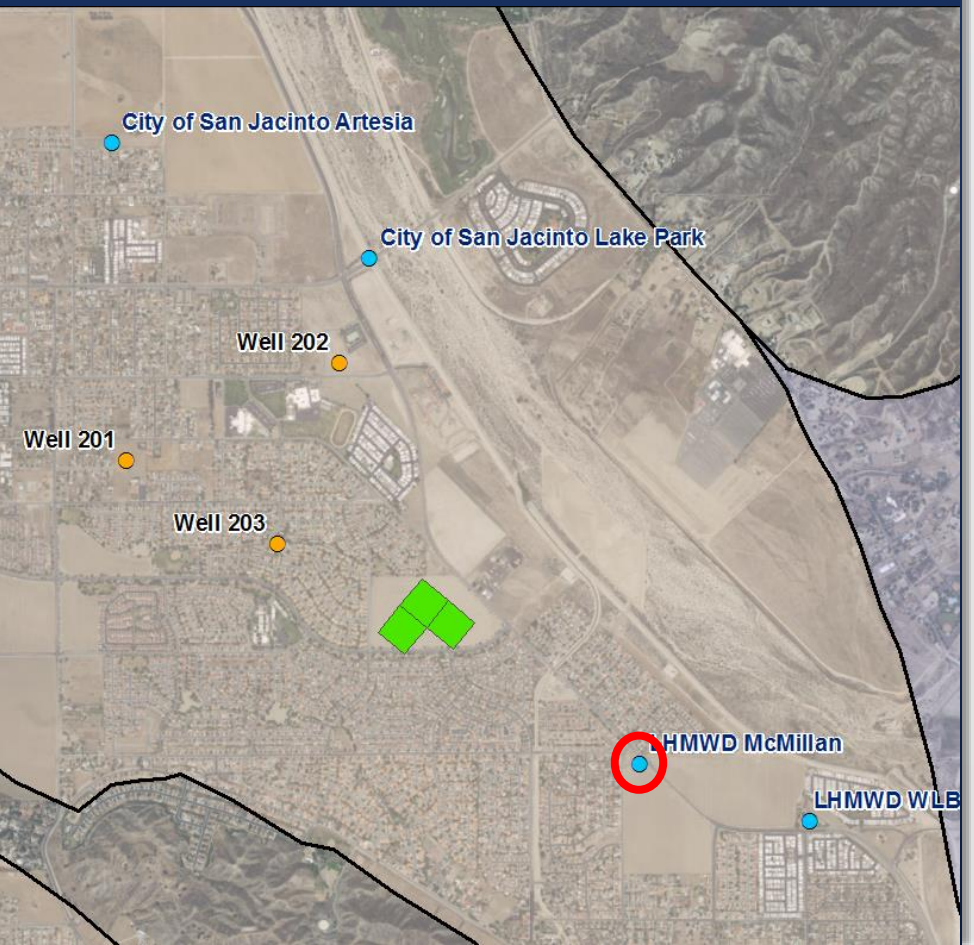


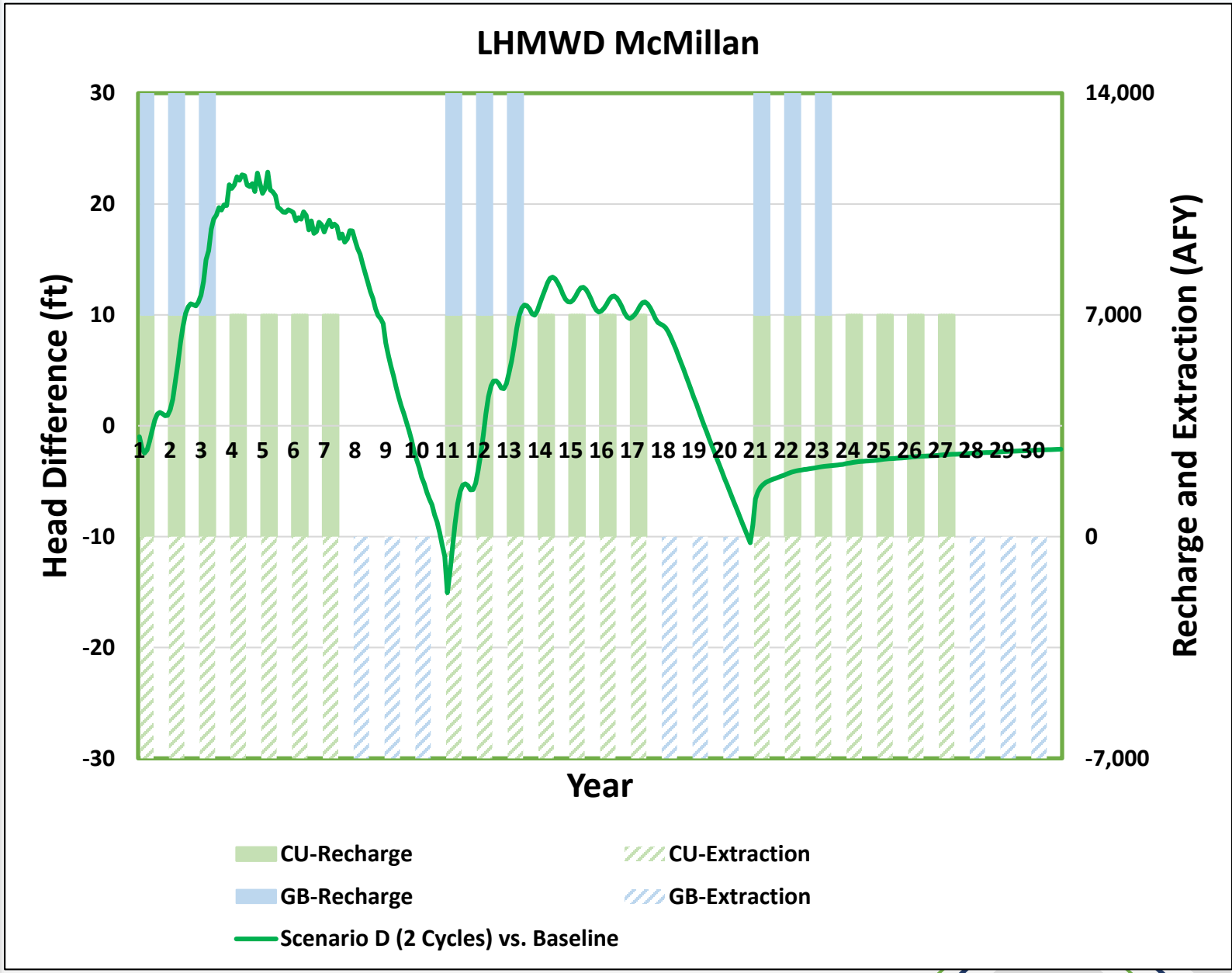
LHMWD McMillan





LHMWD McMillan





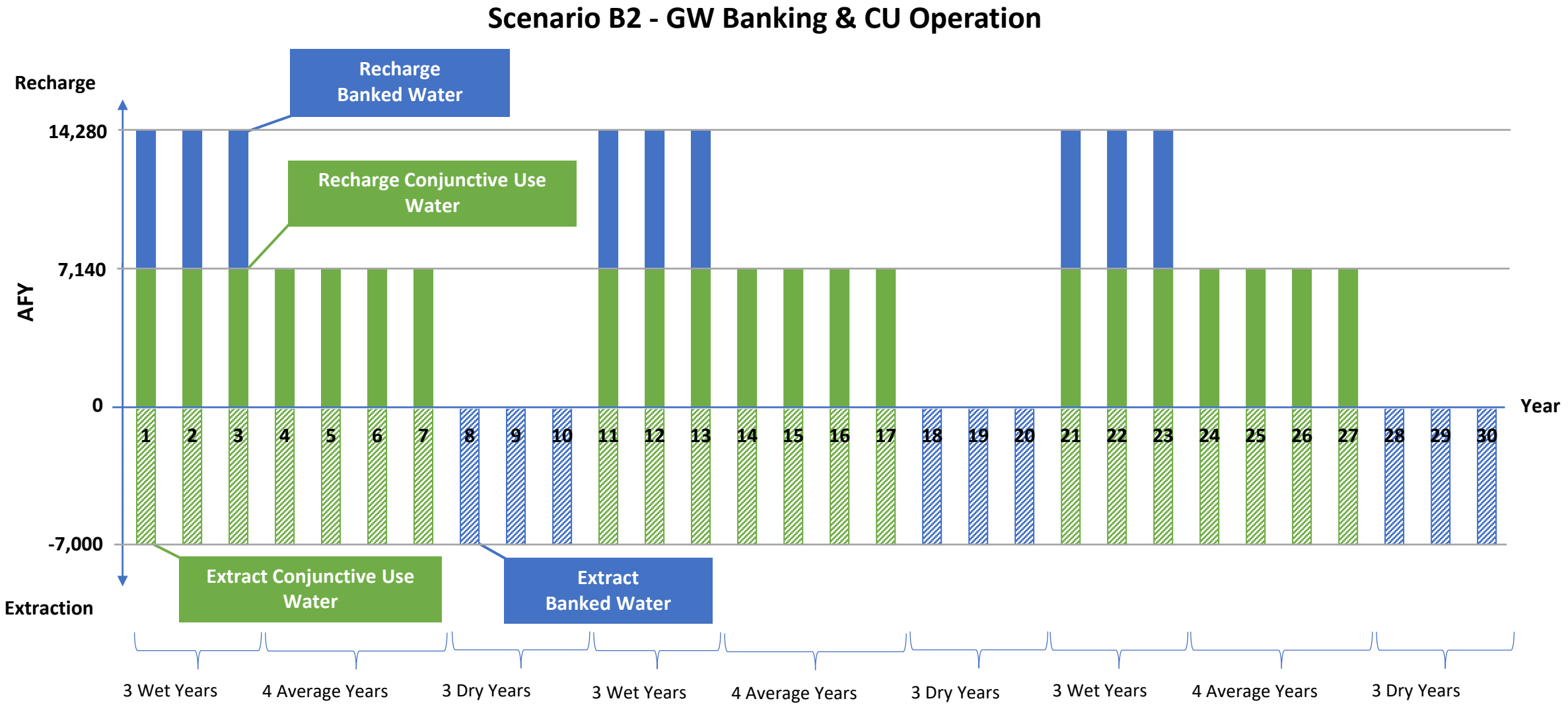
Scenarios Considered for Detail Analysis

Schedule of Operation			Scenario B1	Scenario B2
Recharge	Amount (AFY)	Wet Years	14,000	14,280
		Average Years	7,000	7,140
		Dry Years	0	0
	GW Banking		✓	✓
	Conjunctive Use		✓	✓
	Offset			2%
Extraction	Amount (AFY)	Wet Years	7,000	7,000
		Average Years	7,000	7,000
		Dry Years	7,000	7,000
	GW Banking		✓	✓
	Conjunctive Use		✓	✓

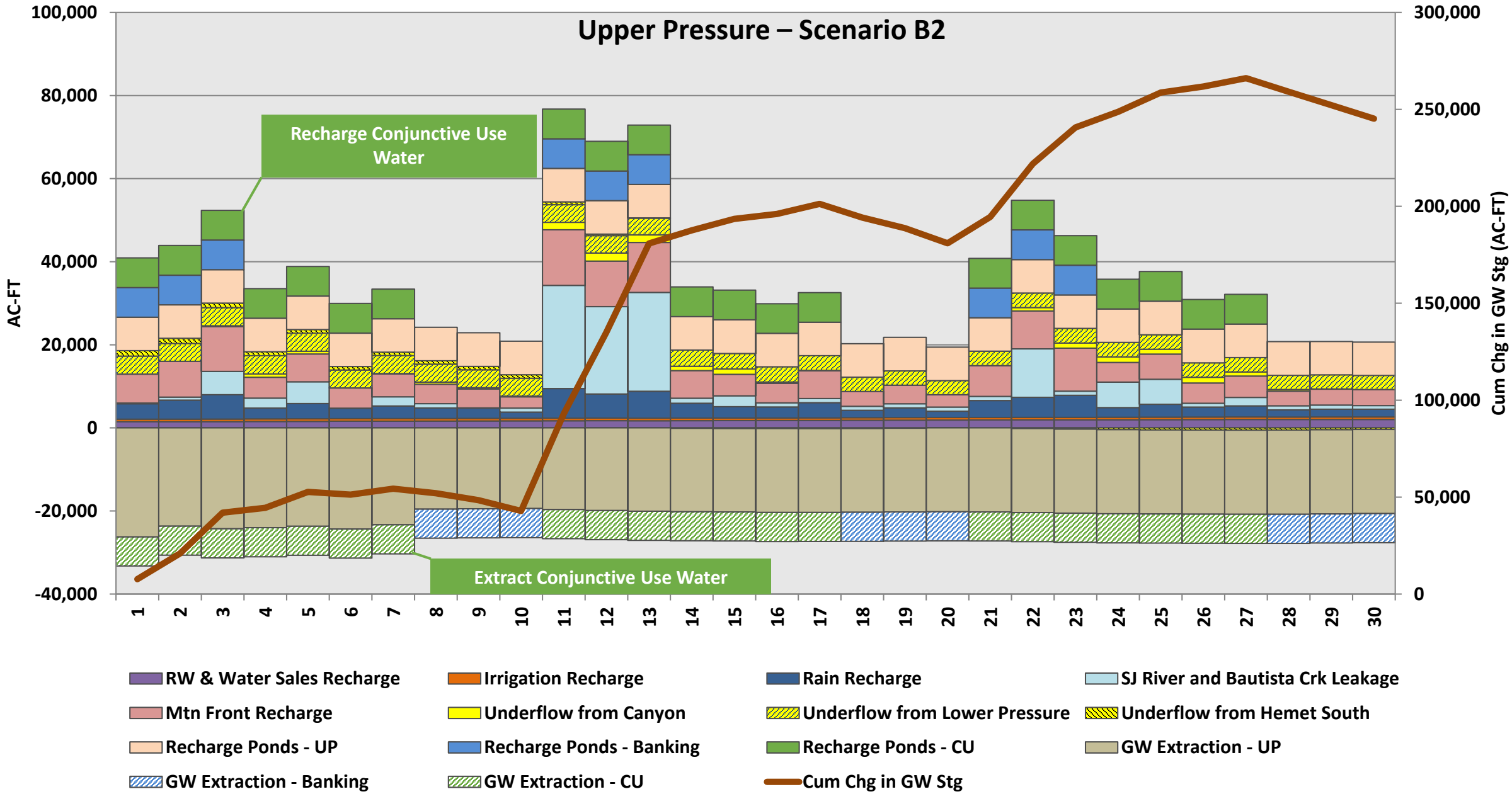
Scenario Assumptions

- **GW Banking & Conjunctive Use Scenarios:**
  - **Scenario B1- Full Project Operation**
    - Assumption:
      - IRRP, GW Banking and CU Operation will be active
      - Extract both the Banked water and the CU water
    - Recharge: 14,000 AFY for wet years (7,000 AFY for GW Banking + 7,000 AFY for CU), 7000 AFY for average years (for CU) – 70,000 AF/cycle
    - Extraction: 7,000 AFY for 30 years - 70,000 AF/cycle
  - **Scenario B2- Project Operation with Offset Recharge**
    - Assumption:
      - Same with Scenario B1 with increased recharge of 2%
    - Recharge: 14,280 AFY for wet years (7,140 AFY for GW Banking + 7,140 AFY for CU), 7140 AFY for average years (for CU) – 71,400 AF/cycle
    - Extraction: 7,000 AFY for 30 years - 70,000 AF/cycle

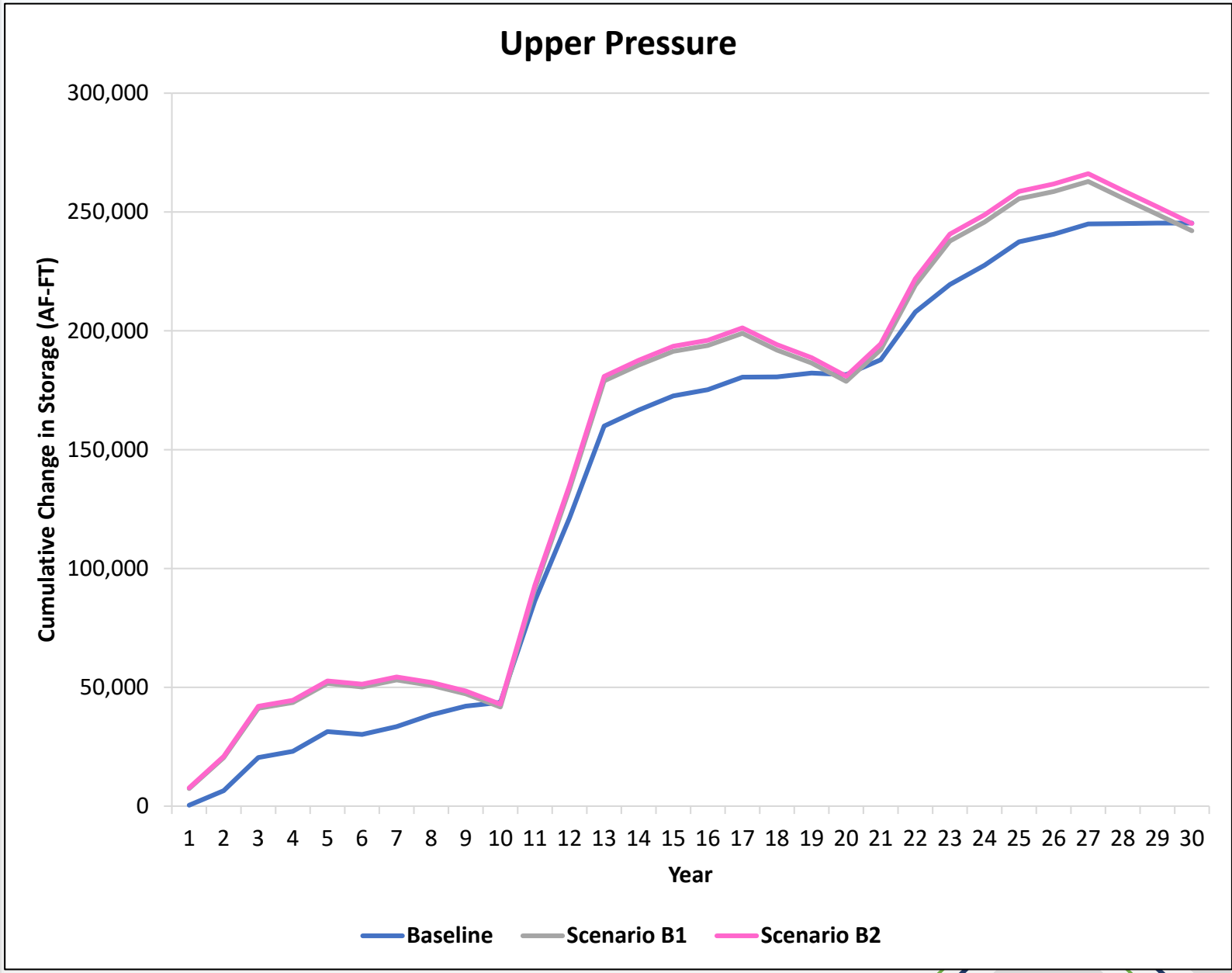
Scenario B2:
GW Banking & Conjunctive Use Operation



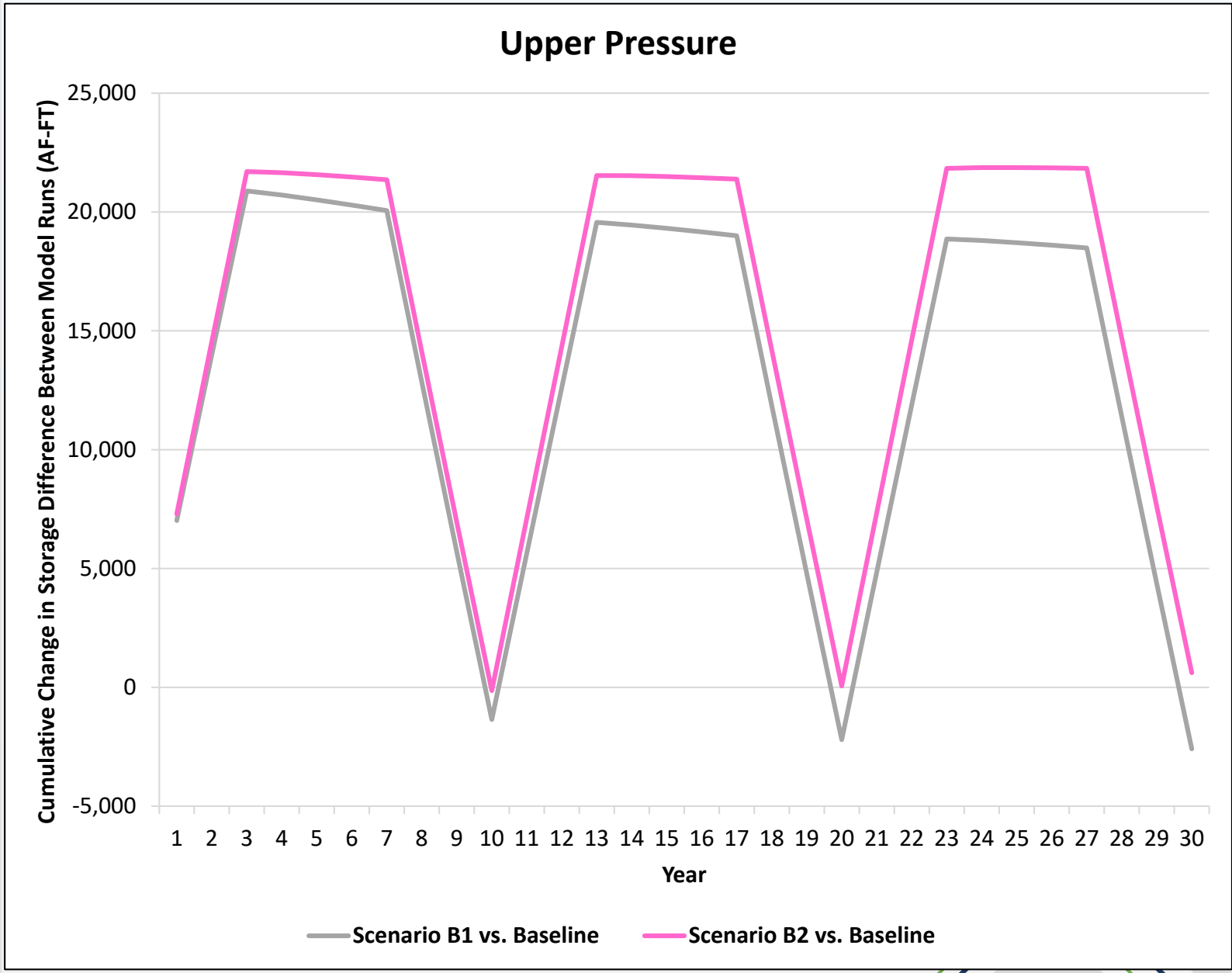
Water Budget: Scenario B2



Cumulative Change in Storage Comparison



Scenarios - Cumulative Change in Storage Difference



Scenario B2 - Cumulative Change in Storage Difference

HS Displaced Storage:

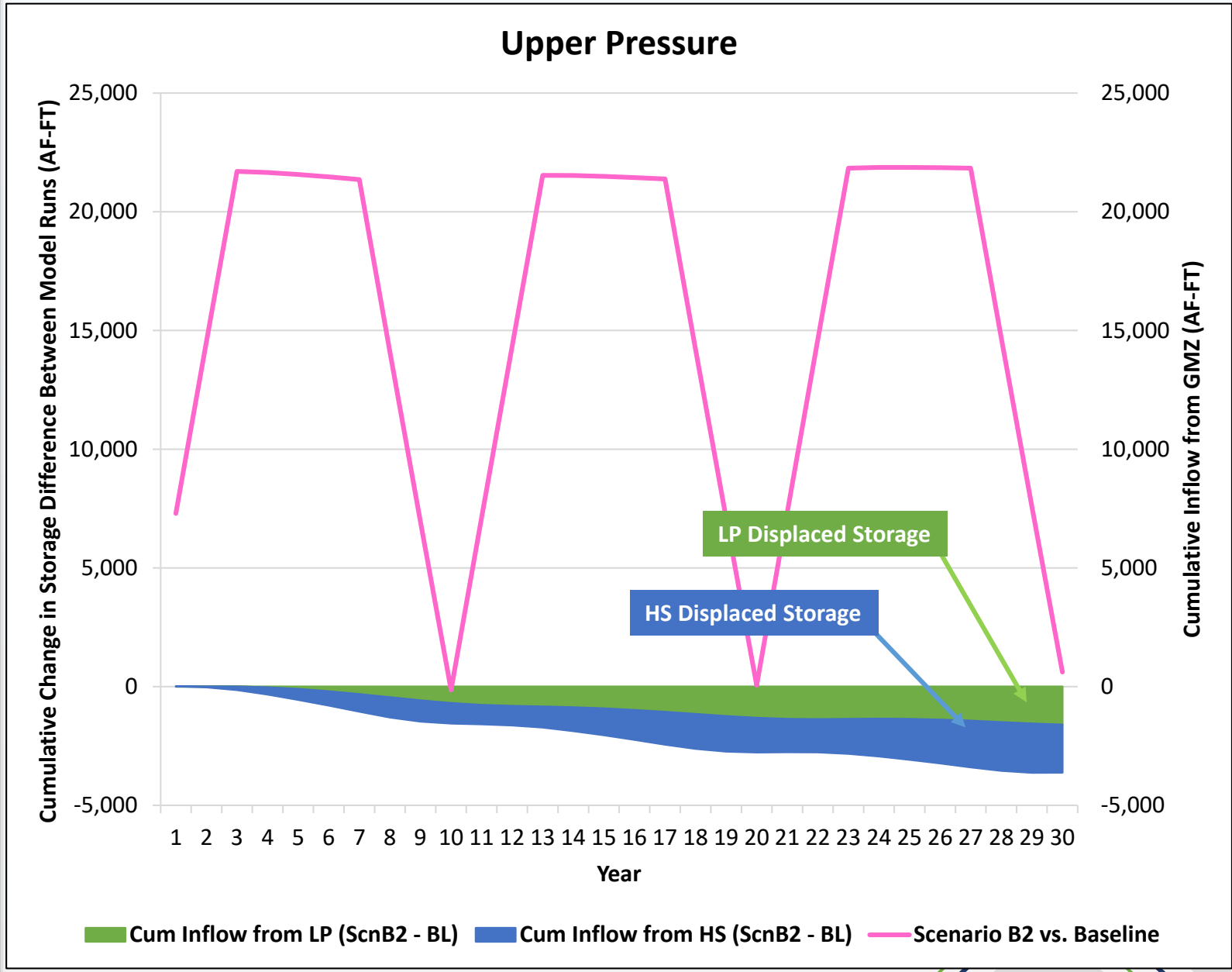
30 Year Total: 2,014 AF
Avg. Annual: 67 AFY

LP Displaced Storage:

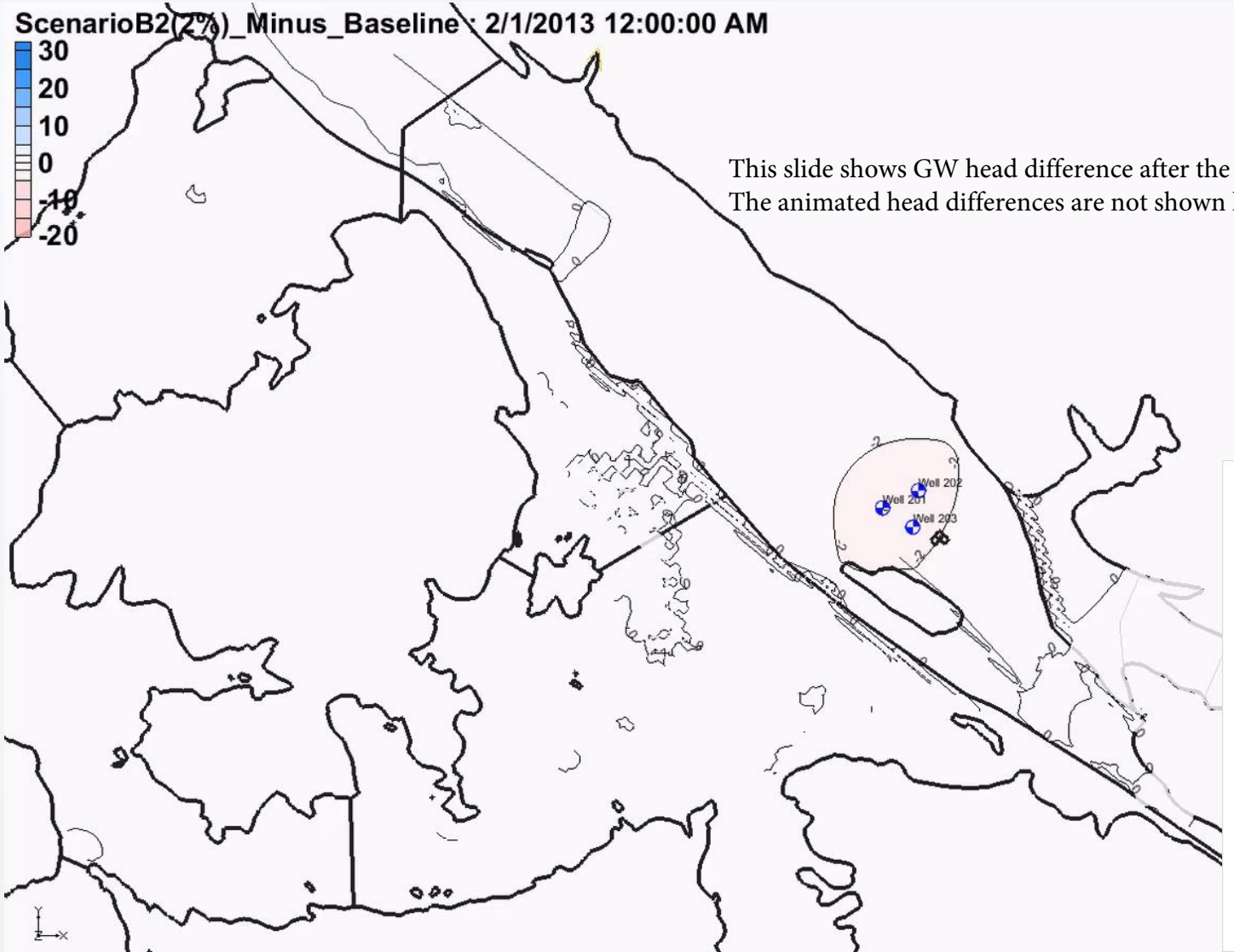
30 Year Total: 1,607 AF
Avg. Annual: 54 AFY

Storage Operation:

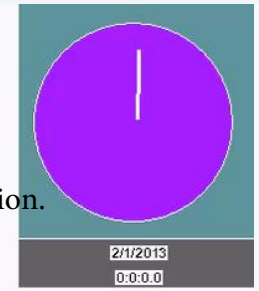
30 Year GW Banking:	64,260 AF
30 Year CU:	149,940 AF
Total:	**214,200 AF**

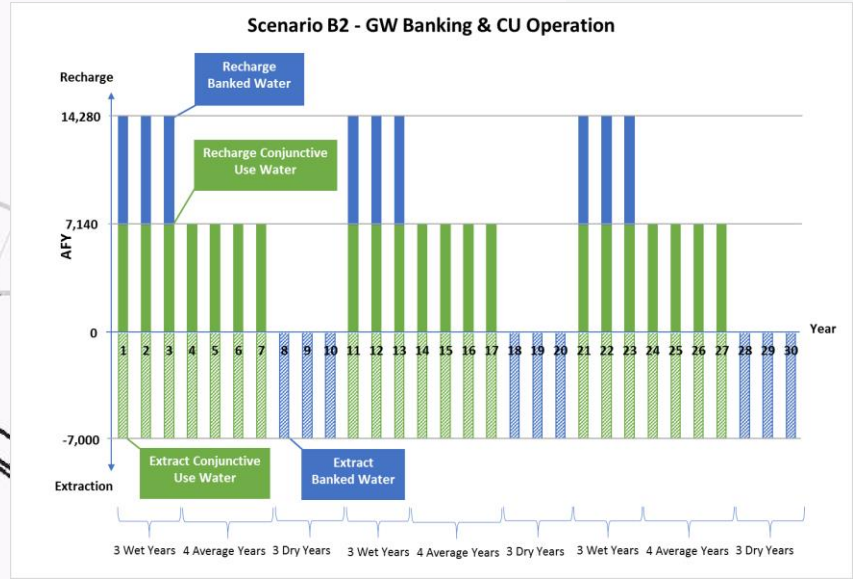


Head Difference Animation
Scenario B2 vs. Baseline

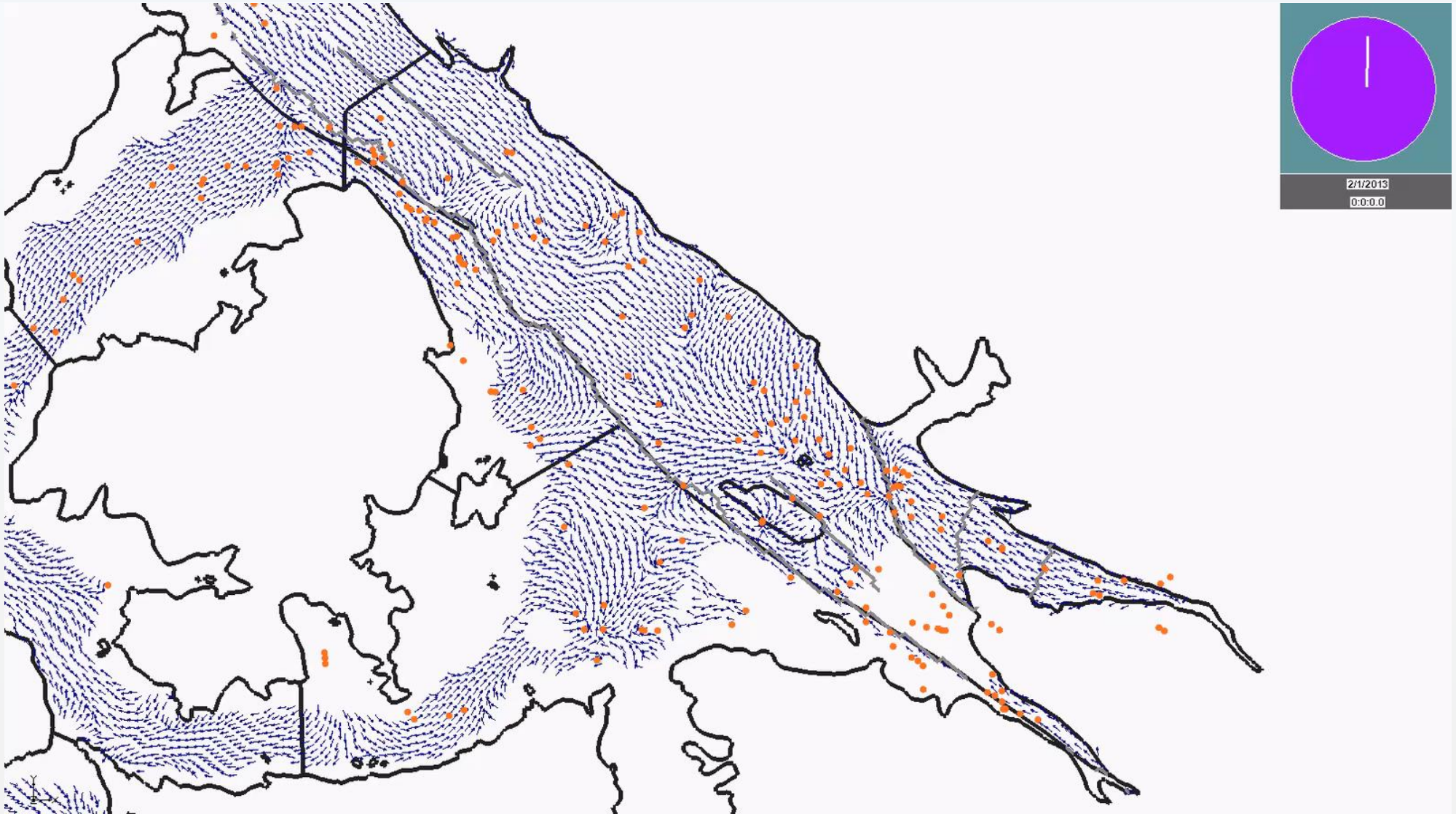


This slide shows GW head difference after the first month of simulation.
The animated head differences are not shown here.

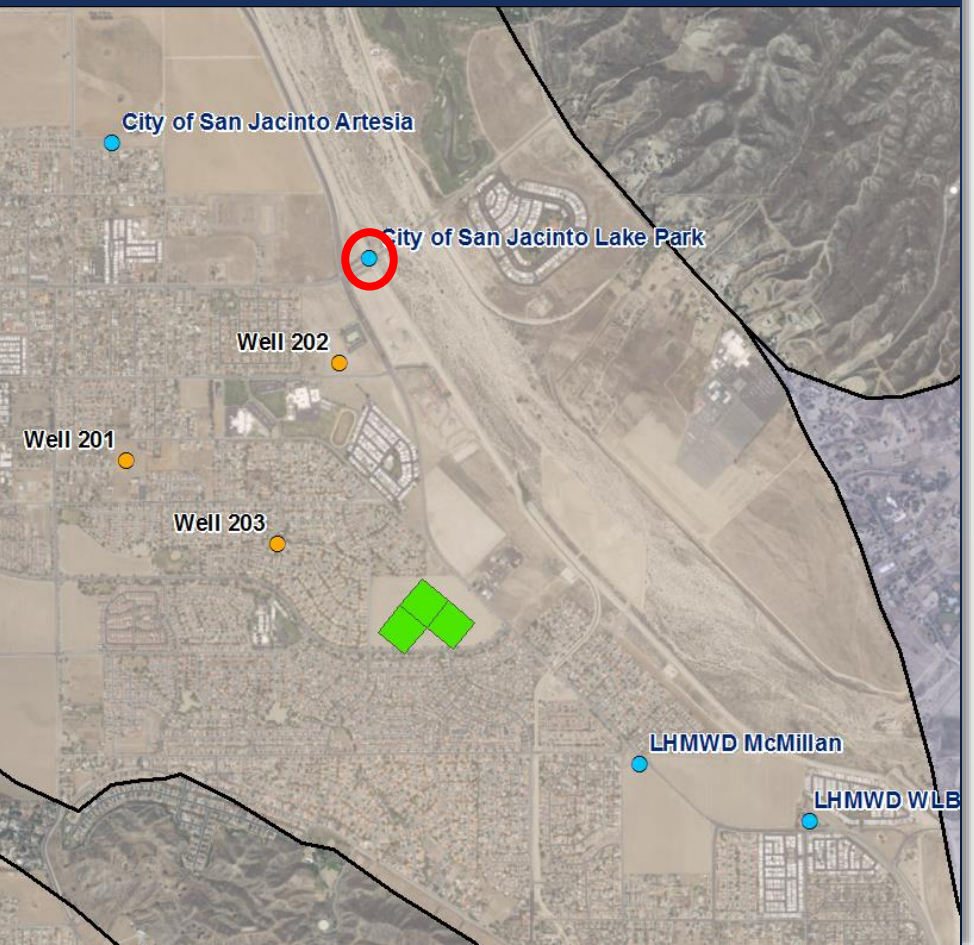


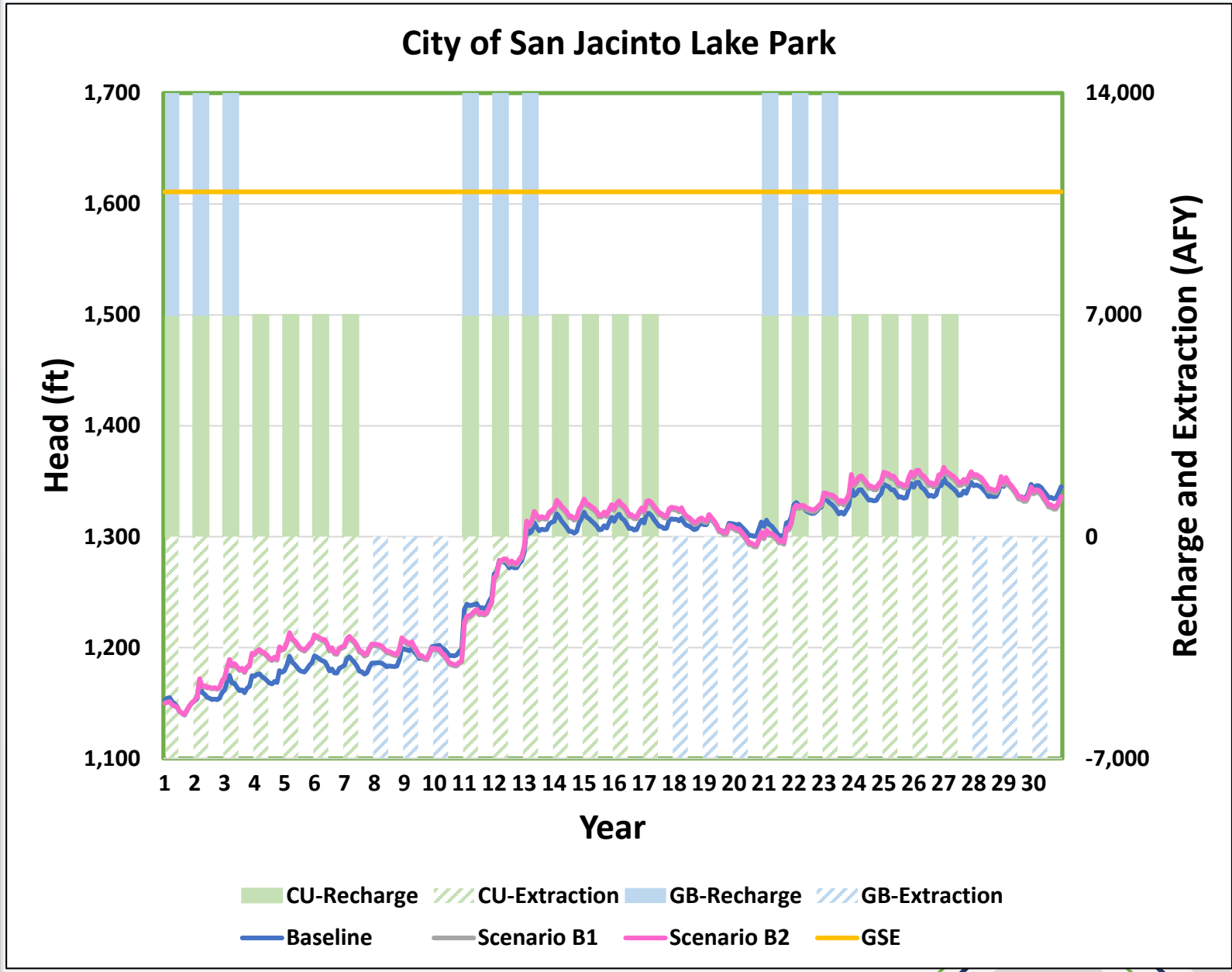


Flow Vector Animation (Scenario B2)



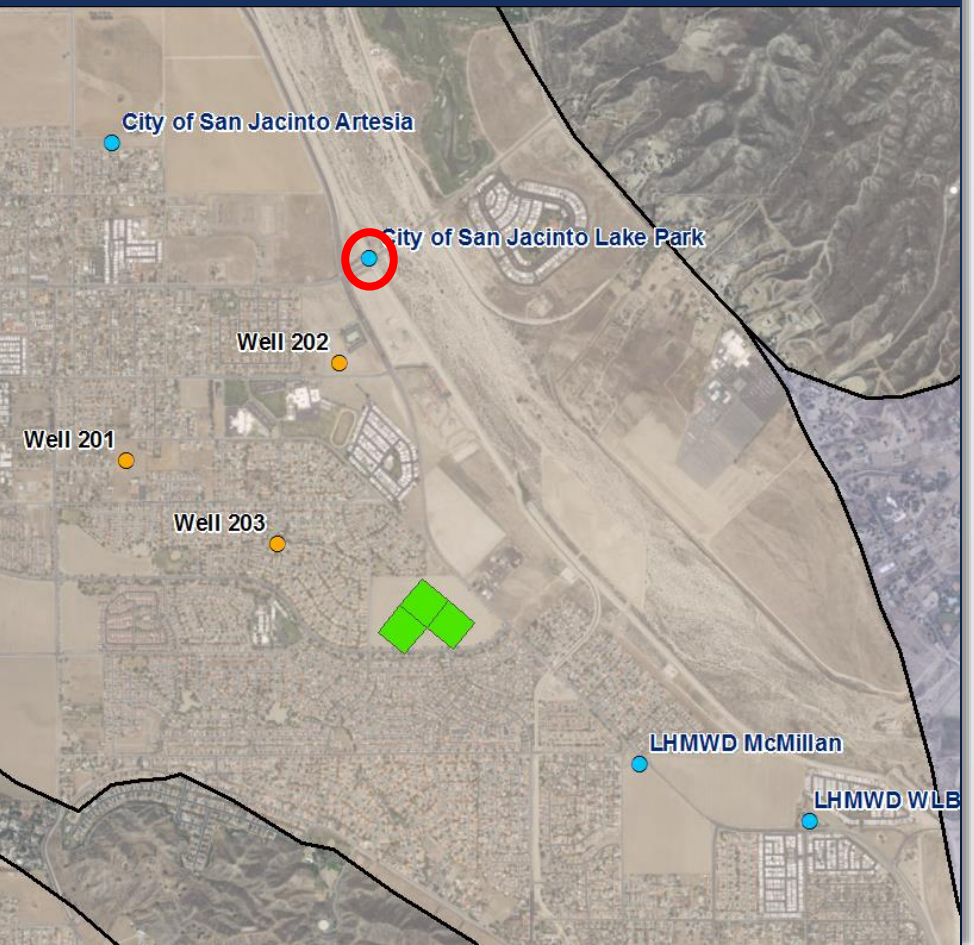
City of San Jacinto Lake Park

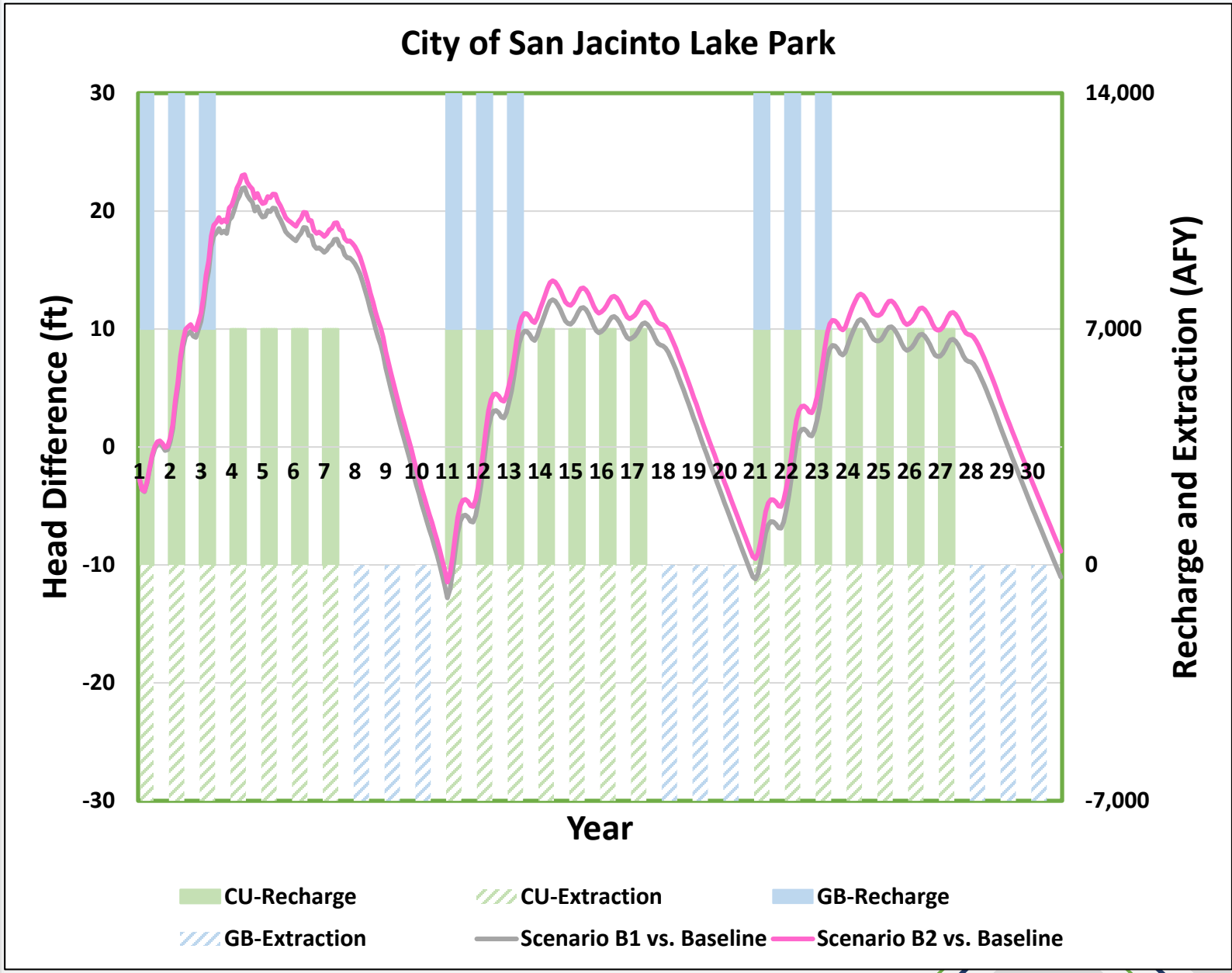




Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

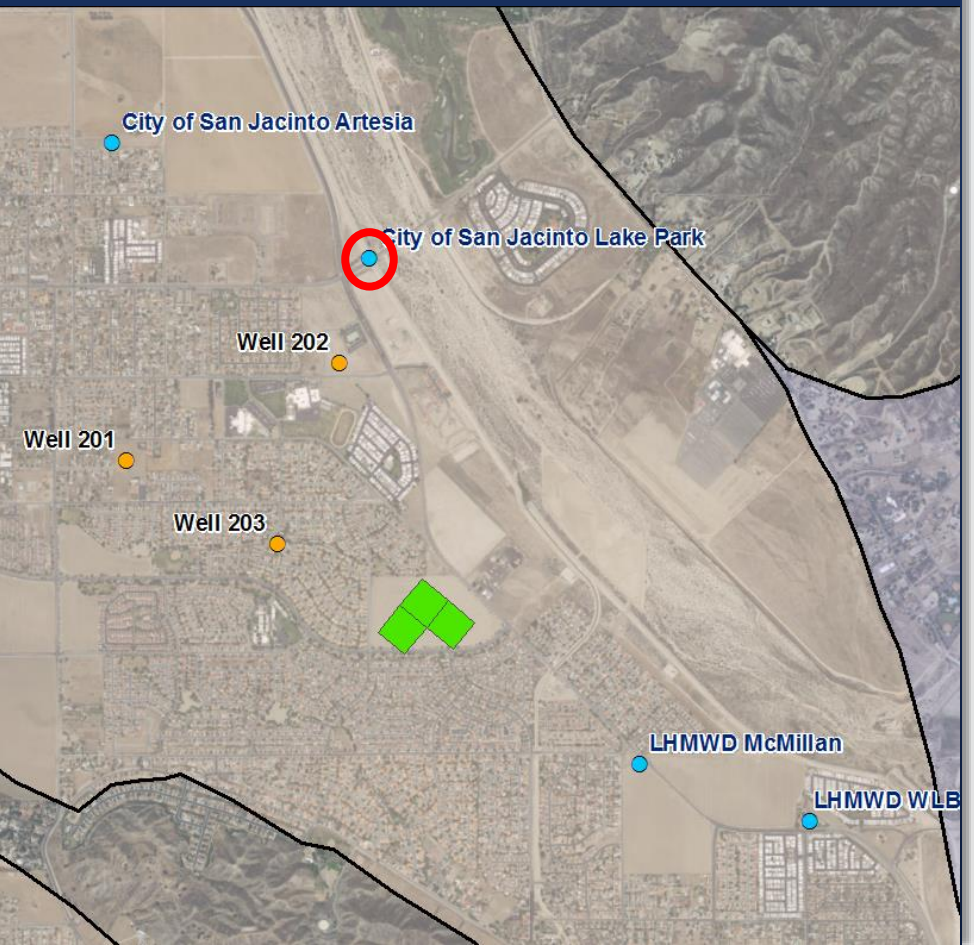
City of San Jacinto Lake Park

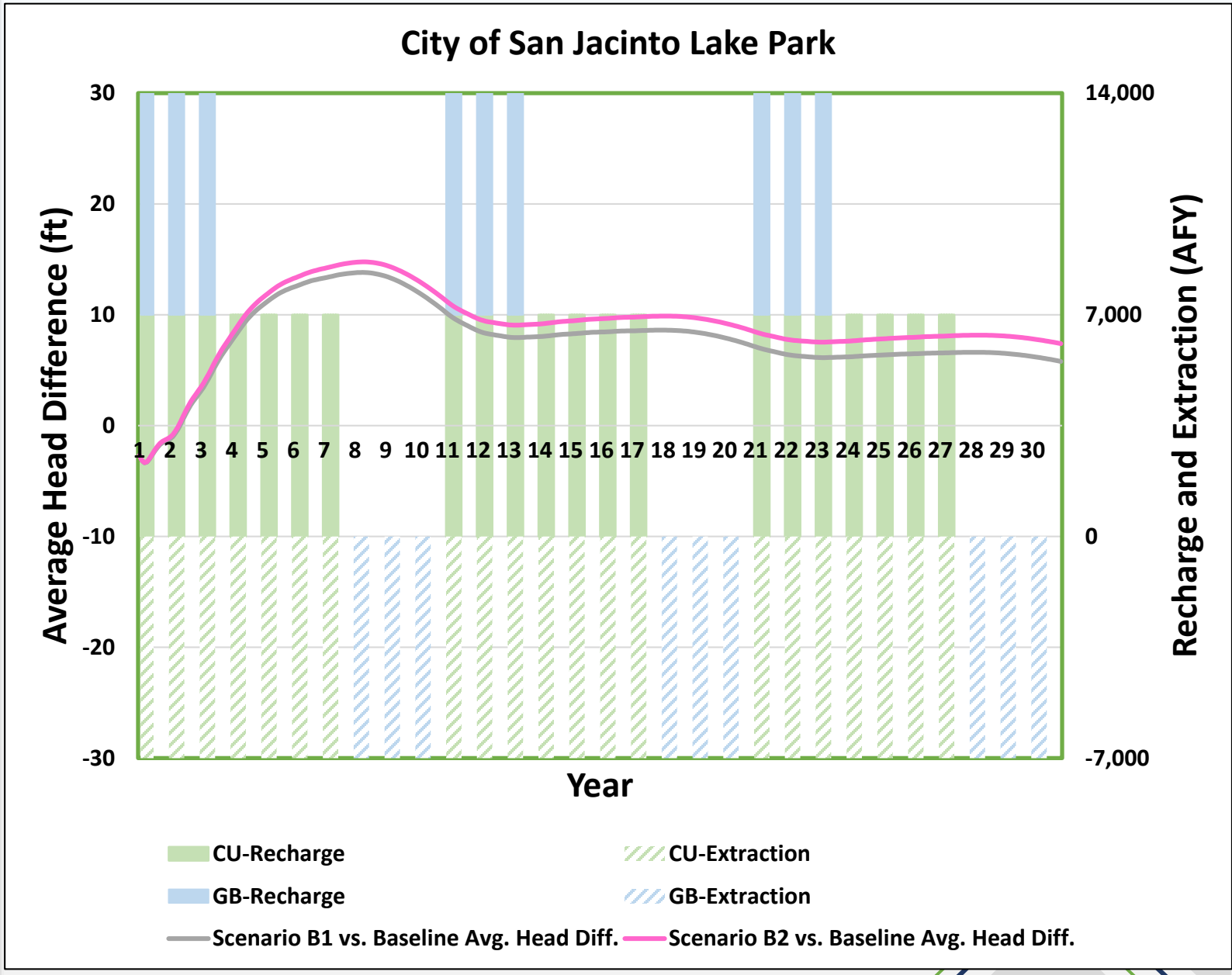




Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

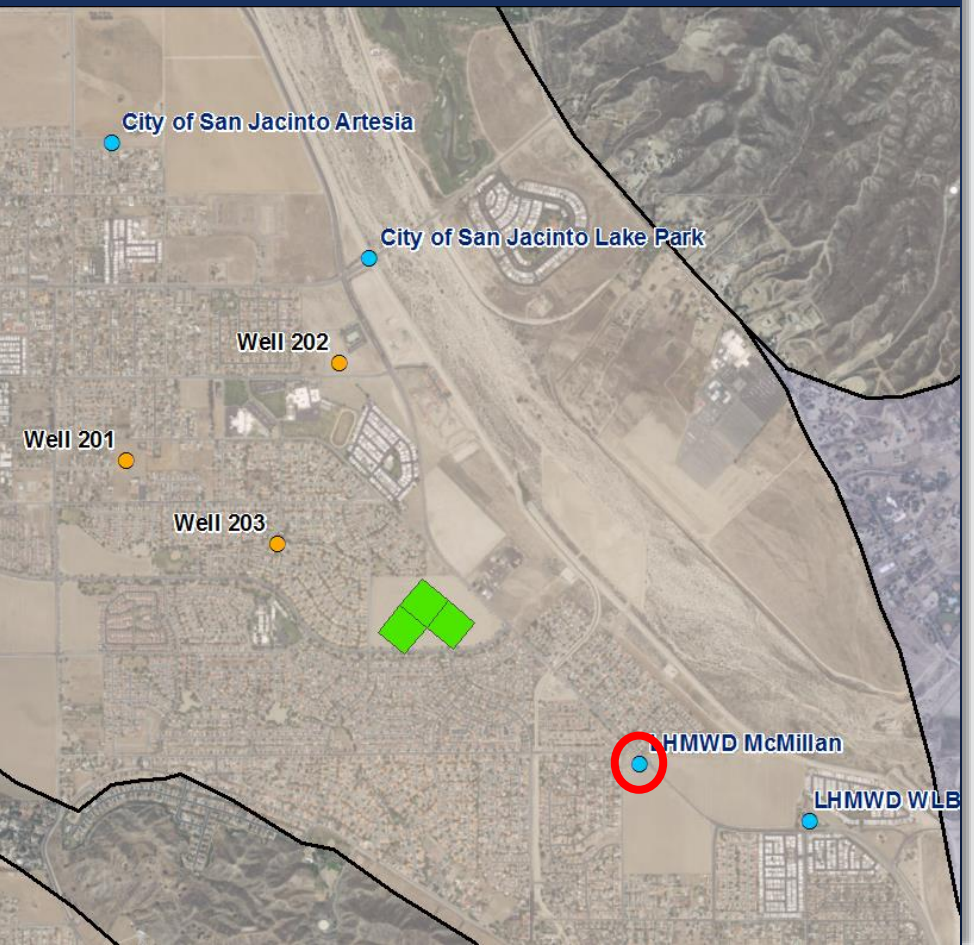
City of San Jacinto Lake Park

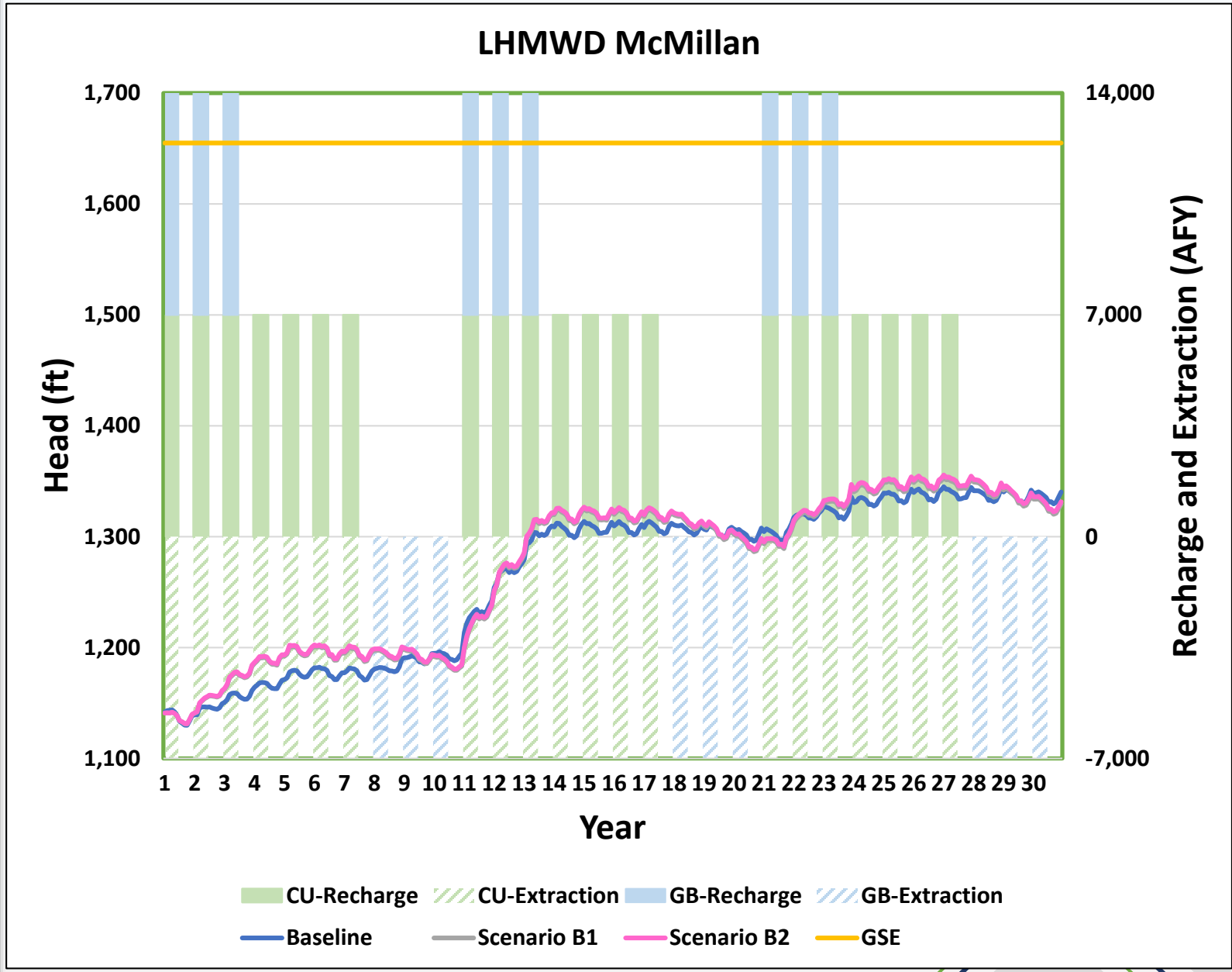




Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

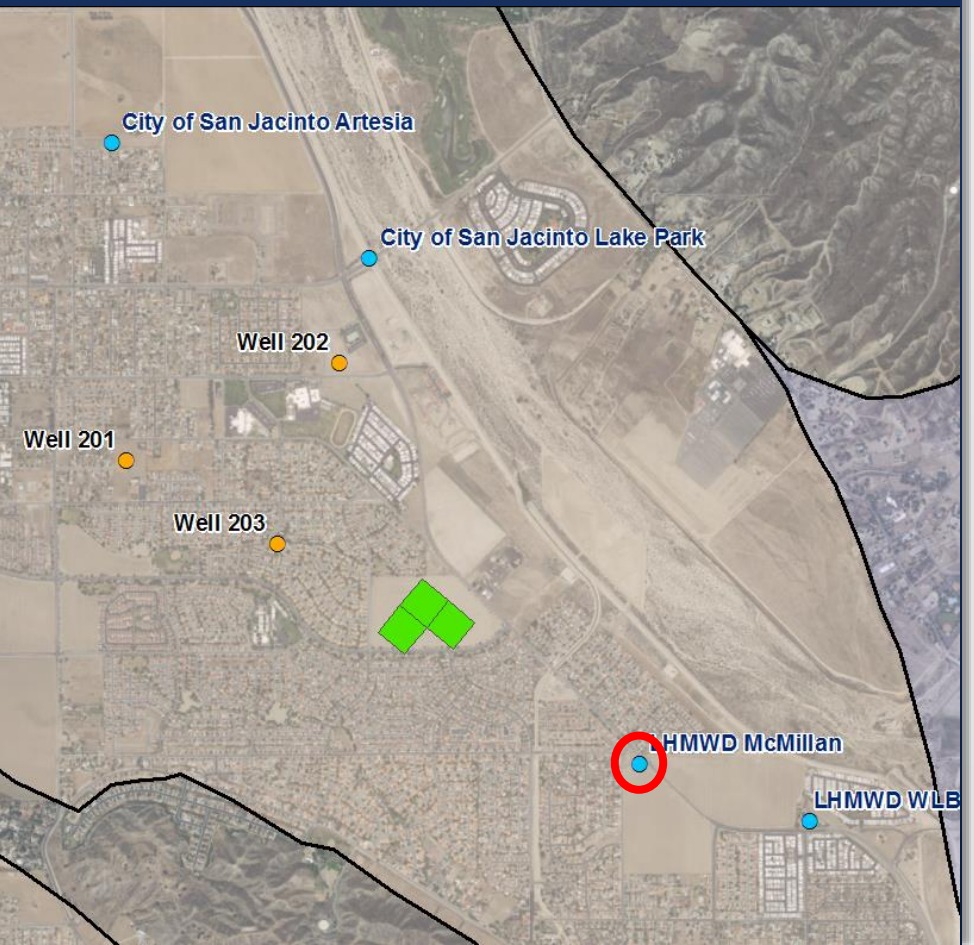
LHMWD McMillan

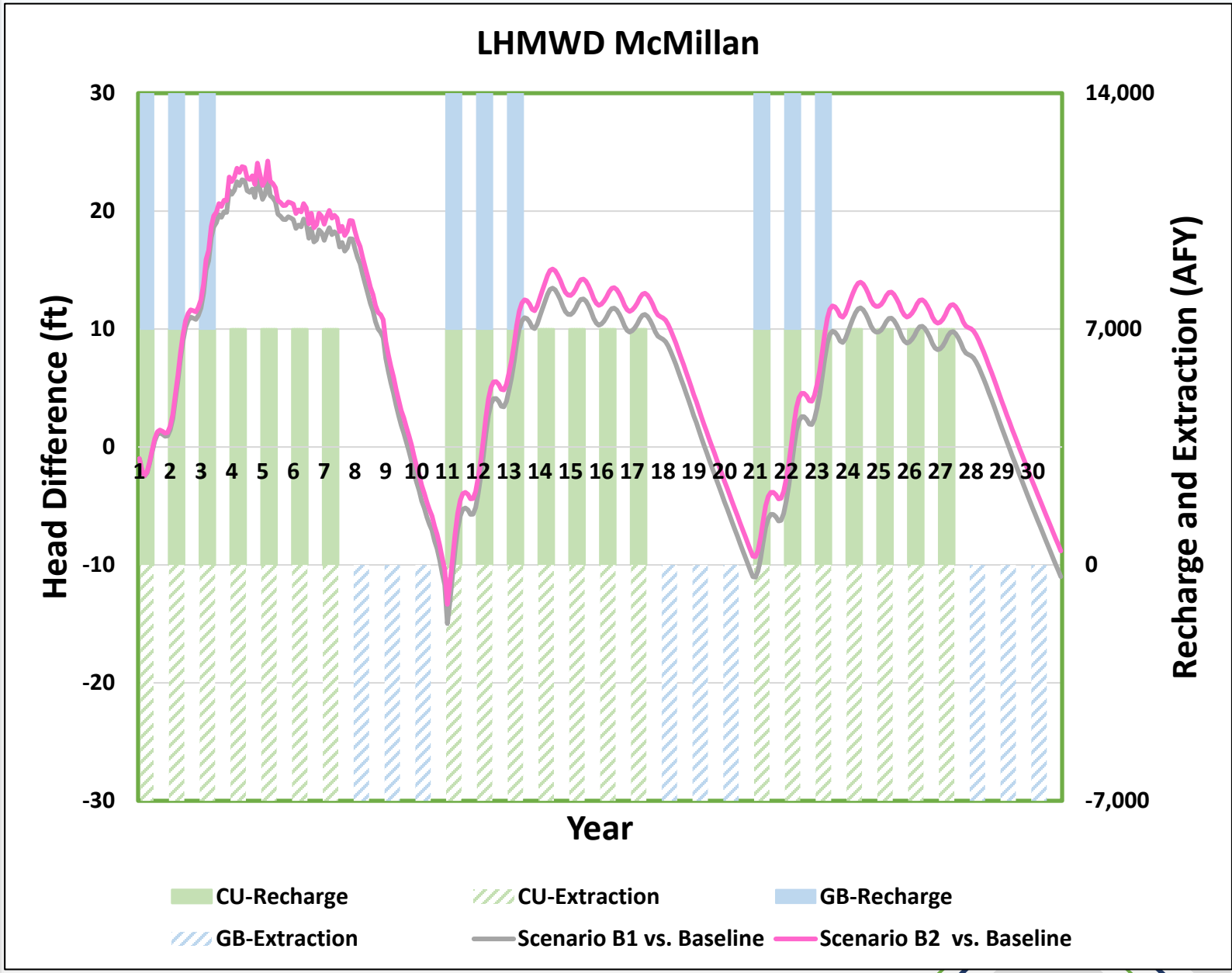




Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

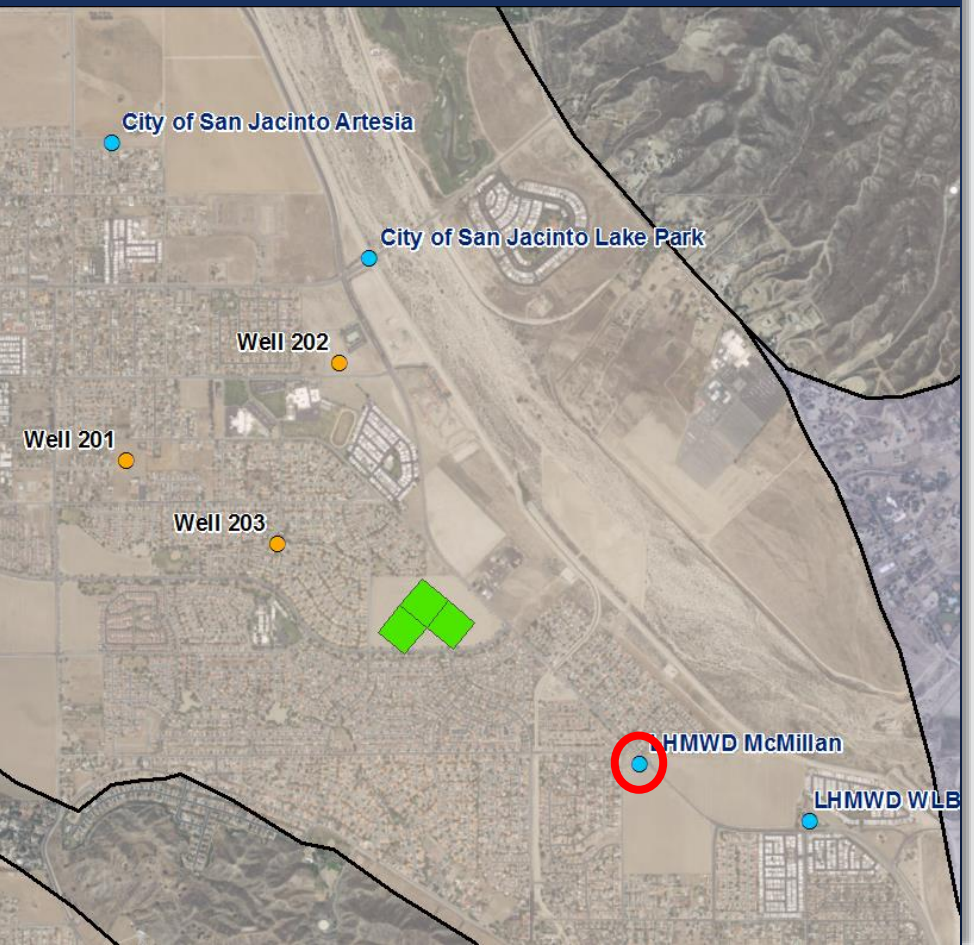
LHMWD McMillan

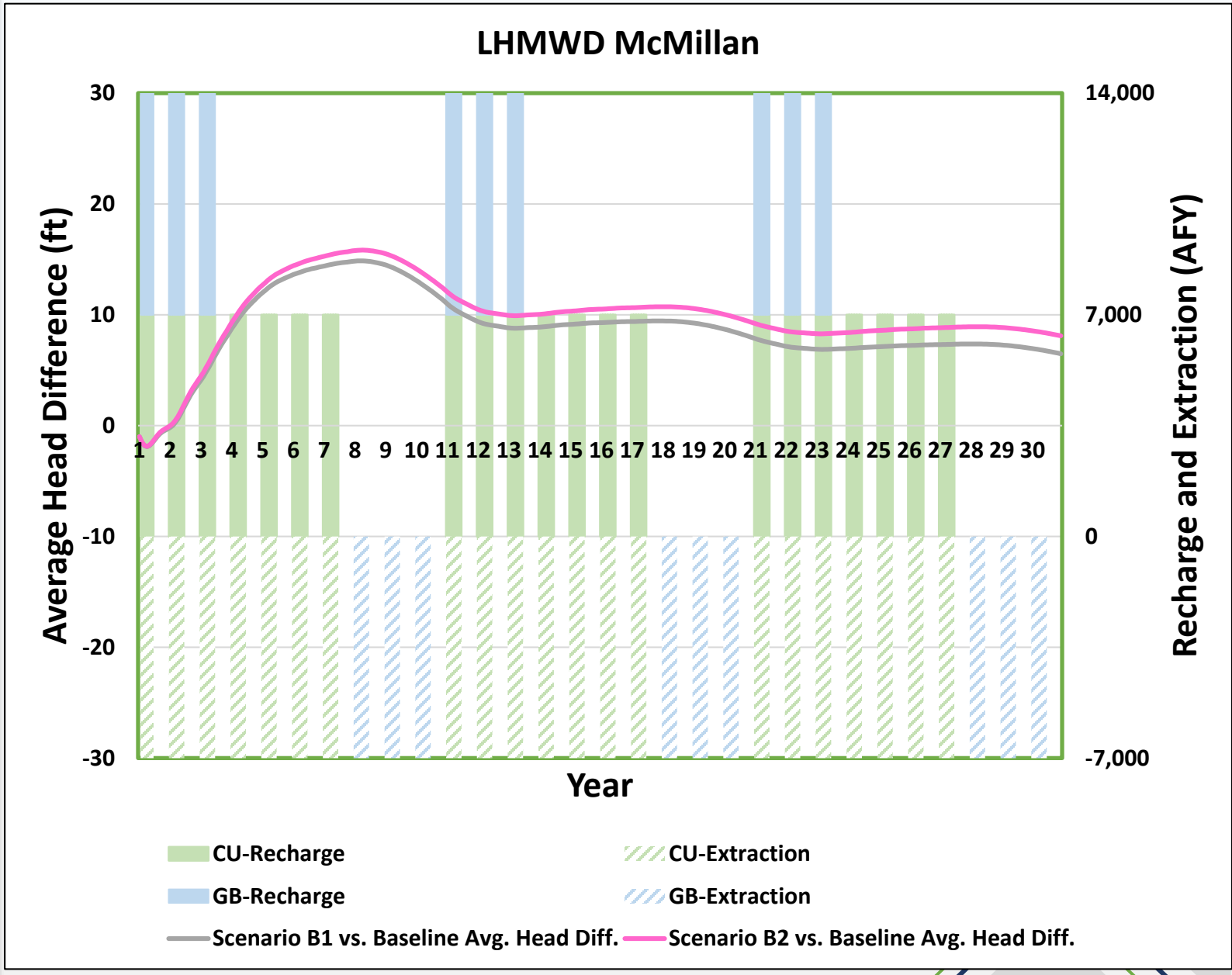




Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

LHMWD McMillan

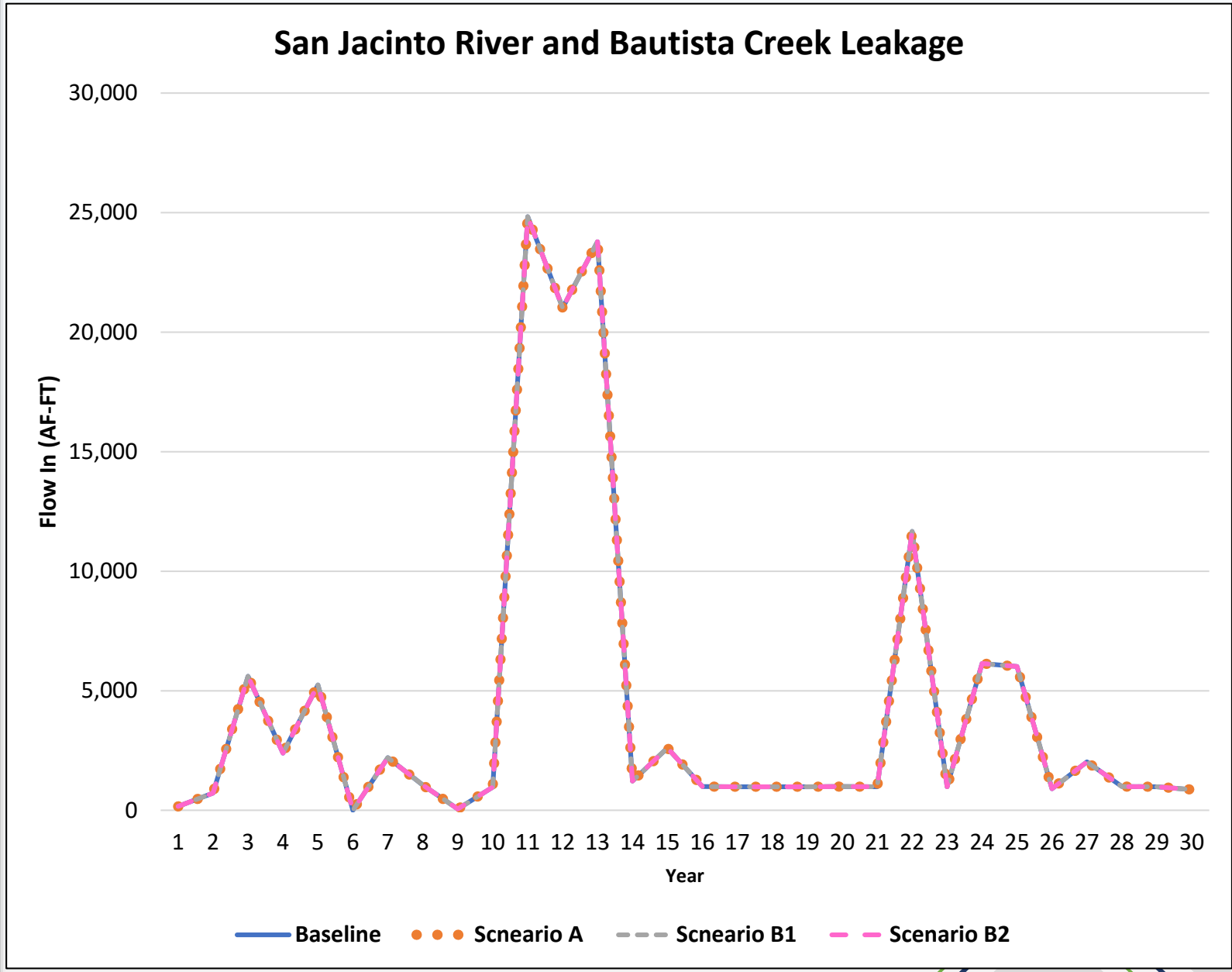




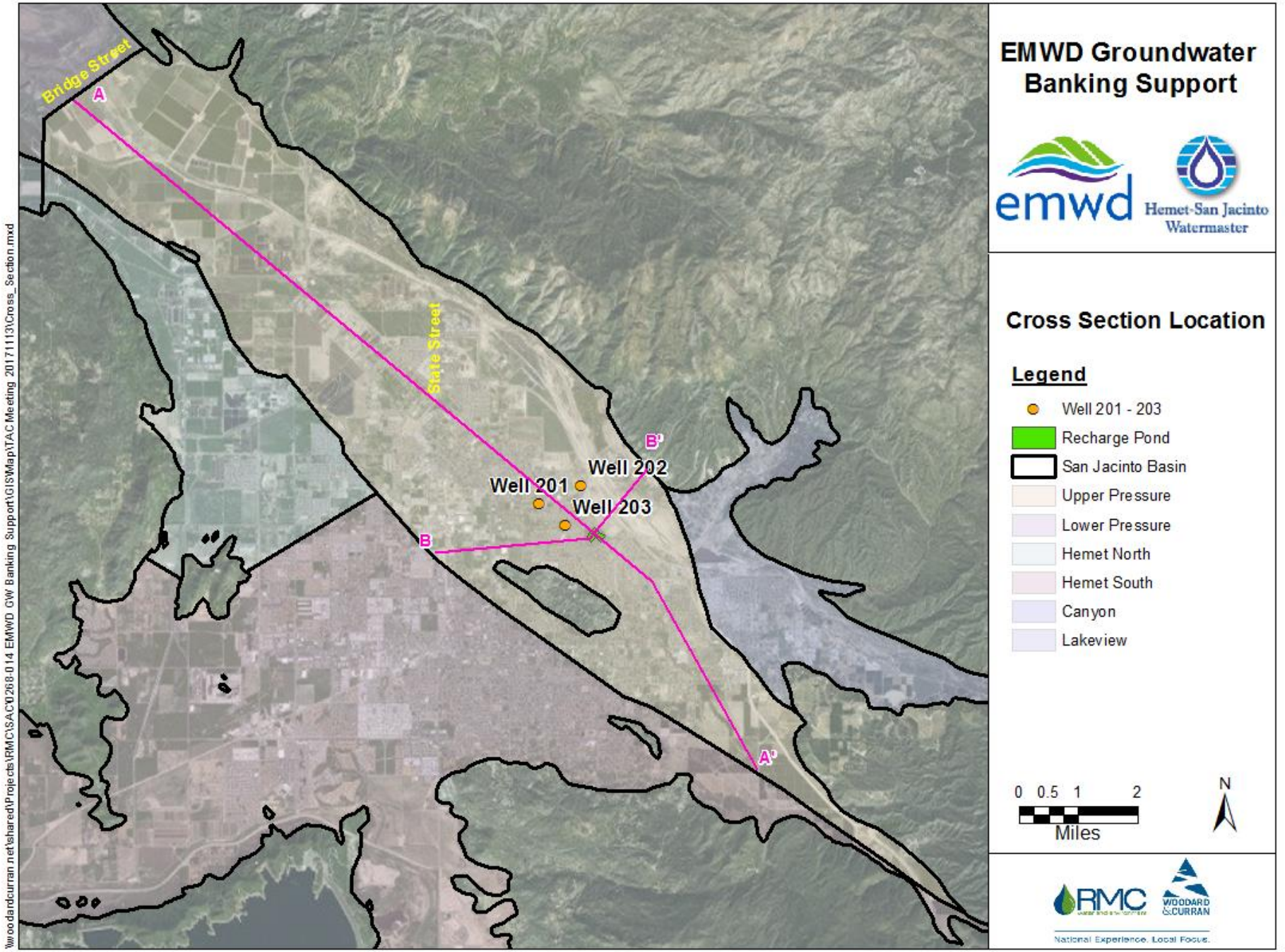
Note: Background annual recharge amounts shown reflect the Base operation, and does not reflect the 2% additional offset for Scenario B2

River Recharge

Impact on River/ Stream Recharge

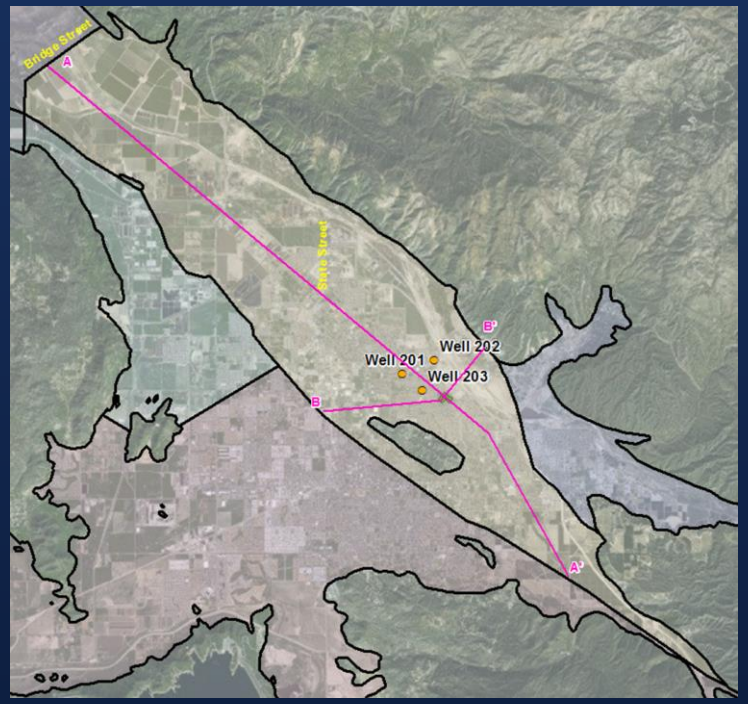


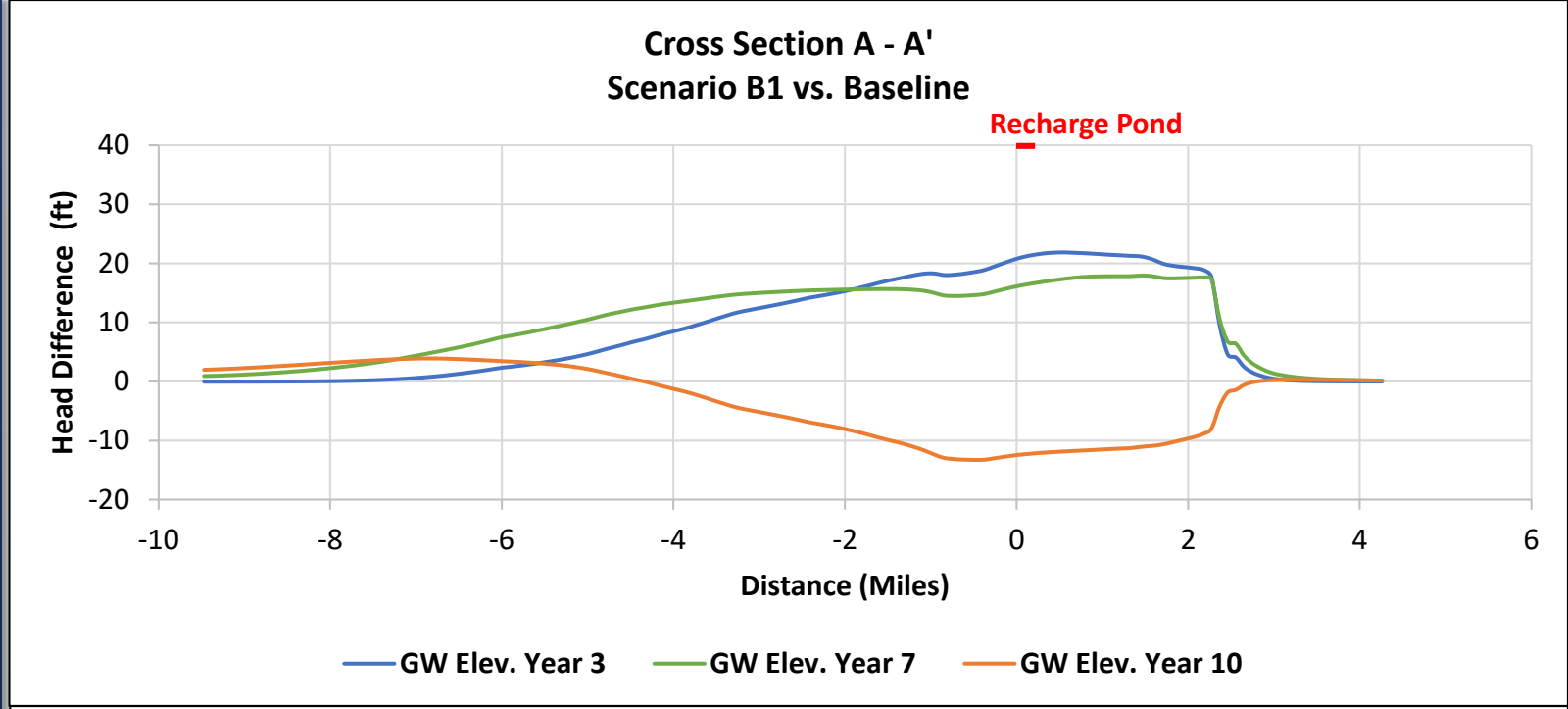
Cross Section Location

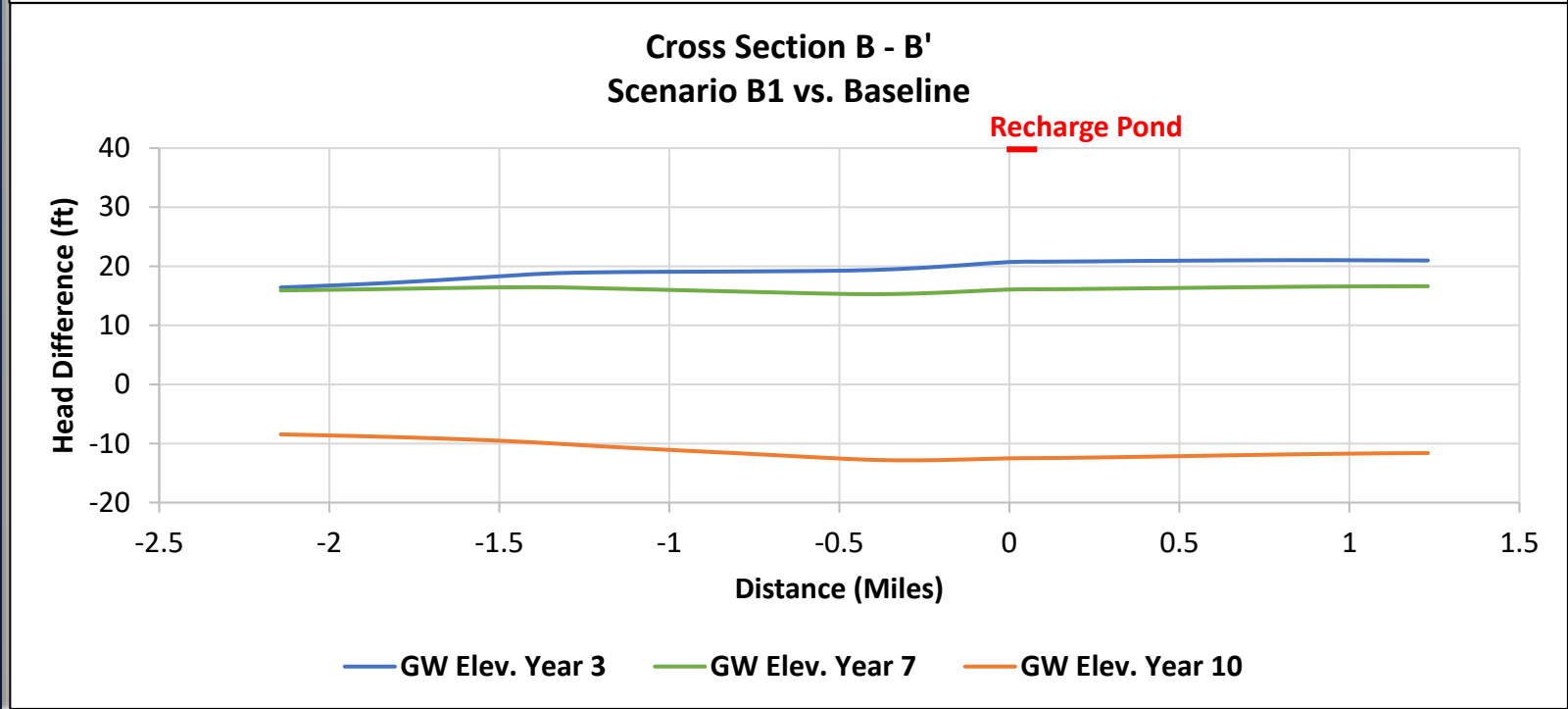


Head Difference of Cross Section

Scenario B1 vs. Baseline

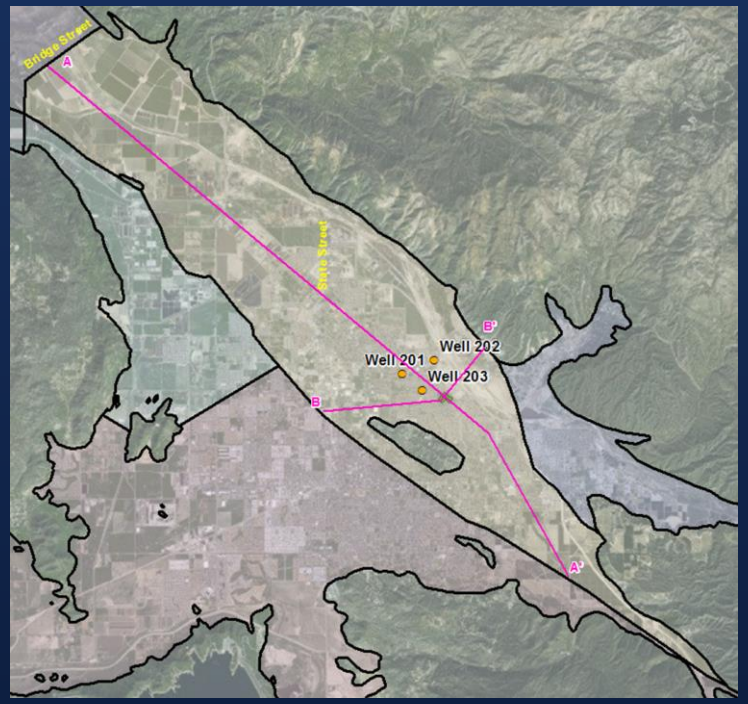


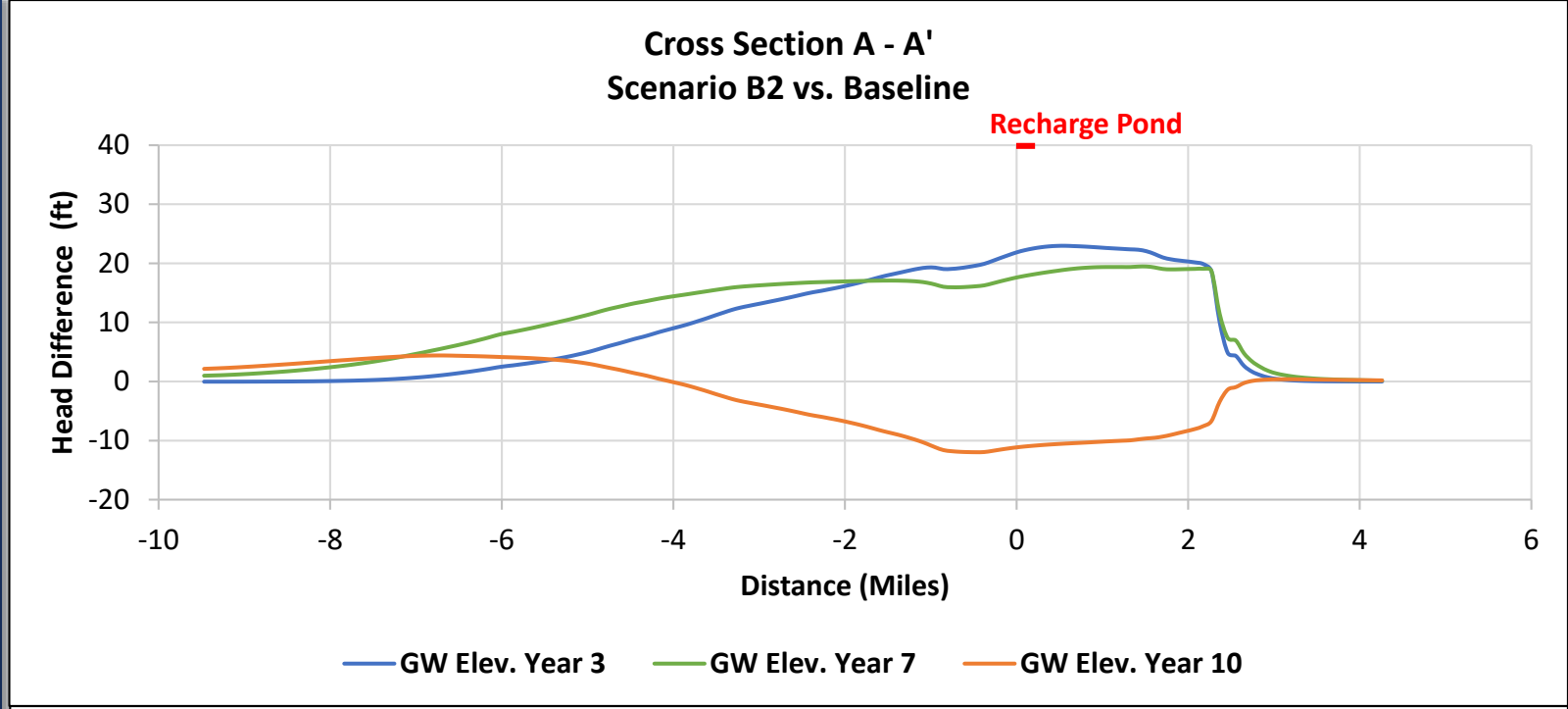


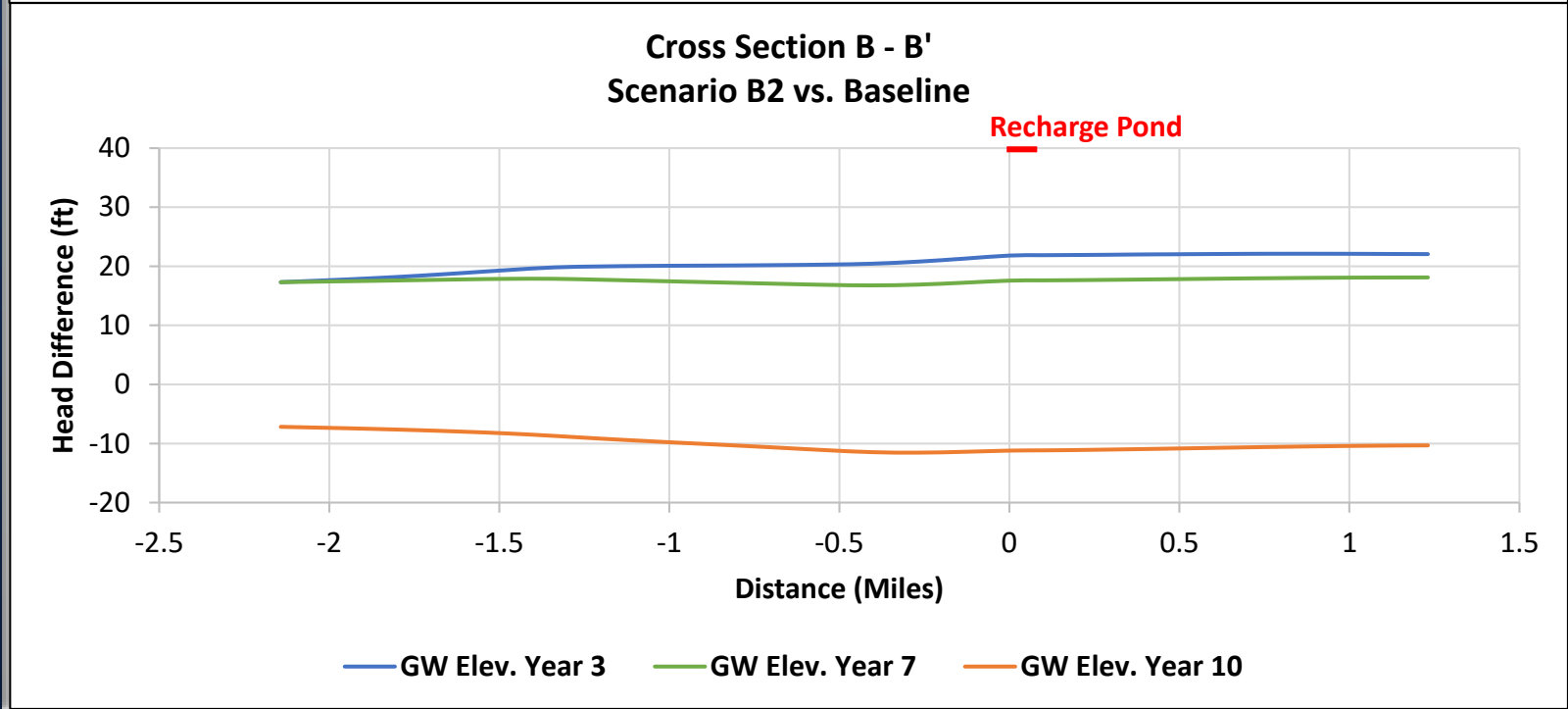


Head Difference of Cross Section

Scenario B2 vs. Baseline





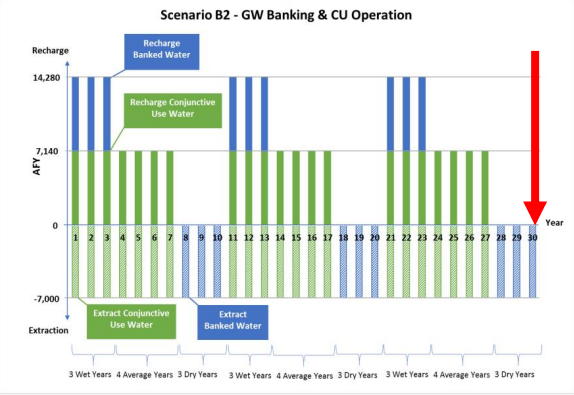


Recharge Water Fate

Methodology for Transport Scenarios

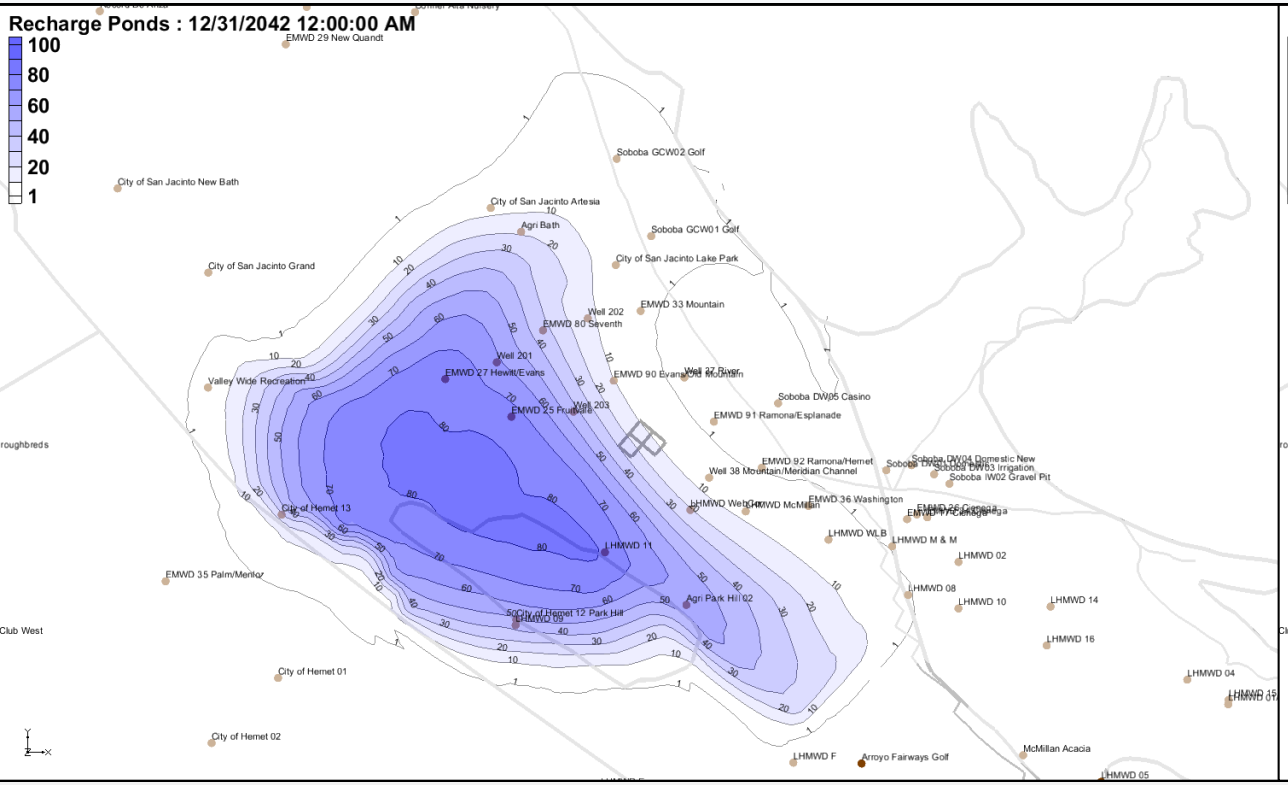
- Use transport model to assess the distribution and migration of recharge water in the project area during the recharge and recovery operations
  - Developed transport model based on SJFM-2014
  - Focused analysis in the ERRP project area only
- Scenario set up
  - Set background concentration at 0 ppm
  - Set tracer on recharge water at 100 ppm
- Scenario results
  - Developed concentration maps indicating the movement of the 100 ppm tracer over time

Distribution of Recharge Water Scenario B2

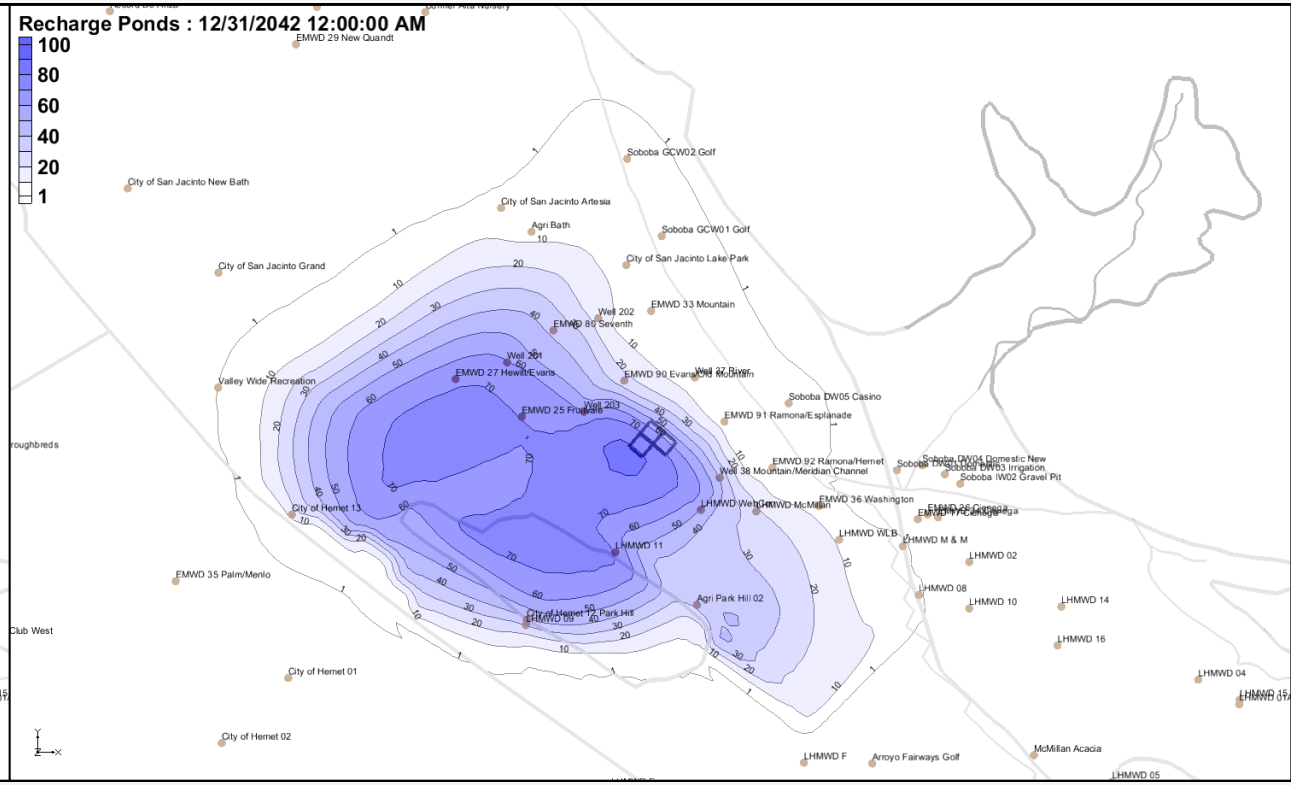


GW Banking & Conjunctive Use Recharge 2013 - 2042

Layer 1

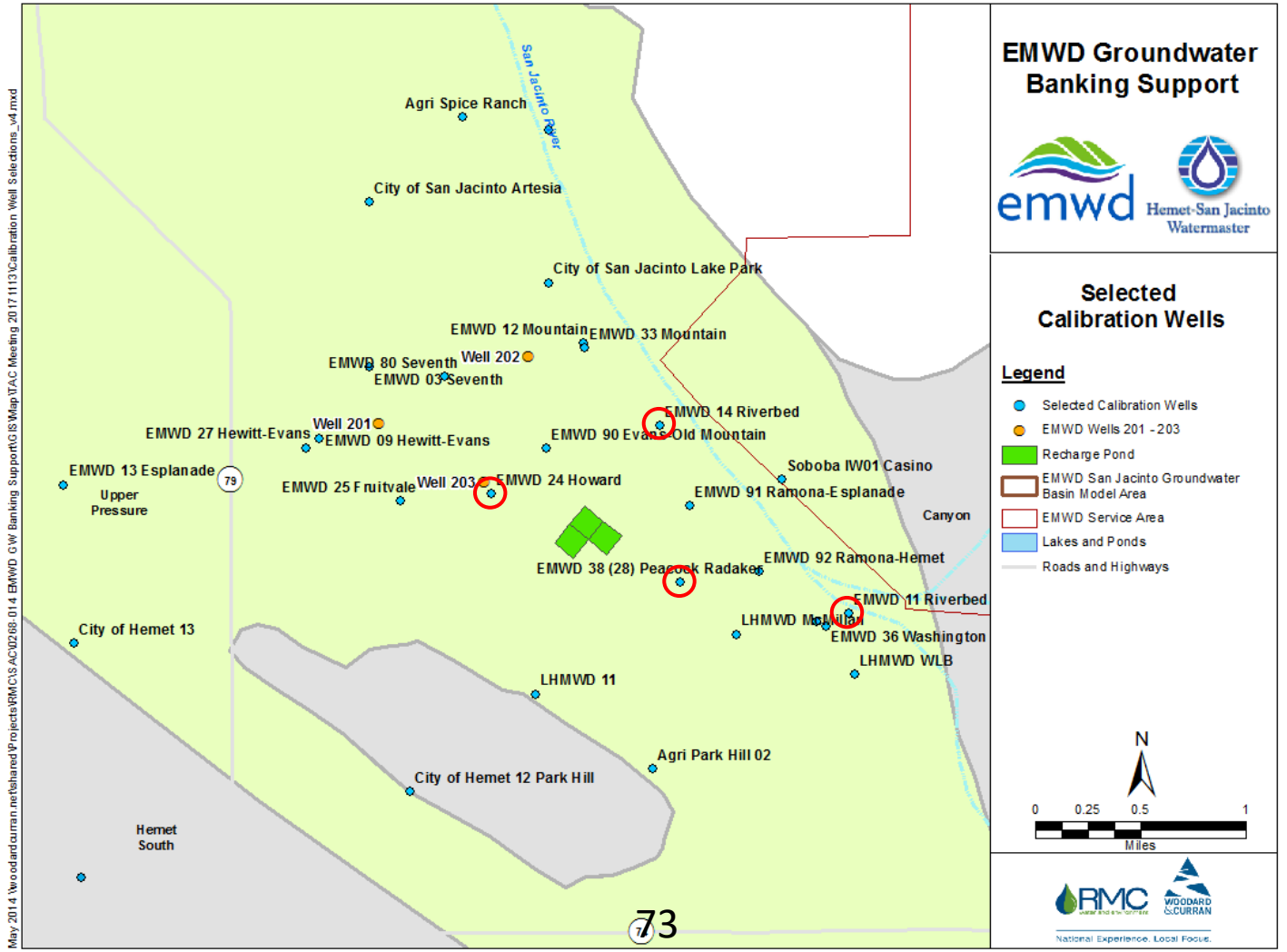


Layer 2



Groundwater Elevation Monitoring

- Proposed Key wells will be used to monitor the project operations over time



Existing Agreements/MWD Priorities for Water Deliveries

- Project will be consistent with existing agreements:
  - Soboba Settlement Agreement
  - Watermaster's IRRP
- Delivery priorities and storage and recovery operations will be identified in the Storage Agreement

Summary & Next Steps

- Proposed Project has no significant impacts on:
  - GW Storage in the UP
  - GW Levels in nearby wells
  - GW Quality on the UP
  - San Jacinto River Recharge Potential
  - Prior Agreements and operations
- Approximately 1% increase in recharge amount offsets any displaced water from LP
- Prepare Technical Memorandum to Document Work
- Support GW Banking Agreement between EMWD and WM

Questions?