



S A W P A

SANTA ANA WATERSHED PROJECT AUTHORITY
11615 Sterling Avenue, Riverside, California 92503 • (951) 354-4220

Meeting Access Via Computer (Zoom):	Meeting Access Via Telephone:
<ul style="list-style-type: none"> https://sawpa.zoom.us/j/86389113309 	<ul style="list-style-type: none"> 1 (669) 900-6833
<ul style="list-style-type: none"> Meeting ID: 863 8911 3309 	<ul style="list-style-type: none"> Meeting ID: 863 8911 3309

This meeting will be conducted in person at the address listed above. As a convenience, members of the public may also participate virtually using one of the options set forth above. Any member of the public may listen to the meeting or make comments to the Commission using the call-in number or Zoom link above. However, in the event there is a disruption of service which prevents the Authority from broadcasting the meeting to members of the public, the meeting will not be postponed or rescheduled but will continue without remote participation. The remote participation option is provided as a convenience to the public and is not required. Members of the public are welcome to attend the meeting in-person.

REGULAR COMMISSION MEETING TUESDAY, OCTOBER 1, 2024 – 9:30 A.M.

AGENDA

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE (Bruce Whitaker, Chair)

2. ROLL CALL

3. PUBLIC COMMENTS

Members of the public may address the Commission on items within the jurisdiction of the Commission; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

Members of the public may make comments in-person or electronically for the Commissions' consideration by sending them to publiccomment@sawpa.gov with the subject line "Public Comment". Submit your electronic comments by 5:00 p.m. on Monday, September 30, 2024. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record. Individuals have a limit of three (3) minutes to make comments and will have the opportunity when called upon by the Commission.

4. ITEMS TO BE ADDED OR DELETED

Pursuant to Government Code §54954.2(b), items may be added on which there is a need to take immediate action and the need for action came to the attention of the SAWPA Commission subsequent to the posting of the agenda.

5. CONSENT CALENDAR

All matters listed on the Consent Calendar are considered routine and non-controversial and will be acted upon by the Commission by one motion as listed below.

A. APPROVAL OF MEETING MINUTES: SEPTEMBER 17, 2024.....7
Recommendation: Approve as posted.

B. TREASURER'S REPORT: AUGUST 202413
Recommendation: Approve as posted.

6. NEW BUSINESS

A. SANTA ANA RIVER WATERSHED CLOUD SEEDING PILOT PROGRAM: PRELIMINARY YEAR 1 VALIDATION RESULTS (CM#2024.56)19
Presenter: Rachel Gray, SAWPA | Frank McDonough, Desert Research Institute
Recommendation: Receive and file.

- B. **SANTA ANA RIVER WATERSHED CLOUD SEEDING PILOT PROGRAM: YEAR 2 OPERATIONS (CM#2024.57)**55
Presenter: Jeff Mosher, SAWPA
Recommendation: Receive and file.

7. INFORMATIONAL REPORTS

Recommendation: Receive for information.

- A. **GENERAL MANAGER REPORT**75
Presenter: Jeff Mosher
- B. **CHAIR’S COMMENTS/REPORT**
- C. **COMMISSIONERS’ COMMENTS**
- D. **COMMISSIONERS’ REQUEST FOR FUTURE AGENDA ITEMS**

8. CLOSED SESSION

There were no Closed Session items anticipated at the time of the posting of this agenda.

9. ADJOURNMENT

PLEASE NOTE:

Americans with Disabilities Act: If you require any special disability related accommodations to participate in this meeting, call (951) 354-4220 or email svilla@sawpa.gov 48-hour notification prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at www.sawpa.gov, subject to staff’s ability to post documents prior to the meeting.

Declaration of Posting

I, Sara Villa, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on September 26, 2024, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.gov and posted at SAWPA’s office at 11615 Sterling Avenue, Riverside, California.

2024 SAWPA Commission Meetings/Events

First and Third Tuesday of the Month

(NOTE: All meetings begin at 9:30 a.m., unless otherwise noticed, and are held at SAWPA.)

January	February
1/2/24 Commission Workshop [cancelled] 1/16/24 Regular Commission Meeting	2/6/24 Commission Workshop 2/20/24 Regular Commission Meeting
March	April
3/5/24 Commission Workshop [cancelled] 3/19/24 Regular Commission Meeting	4/2/24 Commission Workshop 4/16/24 Regular Commission Meeting [cancelled]
May	June
5/7/24 Commission Workshop [cancelled] 5/21/24 Regular Commission Meeting 5/7 – 5/9/24 ACWA Spring Conference, Sacramento, CA	6/4/24 Commission Workshop 6/18/24 Regular Commission Meeting
July	August
7/2/24 Commission Workshop 7/16/24 Regular Commission Meeting	8/6/24 Commission Workshop 8/20/24 Regular Commission Meeting
September	October
9/3/24 Commission Workshop 9/17/24 Regular Commission Meeting	10/1/24 Commission Workshop 10/15/24 Regular Commission Meeting
November	December
11/5/24 Commission Workshop 11/19/24 Regular Commission Meeting	12/3/24 Commission Workshop 12/17/24 Regular Commission Meeting 12/3 – 12/5/24 ACWA Fall Conference, Palm Springs, CA

2025 SAWPA Commission Meetings/Events

First and Third Tuesday of the Month

(NOTE: All meetings begin at 9:30 a.m., unless otherwise noticed, and are held at SAWPA.)

January	February
1/7/25 Commission Workshop 1/21/25 Regular Commission Meeting	2/4/25 Commission Workshop 2/18/25 Regular Commission Meeting
March	April
3/4/25 Commission Workshop 3/18/25 Regular Commission Meeting	4/1/25 Commission Workshop 4/15/25 Regular Commission Meeting
May	June
5/6/25 Commission Workshop 5/20/25 Regular Commission Meeting 5/13 – 5/15/25 ACWA Spring Conference, Monterey, CA	6/3/25 Commission Workshop 6/17/25 Regular Commission Meeting
July	August
7/1/25 Commission Workshop 7/15/25 Regular Commission Meeting	8/5/25 Commission Workshop 8/19/25 Regular Commission Meeting
September	October
9/2/25 Commission Workshop 9/16/25 Regular Commission Meeting	10/7/25 Commission Workshop 10/21/25 Regular Commission Meeting
November	December
11/4/25 Commission Workshop 11/18/25 Regular Commission Meeting	12/2/25 Commission Workshop 12/16/25 Regular Commission Meeting 12/2 – 12/4/25 ACWA Fall Conference, San Diego, CA

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SAWPA COMPENSABLE MEETINGS

In addition to Commission meetings, Commissioners and Alternate Commissioners will receive compensation for attending the meetings listed below, pursuant to the Commission Compensation, Expense Reimbursement, and Ethics Training Policy.

IMPORTANT NOTE: These meetings are subject to change. Prior to attending any meetings listed below, please confirm meeting details by viewing the website calendar using the following link:

<https://sawpa.gov/sawpa-calendar/>

MONTH OF: OCTOBER 2024

DATE	TIME	MEETING DESCRIPTION	LOCATION
10/1/24	8:30 AM	PA 23 Committee Mtg	CANCELLED
10/1/24	10:00 AM	PA 24 Committee Mtg	Hybrid (SAWPA & Virtual/Teleconference)
10/16/24	2:00 PM	Joint Regional Water Quality Monitoring/MSAR TMDL Task Force Mtg	Virtual/Teleconference
10/17/24	3:00 PM	LESJWA Board of Directors Mtg	Hybrid (Elsinore Valley MWD, 31315 Chaney Street, Lake Elsinore, CA 92530 & Virtual/Teleconference)
10/29/24	9:00 AM	Basin Monitoring Program Task Force Mtg	Virtual/Teleconference

MONTH OF: NOVEMBER 2024

DATE	TIME	MEETING DESCRIPTION	LOCATION
11/5/24	10:00 AM	PA 24 Committee Mtg	Hybrid (SAWPA & Virtual/Teleconference)
11/5/24	2:00 PM	Emerging Constituents Program Task Force Mtg	Virtual/Teleconference
11/21/24	11:00 AM	OWOW Steering Committee Mtg	Hybrid (SAWPA & Virtual/Teleconference)

Please Note: We strive to ensure the list of Compensable Meetings set forth above is accurate and up-to-date; the list is compiled based on input from SAWPA staff and Department Managers regarding meeting purpose and content.

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**SAWPA COMMISSION
REGULAR MEETING MINUTES
SEPTEMBER 17, 2024**

COMMISSIONERS PRESENT

Bruce Whitaker, Chair, Orange County Water District
Mike Gardner, Vice Chair, Western Municipal Water District
T. Milford Harrison, Secretary-Treasurer, San Bernardino Valley
Municipal Water District
Jasmin A. Hall, Inland Empire Utilities Agency [via - zoom]

COMMISSIONERS ABSENT

None

**COMMISSIONERS PRESENT;
NON-VOTING**

David J. Slawson, Eastern Municipal Water District [via – zoom]
Denis Bilodeau, Alternate, Orange County Water District
Gil Botello, Alternate, San Bernardino Valley Municipal Water District

STAFF PRESENT

Jeff Mosher, Karen Williams, David Ruhl, Rachel Gray, Shavonne
Turner, Rick Whetsel, Ian Achimore, Marie Jauregui, Dean Unger,
John Leete, Sara Villa, Zyanya Ramirez

OTHERS PRESENT

Andrew Turner, Lagerlof, LLP; Nick Kanetis, Eastern Municipal
Water District; Lisa Haney, Orange County Water District; John
Kennedy, Orange County Water District; Mallory O’Conor, Western
Municipal Water District; Gene Hernandez, Yorba Linda Water
District; Beth Olhasso, West Coast Advisors; Michael Boccadoro,
West Coast Advisors

The Regular Meeting of the Santa Ana Watershed Project Authority Commission was called to order at 9:31 a.m. by Chair Bruce Whitaker on behalf of the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.

1. CALL TO ORDER

2. ROLL CALL

An oral roll call was duly noted and recorded by the Clerk of the Board.

3. PUBLIC COMMENTS

There were no public comments; there were no public comments received via email.

4. ITEMS TO BE ADDED OR DELETED

There were no items to be added or deleted.

5. CONSENT CALENDAR

A. APPROVAL OF MEETING MINUTES: SEPTEMBER 3, 2024

Recommendation: Approve as posted.

B. 2025 MEDICAL INSURANCE CAP (CM#2024.51)

Recommendation: To direct staff to adjust the medical insurance cap from \$2,057.56 to \$2,168.93, which is equal to the ACWA/JPIA 2025 Kaiser Family Plan rate.

MOVED, to approve the Consent Calendar as posted.

Result:	Adopted by Roll Call Vote
Motion/Second:	Harrison/Gardner
Ayes:	Gardner, Hall, Harrison, Whitaker
Nays:	None
Abstentions:	None
Absent:	None

6. **WORKSHOP DISCUSSION AGENDA**

A. **LEGISLATIVE REPORT**

Michael Boccadoro of West Coast Advisors provided a presentation on the Sacramento Update. Regarding the Drought/Water Supply, the carryover storage in major reservoirs in California remains above historic levels. There is discussion taking place regarding salinity control in the Delta, about 350,000-acre feet of water could get sent down the Delta in pursuit of salinity control with very little benefit to the Delta smelt that it is designed to protect. Both urban and agricultural agencies are pushing hard to find a different way to approach some of the issues in the Delta that will not cost significant amounts of water.

On August 31st the Legislature adjourned the 2023-24 two-year regular session. Lots of Bills were passed by both houses and the Governor has until the end of the month to act on those measures. Mr. Boccadoro noted that the Governor at the end of the regular session called a special session on fuel prices. The Governor feels strongly about a reserve supply of California gasoline that could be utilized during times of shortage or outage. There are concerns about inflation and energy costs whether its electricity, natural gas, and fuel prices in the State and has implications for water and sewer rates as well. The legislatures are returning to the Assembly in Sacramento this week to initiate some of the discussions.

Beth Olhasso continued the presentation and noted that the two-year session ended and there were about 1,500 Bills sent over to the Governor for signature. A brief update was provided on the following Legislative Bills:

The Water Supply Bills:

- SB 366 (Caballero) CA Water Plan: Long-term supply targets
- AB 460 (Bauer-Kahan) Water Rights
- SB 1390 (Caballero) Flood Flow Diversion

PFAS:

- SB 903 (Skinner) CASA & NRDC ban all non-essential uses of PFAS by 2034

Connection & Capacity Fees:

- SB 1210 (Skinner)
- SB 937 (Weiner)
- AB 1820 (Schiavo)

Water Use Efficiency:

- SB 1110 (Ashby) Urban Water Use Efficiency
- SB 1330 (Archuleta) Urban Water Use Efficiency
- AB 3120 (Heart) Urban Water Use Efficiency

Groundwater:

- AB2079 (Bennett) Groundwater Wells

Ms. Olhasso noted that the Legislative Budget closed with a \$45 billion shortfall. The specifics for SAWPA are \$74.4 million for Recycled Water (\$100 million reverted), \$24 million for PFAS support, and the Watershed Climate Resilience maintains \$133 million, but reduced allocations by \$298 million for 2024-25 and 2025-26.

Ms. Olhasso highlighted a few regulatory updates; the Urban Water Use Efficiency Regulations were finalized on July 3rd and the implementation of standards has been delayed by five (5) years. Agreements to support Healthy Rivers and Landscapes (voluntary agreements) are currently on hold, the Department of Water Resources, Bureau of Reclamation, and Water Agency Partners responded to questions on the agreements from the State Board, and staff is waiting for next steps. The State Board adopted the Hexavalent Chromium MCL of 10 parts per billion, and the third draft of the Model Water Efficiency Landscape Ordinance was released in August and the comment period just ended.

Commissioner Gardner noted that SB 366 made it through all the committees and both houses of legislature and asked if Governor Newsome has a history that we are aware of not taking an active position on bills and just letting them fall. Mr. Boccadoro said no, that is not a pattern he has seen in the past. Chair Whitaker commended Mr. Boccadoro and Ms. Olhasso for their report and appreciates all their efforts.

This item is to receive and file; no action was taken on agenda item no. 6.A.

7. NEW BUSINESS

A. SANTA ANA RIVER TRAIL AND PARKWAY UPDATE (CM#2024.52)

Ian Achimore provided a presentation on the Santa Ana River Trail and Parkway (SARTP) Update, contained in the agenda packet on pages 19-36. A brief overview was provided of the history and purpose of the SARTP partnership. A Memorandum of Understanding (MOU) was active among the counties of Orange, Riverside, and San Bernardino, cities in the three counties, the Wildlands Conservancy, and SAWPA. This MOU was created to facilitate planning, project implementation, reporting and accountability amongst the various entities related to the SARTP.

The SARTP is approximately 100-mile-long trail that runs from lands within the San Bernardino National Forest to the River's outlet at Huntington Beach. In 2014, Senate Bill 1390 created the Santa Ana River Conservancy (SARCON) which is taking an active role in SARTP completion. SARCON (administered by California Coastal Conservancy) is charged with developing a SARTP implementation plan and creating an advisory group comprised of local leaders that have decision-making authority. The SARTP Implementation Plan was released in 2018.

Through the MOU, a Policy Advisory Group (PAG) of elected officials was created as well as a Technical Advisory Committee by staff. The PAG meets quarterly and provides local decision-making authority and expertise to guide the Coastal Conservancy as the State agency implements the SARTP Plan and funds various projects that have been highlighted in the SARTP Plan. Mr. Achimore highlighted that SAWPA has the following role in the SARTP and Advisory Group:

- SAWPA has a member and is the Vice Chair of the Advisory Group to the Coastal Conservancy, Commissioner T. Milford Harrison.
- In 2014, a 25-year long operations and maintenance agreement was signed by SAWPA with Riverside County Regional Park and Open-Space District (RivCo Parks) for the segments of the trail.
- SAWPA coordinates with RivCo Parks on certain trail segment construction.

- In 2024, the SAWPA PA 24 Committee approved staff preparing license agreements with AT&T and Southern California Edison to assist in their relocation of utilities within SAWPA property to assist with trail segment construction.

Mr. Achimore noted that the trail segments remaining to be constructed are three miles in Orange County, 10 miles in Riverside County, and 20 miles in San Bernardino County. A Grant application was submitted by Orange County Park on September 11th to Coastal Conservancy for \$250,000 to fund a phasing plan, updated cost estimate and regulatory permits for the Extension Project and the construction schedule is to be determined. Riverside County Parks estimates \$100 million is needed to finish construction of trail on the non-completed segments. San Bernardino County SART 3 (3.8 miles), construction will resume after bird nesting season and is anticipated to be finished December 2025. SART 4A (3.9 miles), project completion is estimated in 2026. SART 4B and C (3.3 miles), San Bernardino Regional Parks is waiting on the outcome of its Active Transportation Program grant application, and it is expected to be received in 2025. SART 4D and E, no work has been started.

The potential future role for SAWPA is to review large SARTP projects before the Advisory Group to see if there are opportunities to expand the multi-benefit aspects of the projects, to assist with outreach to Federal/State legislatures on SARTP funding needs, assist with grant application for project implementation, assist counties with coordination with property owners who are water agencies on trail construction, and lead the development of a SARTP website that can potentially provide construction updates. The Commissioner commended Mr. Achimore for all his efforts and the detailed report.

This item is to receive and file; no action was taken on agenda item no. 7.A.

8. INFORMATIONAL REPORTS

Recommendation: Receive for Information.

A. CASH TRANSACTIONS REPORT – JULY 2024

Presenter: Karen Williams

B. INTER-FUND BORROWING – JULY 2024 (CM#2024.53)

Presenter: Karen Williams

C. PERFORMANCE INDICATORS/FINANCIAL REPORTING – JULY 2024 (CM#2024.54)

Presenter: Karen Williams

D. FOURTH QUARTER FYE 2024 EXPENSE REPORT

- General Manager
- Staff

Presenter: Karen Williams

E. BUDGET VS ACTUAL VARIANCE REPORT FYE 2024 FOURTH QUARTER – JUNE 30, 2024 (CM#2024.55)

Presenter: Karen Williams

F. FINANCIAL REPORT FOR THE FOURTH QUARTER ENDING JUNE 30, 2024

Presenter: Karen Williams

G. STATE LEGISLATIVE REPORT

Presenter: Jeff Mosher

H. GENERAL MANAGER REPORT

Jeff Mosher informed the Commission that SAWPA staff has been contacted by the Flood Control District regarding their concerns of burn scars and debris flows due to the three (3) current fires (Line, Airport, and Bridge). It is anticipated to make it challenging to foresee being able to cloud seed for Year 2. Staff are looking into it internally and will be bringing it back to the Commission for a future meeting. Mr. Mosher noted that Direct Potable Reuse (DPR) is being talked about because the final regulations are going through the administration process by the State and are to be effective October 1st. There has been a lot of interest in Brine and Brine Management, SAWPA staff have been tracking it through CASA and other groups and there's potential to reopen the Ocean Plan. The Ocean Plan deals with how Brine is discharged to the Ocean. Mr. Mosher noted this item will be brought back to the Commission with more details. Mr. Mosher also acknowledged the new San Bernardino Valley Municipal Water District Boardroom sign and thanked the member agencies' staff for tracking their information on the signage.

I. CHAIR'S COMMENTS/REPORT

Chair Bruce Whitaker noted that the OC Water Summit is scheduled for Friday, September 27th at the Westin in South Coast Plaza. Mr. Mosher noted that SAWPA is a sponsor for the event.

J. COMMISSIONERS' COMMENTS

Commissioner Harrison commended staff for the informative reports and all their efforts.

K. COMMISSIONERS' REQUEST FOR FUTURE AGENDA ITEMS

There were no requests for future agenda items.

9. CLOSED SESSION

There was no Closed Session.

10. ADJOURNMENT

There being no further business for review, Chair Bruce Whitaker adjourned the meeting at 10:31 a.m.

Approved at a Regular Meeting of the Santa Ana Watershed Project Authority Commission on Tuesday, October 1, 2024.

Bruce Whitaker, Chair

Attest:

Sara Villa, Clerk of the Board

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*Santa Ana Watershed
Project Authority*



Finance Department

Santa Ana Watershed Project Authority
TREASURER'S REPORT

August 2024

During the month of August 2024, the Agency's actively managed temporary idle cash earned a return of 3.507%, representing interest earnings of \$44,935. Additionally, the Agency's position in overnight funds L.A.I.F. generated \$204,649 in interest, resulting in \$249,584 of interest income from all sources. Please note that this data represents monthly earnings only and does not indicate actual interest received. There were zero (0) investment positions purchased, zero (0) positions sold, one (1) position matured, and zero (0) positions were called.

This Treasurer's Report is in compliance with SAWPA's Statement of Investment Policy. Based upon the liquidity of the Agency's investments, this report demonstrates the ability to meet customary expenditures during the next six months.
September 12, 2024

Prepared and submitted by:

A handwritten signature in black ink that reads 'Karen Williams'.

Karen L. Williams, Deputy GM/Chief Financial Officer

Santa Ana Watershed Project Authority

INVESTMENT PORTFOLIO - MARKED TO MARKET - UNREALIZED GAINS & LOSSES

August 31, 2024

SAWPA primarily maintains a "Buy and Hold" investment philosophy, with all investments held by US Bank via a third-party safekeeping contract.

Investment	Security		Purchase	Maturity	Call Date		Yield To	Investment	Market Value	Unrealized	Coupon	Interest	
Type	Type	CUSIP	Dealer	Date	Date	(if appl)	Par Value	Maturity	Cost	Current Month	Gain/(Loss)	Rate	Earned
Agency	FHLB	3130A3GE8	MBS	02-04-20	12-13-24	No Call	\$ 500,000.00	1.414%	\$ 531,250.00	\$ 496,800.62	\$ (34,449)	2.750%	\$ 600.51
Agency	FHLB	3130ASWP0	MBS	08-30-22	11-27-24	No Call	\$ 1,000,000.00	3.652%	\$ 1,000,000.00	\$ 996,509.17	\$ (3,491)	3.650%	\$ 3,101.70
Agency	FHLB	3130ATT31	MBS	10-28-22	10-03-24	No Call	\$ 1,000,000.00	4.500%	\$ 998,910.00	\$ 999,026.05	\$ 116	4.500%	\$ 3,821.92
Agency	FHLB	3130ATHWO	WMS	11-04-22	09-10-27	No Call	\$ 1,000,000.00	4.125%	\$ 991,965.00	\$ 1,009,328.30	\$ 17,363	4.125%	\$ 3,503.42
Agency	FHLB	3130ATUR6	MBS	06-06-23	12-13-24	No Call	\$ 500,000.00	4.629%	\$ 499,966.50	\$ 499,274.59	\$ (692)	4.625%	\$ 1,965.74
Agency	FHLB	3130AWC24	MBS	06-06-23	06-09-28	No Call	\$ 500,000.00	3.889%	\$ 502,505.00	\$ 504,763.30	\$ 2,258	4.000%	\$ 1,278.58
Agency	FHLB	3130AWN63	WMS	01-25-24	06-30-28	No Call	\$ 1,000,000.00	4.020%	\$ 999,170.00	\$ 1,011,269.08	\$ 12,099	4.000%	\$ 1,278.58
Agency	FNMA	3135G0X24	MBS	02-04-20	01-07-25	No Call	\$ 500,000.00	1.398%	\$ 505,380.00	\$ 494,203.20	\$ (11,177)	1.625%	\$ 593.71
Agency	FNMA	3135G05X7	WMS	10-30-20	08-25-25	No Call	\$ 1,000,000.00	0.460%	\$ 995,952.00	\$ 961,591.14	\$ (34,361)	0.375%	\$ 390.68
Agency	USTN	91282CAZ4	WMS	04-19-21	11-30-25	No Call	\$ 1,000,000.00	0.761%	\$ 982,500.00	\$ 953,281.25	\$ (29,219)	0.375%	\$ 646.04
Agency	USTN	91282ZTO	WMS	09-15-21	05-31-25	No Call	\$ 1,000,000.00	0.530%	\$ 989,726.56	\$ 968,359.38	\$ (21,367)	0.250%	\$ 450.29
CD	American Express Natl Bank	02589AD58	MBS	08-17-22	08-19-24	No Call	\$ -	0.000%	\$ -	\$ -	\$ -	0.000%	\$ 697.08
CD	Beal Bank USA	07371DEV5	MBS	08-17-22	08-12-26	No Call	\$ 245,000.00	3.200%	\$ 245,000.00	\$ 241,128.40	\$ (3,872)	3.200%	\$ 665.86
CD	Synchrony Bank	87164XP34	MBS	08-12-22	08-12-25	No Call	\$ 245,000.00	3.350%	\$ 245,000.00	\$ 242,422.58	\$ (2,577)	3.350%	\$ 74.44
CD	Capital One Bank USANA	14042TGJ0	MBS	05-25-22	05-25-27	No Call	\$ 246,000.00	3.200%	\$ 246,000.00	\$ 241,277.31	\$ (4,723)	3.200%	\$ 668.58
CD	Morgan Stanley Private Bank	61768UAT4	MBS	11-15-22	11-15-27	11-15-23	\$ 248,000.00	5.000%	\$ 248,000.00	\$ 248,436.17	\$ 436	5.000%	\$ 1,053.15
CD	Prime Alliance Bank	74160NJB8	MBS	11-17-22	11-17-27	05-17-23	\$ 248,000.00	4.950%	\$ 248,000.00	\$ 248,104.02	\$ 104	4.950%	\$ 1,042.62
CD	Cooperative Center FSU	21686MAA6	MBS	12-29-22	12-29-25	No Call	\$ 249,000.00	4.650%	\$ 249,000.00	\$ 250,218.74	\$ 1,219	4.650%	\$ 983.38
CD	Affinity Bank	00833JQA4	MBS	03-17-23	03-17-28	No Call	\$ 248,000.00	4.900%	\$ 248,000.00	\$ 256,411.47	\$ 8,411	4.900%	\$ 1,032.09
CD	Discover Bank	254673ZV7	MBS	03-22-23	03-23-27	No Call	\$ 243,000.00	5.050%	\$ 243,000.00	\$ 249,365.58	\$ 6,366	5.050%	\$ 1,042.24
CD	Global Fed CR UN Alaska	37892MAF1	MBS	05-12-23	05-12-27	No Call	\$ 249,000.00	4.600%	\$ 249,000.00	\$ 253,220.97	\$ 4,221	4.600%	\$ 972.81
CD	UBS Bank USA	90355GDJ2	MBS	05-17-23	05-17-27	No Call	\$ 249,000.00	4.550%	\$ 249,000.00	\$ 252,931.36	\$ 3,931	4.550%	\$ 962.23
CD	BMW Bank of North Americ	05580A2G8	MBS	06-16-23	06-16-26	No Call	\$ 244,000.00	4.600%	\$ 244,000.00	\$ 246,031.74	\$ 2,032	4.600%	\$ 953.27
CD	Barclays Bank Delaware	06740KRW9	MBS	07-26-23	07-28-25	No Call	\$ 243,000.00	5.100%	\$ 243,000.00	\$ 244,260.35	\$ 1,260	5.100%	\$ 1,052.56
CD	Farmers Insurance Group	30960QAS6	MBS	07-26-23	07-27-26	No Call	\$ 248,000.00	5.100%	\$ 248,000.00	\$ 252,766.73	\$ 4,767	5.100%	\$ 1,074.21
CD	Chartway Federal Credit Union	16141BAQ4	MBS	09-08-23	09-08-27	No Call	\$ 248,000.00	5.000%	\$ 248,000.00	\$ 255,753.88	\$ 7,754	5.000%	\$ 1,053.15
CD	Greenstate Credit Union	39573LEM6	MBS	09-26-23	09-26-28	No Call	\$ 248,000.00	5.000%	\$ 248,000.00	\$ 258,750.55	\$ 10,751	5.000%	\$ 1,053.15
CD	Empower Fed Credit Union	291916AA2	MBS	09-29-23	09-29-27	No Call	\$ 248,000.00	5.100%	\$ 248,000.00	\$ 256,635.84	\$ 8,636	5.100%	\$ 1,074.21
CD	US Alliance Fed Credit Union	90352RDF9	MBS	09-29-23	09-29-28	No Call	\$ 248,000.00	5.100%	\$ 248,000.00	\$ 259,710.41	\$ 11,710	5.100%	\$ 1,074.21
CD	Numerica Credit Union	67054NBN2	MBS	11-10-23	11-10-26	No Call	\$ 248,000.00	5.550%	\$ 248,000.00	\$ 256,098.99	\$ 8,099	5.550%	\$ 1,169.00
CD	Heritage Community Cr Un	42728MAB0	MBS	11-15-23	11-16-26	No Call	\$ 248,000.00	5.450%	\$ 248,000.00	\$ 255,677.50	\$ 7,678	5.450%	\$ 1,147.93
CD	Members Trust of SW FCU	585899AG2	MBS	01-19-24	01-19-29	No Call	\$ 249,000.00	4.000%	\$ 249,000.00	\$ 250,677.85	\$ 1,678	4.000%	\$ 845.92
CD	Hughes FCU	444425AL6	MBS	01-29-24	01-29-27	No Call	\$ 249,000.00	4.400%	\$ 249,000.00	\$ 251,487.50	\$ 2,488	4.400%	\$ 930.51
CD	Farmers & Merchants TR	308693BG4	MBS	01-30-24	02-01-27	No Call	\$ 249,000.00	4.150%	\$ 249,000.00	\$ 250,063.84	\$ 1,064	4.150%	\$ 877.64
CD	Nicolet National Bank	654062LP1	MBS	03-08-24	03-08-29	No Call	\$ 249,000.00	4.250%	\$ 249,000.00	\$ 253,377.02	\$ 4,377	4.250%	\$ 898.79
CD	Medallion Bank	58404DUP4	MBS	03-13-24	03-15-27	No Call	\$ 249,000.00	4.600%	\$ 249,000.00	\$ 252,820.12	\$ 3,820	4.600%	\$ 972.81
CD	Wells Fargo Bank	949764MZ4	MBS	03-12-24	03-12-27	No Call	\$ 249,000.00	4.500%	\$ 249,000.00	\$ 252,258.58	\$ 3,259	4.500%	\$ 951.66
CD	Toyota Financial SGS Bank	89235MPN5	MBS	05-24-24	05-24-29	No Call	\$ 244,000.00	4.600%	\$ 244,000.00	\$ 252,118.50	\$ 8,119	4.600%	\$ 953.27
CD	First Foundation Bank	32026U5U6	MBS	05-22-24	05-22-29	No Call	\$ 244,000.00	4.600%	\$ 244,000.00	\$ 252,106.76	\$ 8,107	4.600%	\$ 953.27
CD	Alliant Credit Union	01882MAD4	MBS	12-30-22	12-30-25	No Call	\$ 248,000.00	5.100%	\$ 248,000.00	\$ 250,635.89	\$ 2,636	5.100%	\$ 1,074.21

Total Actively Invested Funds		\$	15,923,000.00	\$	15,920,325.06	\$	15,929,154.73	\$	8,830	3.507%	\$	44,935.43
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Total Local Agency Investment Fund					\$	52,622,358.22				4.579%	\$	204,649.07
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Total Invested Cash		\$	15,923,000.00	\$	68,542,683.28					4.330%	\$	249,584.50
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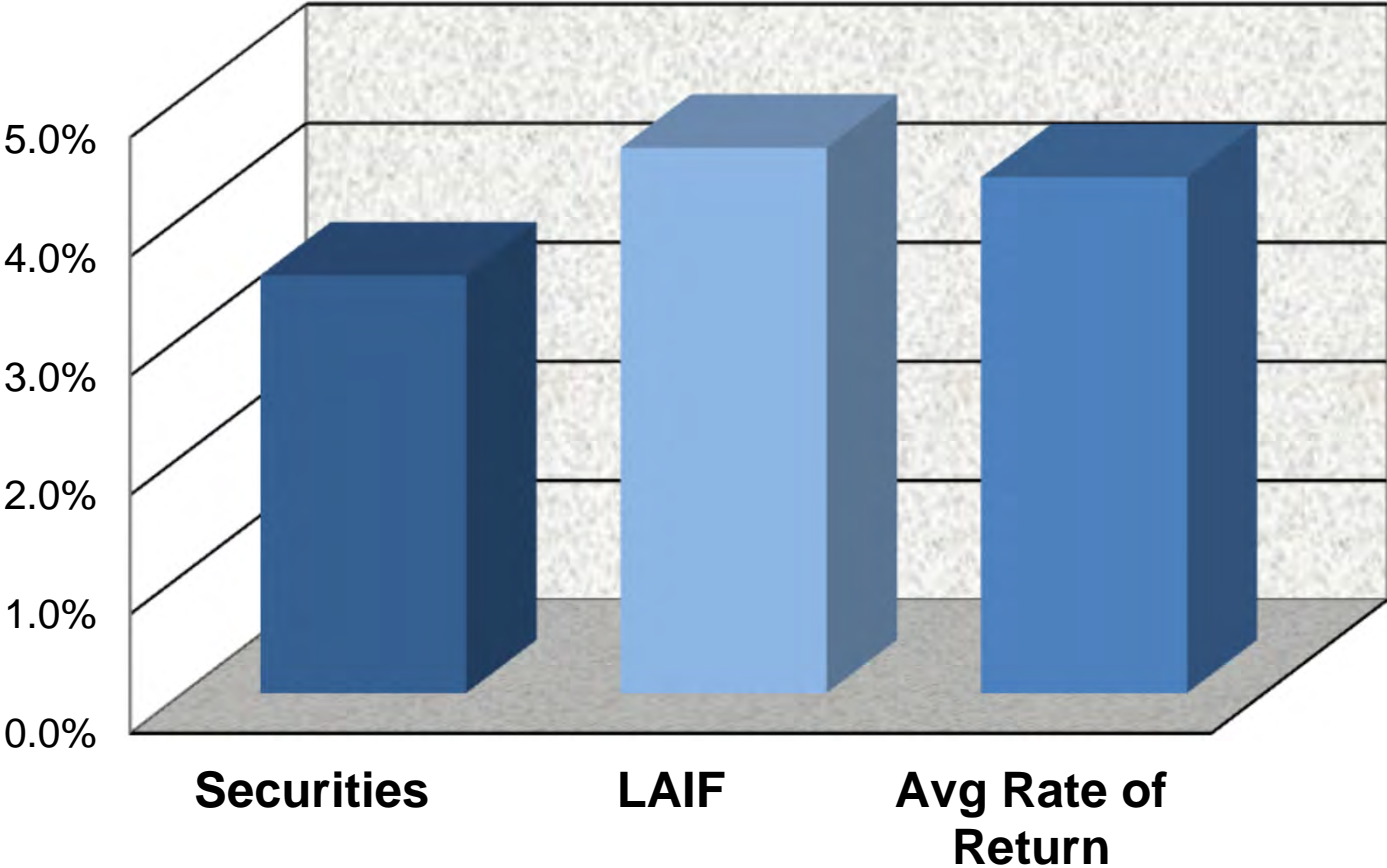
Key to Security Type:

- FHLB = Federal Home Loan Bank
- FHLMC = Federal Home Loan Mortgage Corporation
- FNMA = Federal National Mortgage Association
- USTN = US Treasury Note
- CORP = Corporate Note
- CD = Certificate of Deposit
- GDB = Goldman Sachs Bank
- AEC = American Express Centurion

Key to Dealers:

- FCS = FinaCorp Securities
- MBS = Multi-Bank Securities
- MS = Mutual Securities
- RCB = RBC Dain Rauscher
- SA = Securities America
- TVI = Time Value Investments
- WMS = Wedbush Morgan Securities

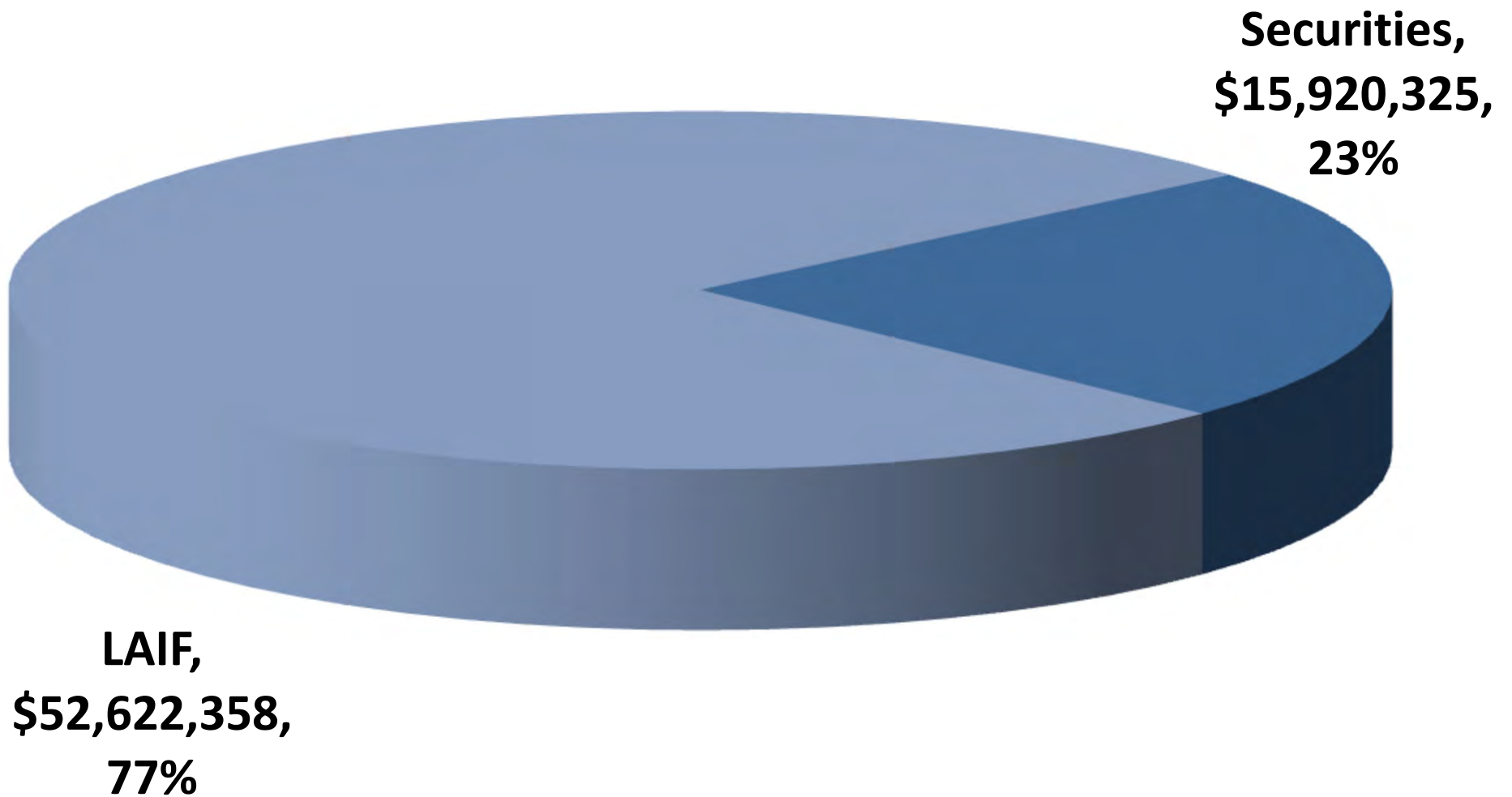
Interest Rate Analysis



Aug'24

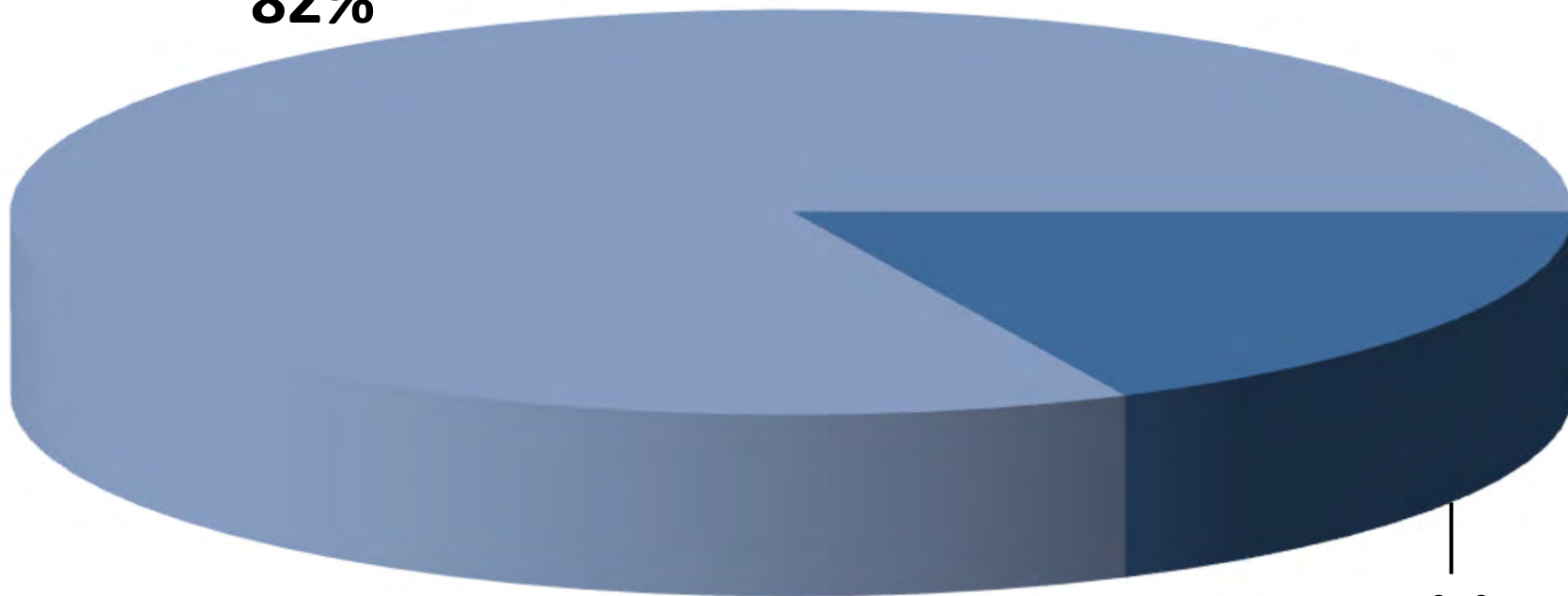
Investments

\$68,542,683



Interest
\$249,584

LAIF,
\$204,649,
82%



Securities,
\$44,935,
18%

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COMMISSION MEMORANDUM NO. 2024.56

DATE: October 1, 2024

TO: SAWPA Commission

SUBJECT: Santa Ana River Watershed Cloud Seeding Pilot Program: Preliminary Year 1 Validation Results

PREPARED BY: Rachel Gray, Water Resources and Planning Manager
Frank McDonough, Desert Research Institute

RECOMMENDATION

Receive and file.

DISCUSSION

On July 19, 2022, the SAWPA Commission authorized an award of contract with North American Weather Consultants, Inc. (NAWC) to conduct the Santa Ana River Watershed Cloud Seeding Pilot Program operations. Subsequently, the SAWPA Commission authorized an award to the Board of Regents of the Nevada System of Higher Education on behalf of the Desert Research Institute (DRI) for the independent validation of the Santa Ana River Watershed Cloud Seeding Pilot Project.

The Pilot Program is a four-year project spanning the four winter seasons starting in 2023 and running between November 15 and April 15 for each season. The operations are based on past work described in the SAWPA feasibility study published in 2020, updated seeding site analysis, and reflects requirements from CEQA, and comments from SAWPA member agency staff and other stakeholders. The focus of the Pilot Program will be on seeding the four higher elevation target areas identified in the feasibility study surrounding the watershed with an emphasis on increasing precipitation in the form of snow.

SAWPA is coordinating the Pilot Program planning with Desert Research Institute (DRI) on the validation competent of the project. DRI is conducting an independent review of the cloud seeding pilot operations and validating the increases in precipitation and stream flows. Preliminary results are being presented and the results and additional evaluation are still ongoing. Validation tasks include the following:

1. Task 1: Evaluate NAWC Operations
2. Task 2: Snow Chemistry
3. Task 3: Calculating the Seeding Snow-Water Equivalent:
4. Task 4: Target/Control Statistical Analysis
5. Task 5: Stream Flow Analysis

CRITICAL SUCCESS FACTORS

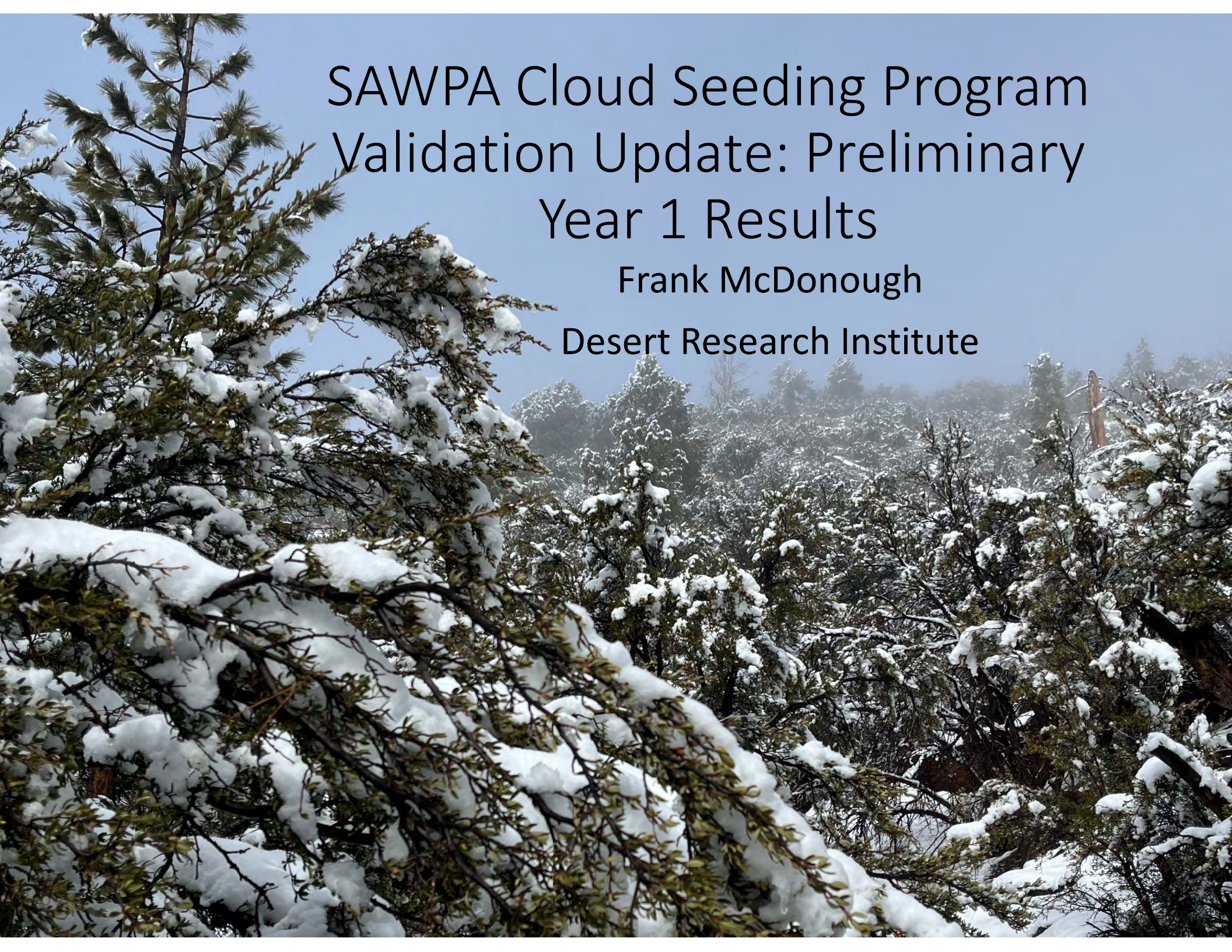
- Successful implementation of an integrated regional water resource plan that reflects the watershed management needs of the public and the environment.
- Data and information needed for decision-making is available to all.

RESOURCE IMPACTS

In April 2023, SAWPA was notified by the Department of Water Resources (DWR) that the SAWPA Santa Ana River Weather Modification Pilot Program will receive a grant valued at \$861,400 under the Proposition 1 Round 2 funding program. Local funding has been secured totaling \$94,000. Project operations and validation study costs are budgeted and reflected in the FYE 23-24, FYE 24-25, FYE 25-26 and FYE 26-27 SAWPA Budgets.

Attachments:

1. PowerPoint Presentation



SAWPA Cloud Seeding Program Validation Update: Preliminary Year 1 Results

Frank McDonough

Desert Research Institute

Background: North America Weather Consultants Feasibility Study 2020

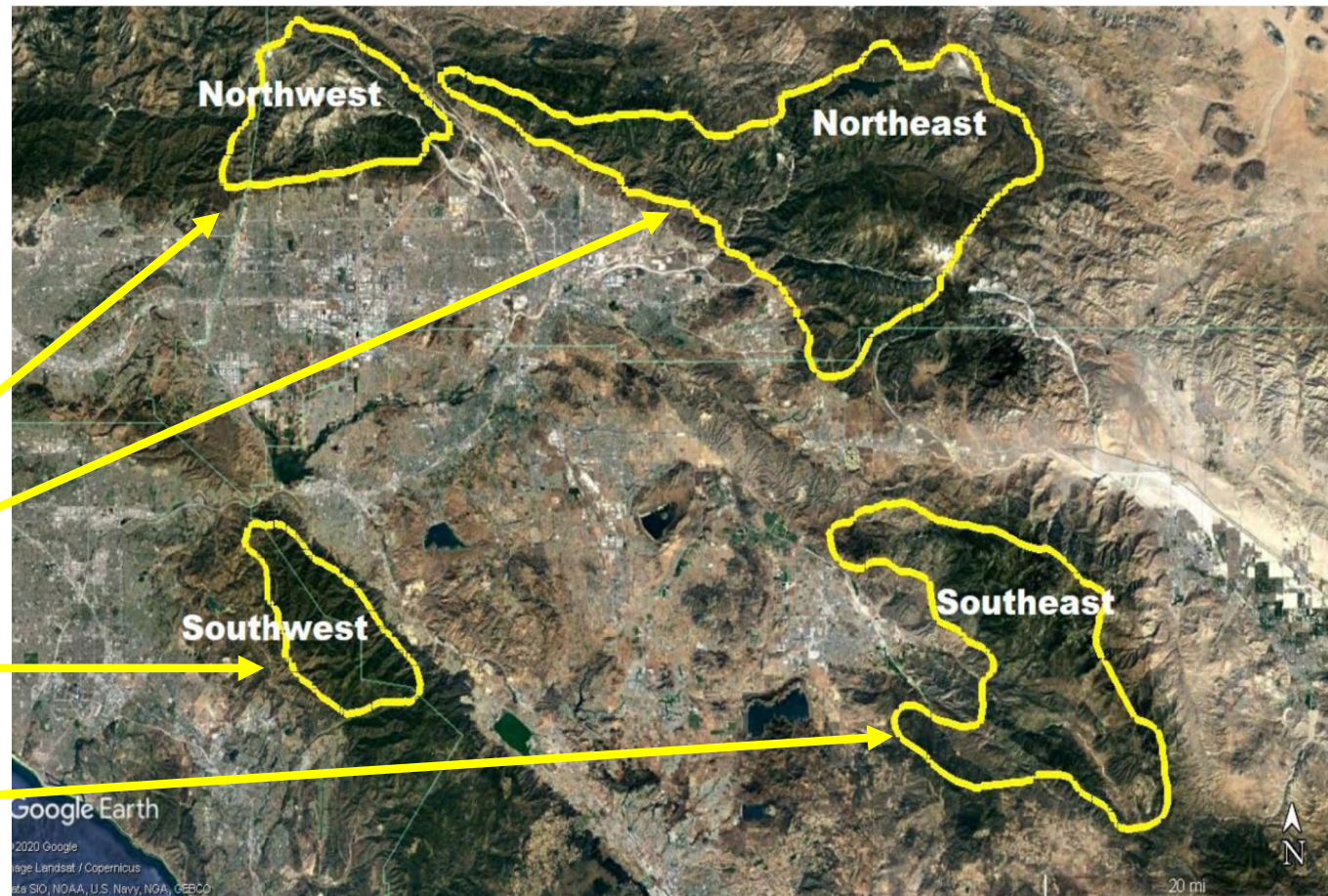
Study suggested that cloud seeding was feasible in the four headwater regions of the Santa Ana River.

Eastern San Gabriel Mountains

San Bernardino Mountains

Eastern side of Santa Ana Mtns

West slopes Mt San Jacinto



Background: Estimated yields from feasibility study

Precipitation
Increases
beneath the
seeding plume

Streamflow
increases

Estimated precipitation and streamflow increases

Target Area	Seasonal Precipitation Increase (inches)	Percent Increase	Avg. Natural Streamflow (AF)	Streamflow Increase (AF)	Percent Increase
NW	0.41	3.5%	25,000	2,043	8.2%
NE (ground)	0.49	4.1%	65,000	4,330	6.7%
NE (air & ground) *	0.89	7.3%	65,000	7,772	12.0%
SW	0.59	3.7%	5,000	447	9.0%
SE	0.49	4.5%	10,000	1,373	13.7%
TOTAL w/ Ground Only			105,000	8,193	7.8%

Validation Tasks

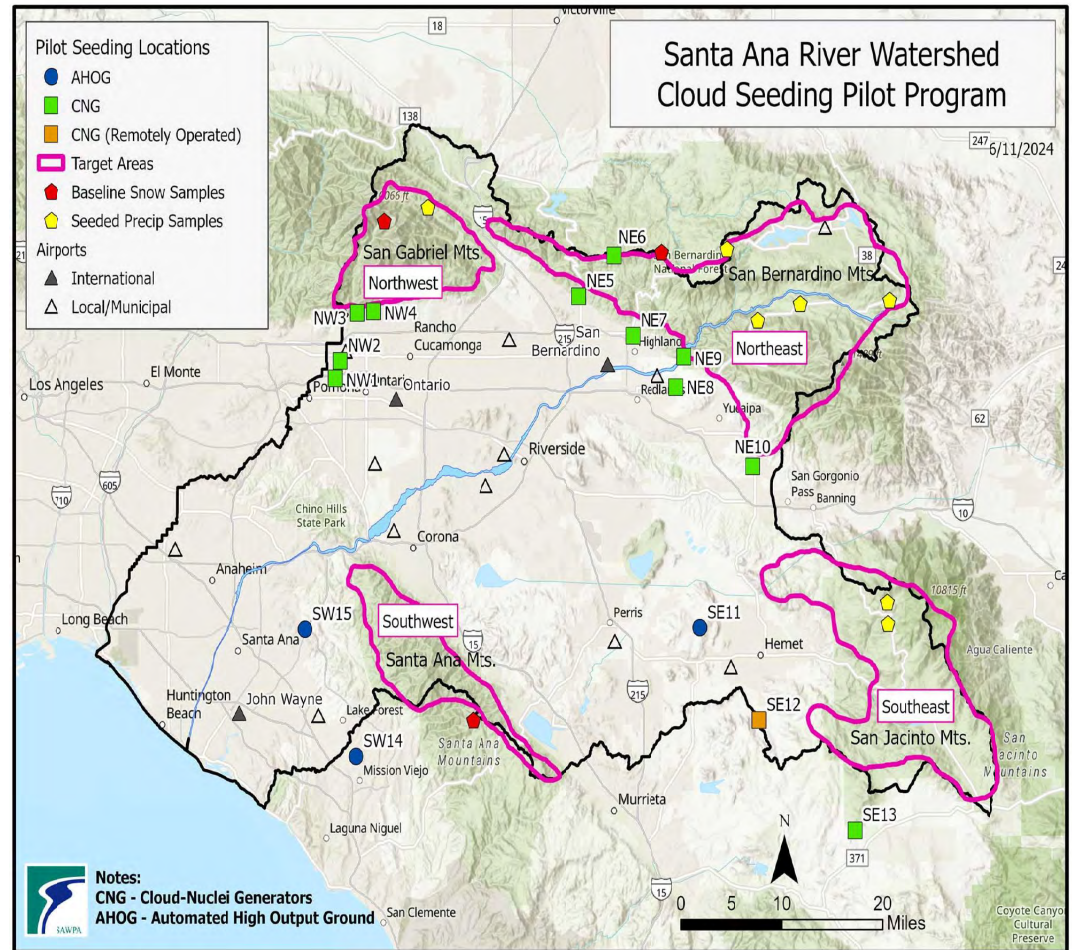
Task 1) ensure that the cloud seeding operations are matched to the seedable storm periods.

Task 2) ensure that the cloud seeding generator placement is able to deliver seeding material to the target areas

Task 3) determine the estimated amount of additional seeded snowfall/precipitation for each storm, and the winter total in each area.

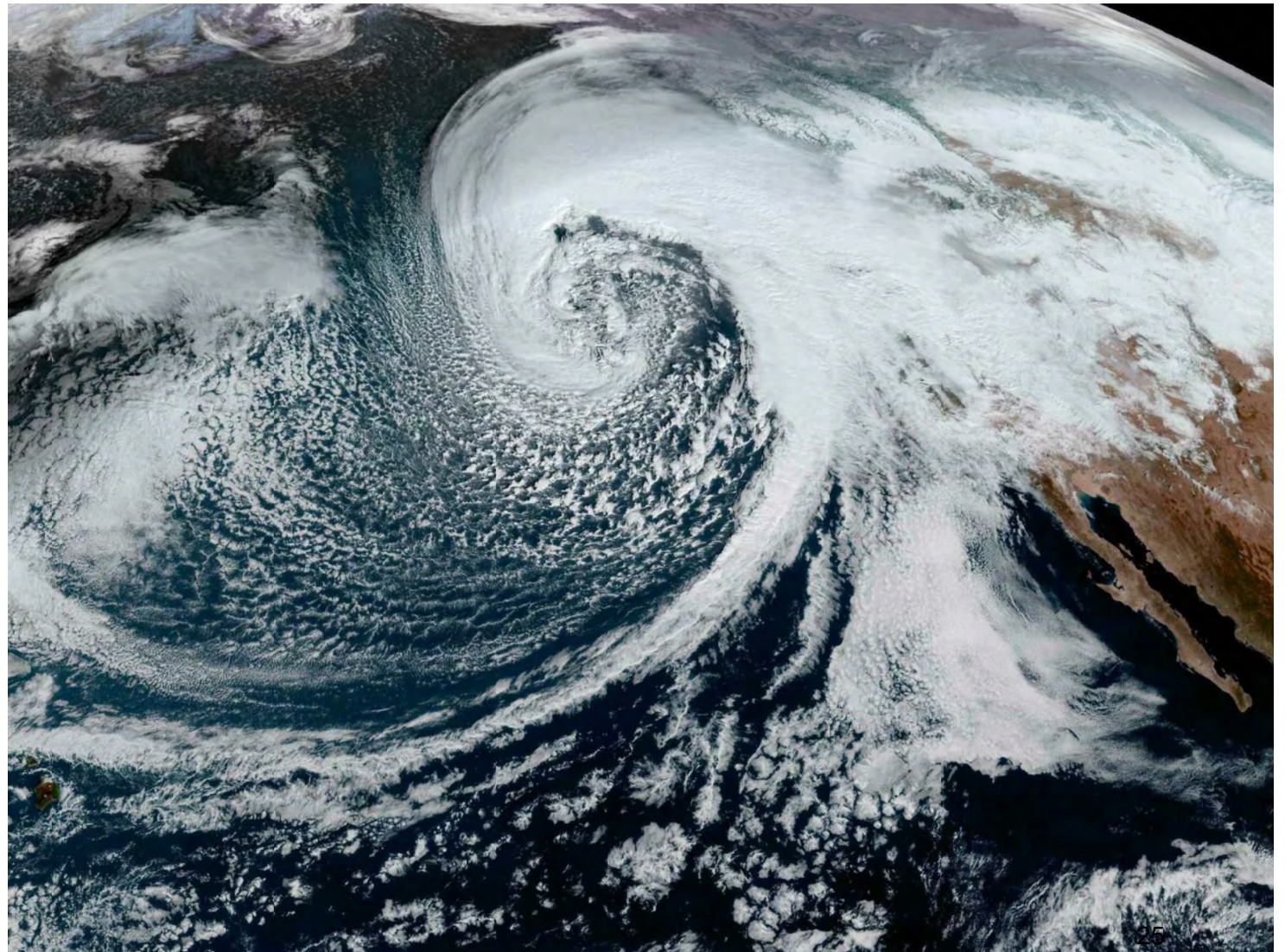
Task 4) compare unseeded seasonal precipitation amounts within the target areas to an adjacent unseeded control area, then compares the seeded year to the long-term relationships.

Task 5) compare the seasonal unseeded stream flow within the target areas to adjacent unseeded control areas, then compares the seeded year to the long-term relationships.



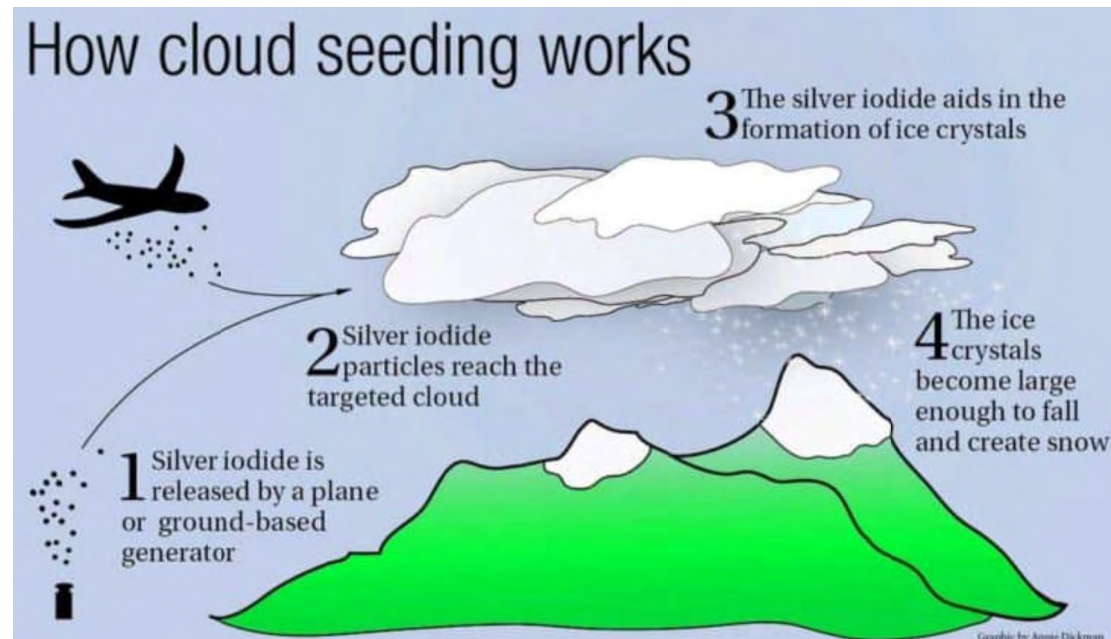
Target Areas and Generator Locations

Task 1: Detailed review winter weather and independent assessment of NAWC operations



Task 1: Detailed review winter weather and independent assessment of NAWC operations – results

- 13 storms were seeded between November 15, 2023 and April 15, 2024.
- All of these seeded storms contained seedable clouds at or below 11,000' MSL.
- No seedable storms were missed.
- The total number generator-hours were 2,165, with 1,703 hours of operation during potential seeding conditions.






Task 2) Snow Chemistry

Identifying slightly elevated amounts of silver in fresh seeded precipitation can confirm successful targeting of the from the cloud seeding generator locations.

Precipitation sampling was done during 2 storms to assess the silver in the precipitation.

Sampling the chemical make up of snow



			
Set up snow collection sites within cloud seeding target area and within a nearby unseeded control area	Collect storm snowfall in ultra clean bags	Keep sample frozen and deliver to DRI Trace Chemistry/Ice Core Lab	Analyze snow samples in DRI Lab using Mass Spectrometry

Task 2) Storm 1– Feb 20 - 21, 2024 (sampling of NW & NE target areas)

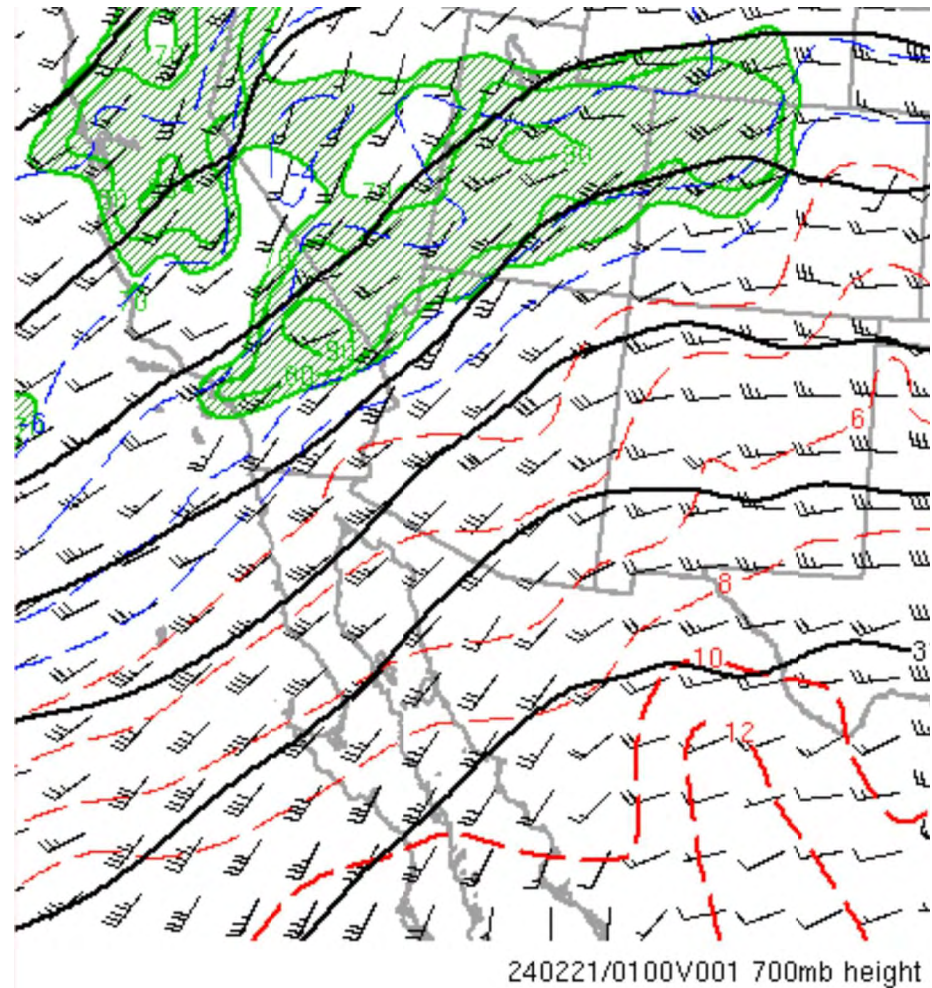
10,000'-MSL cold front/trough crossing area.

Clouds with bases below mountain top were present.

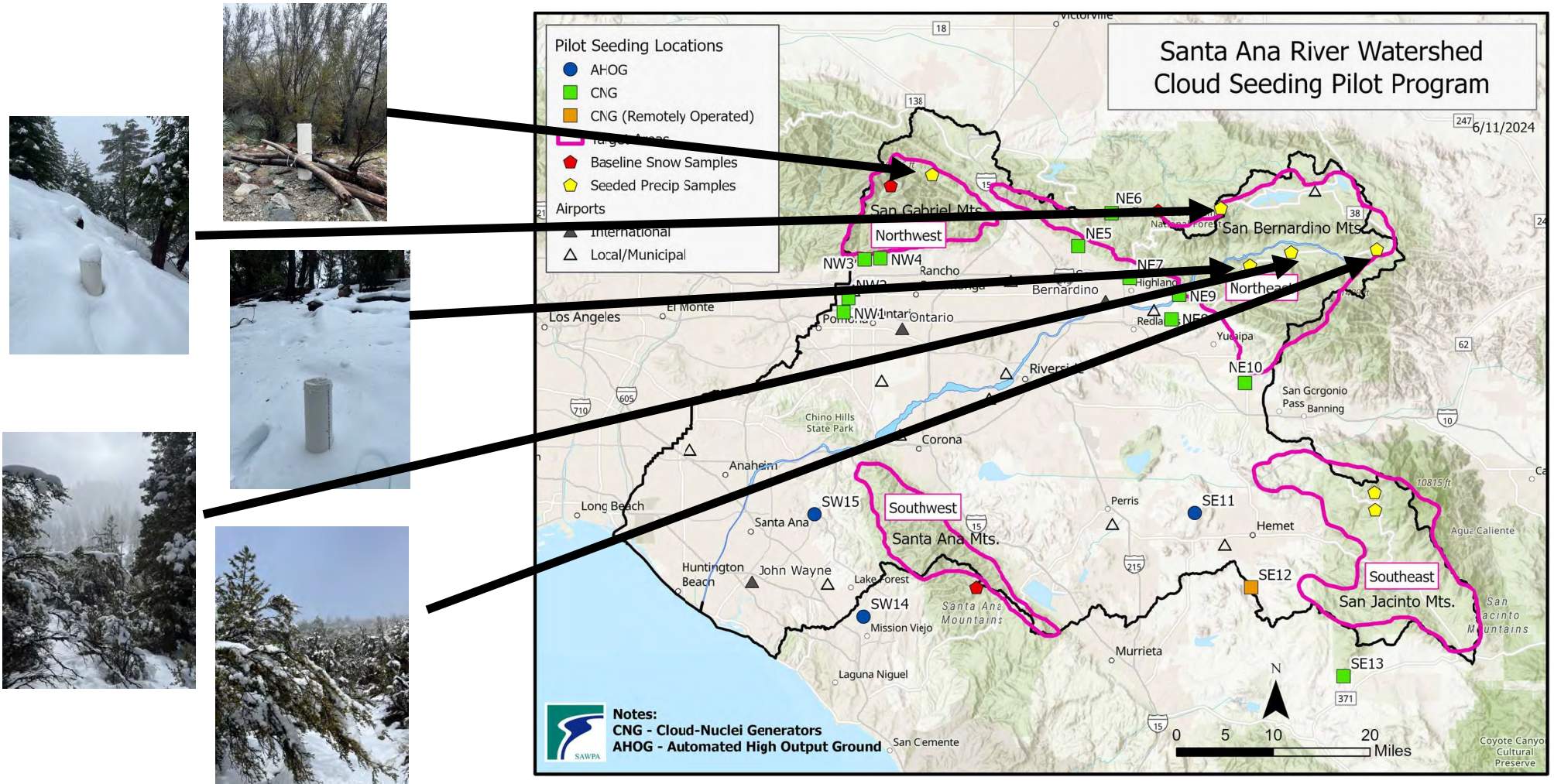
Temperatures at 10,000' MSL were about -5C (23F).

Winds from the southwest.

On-shore flow from Pacific.



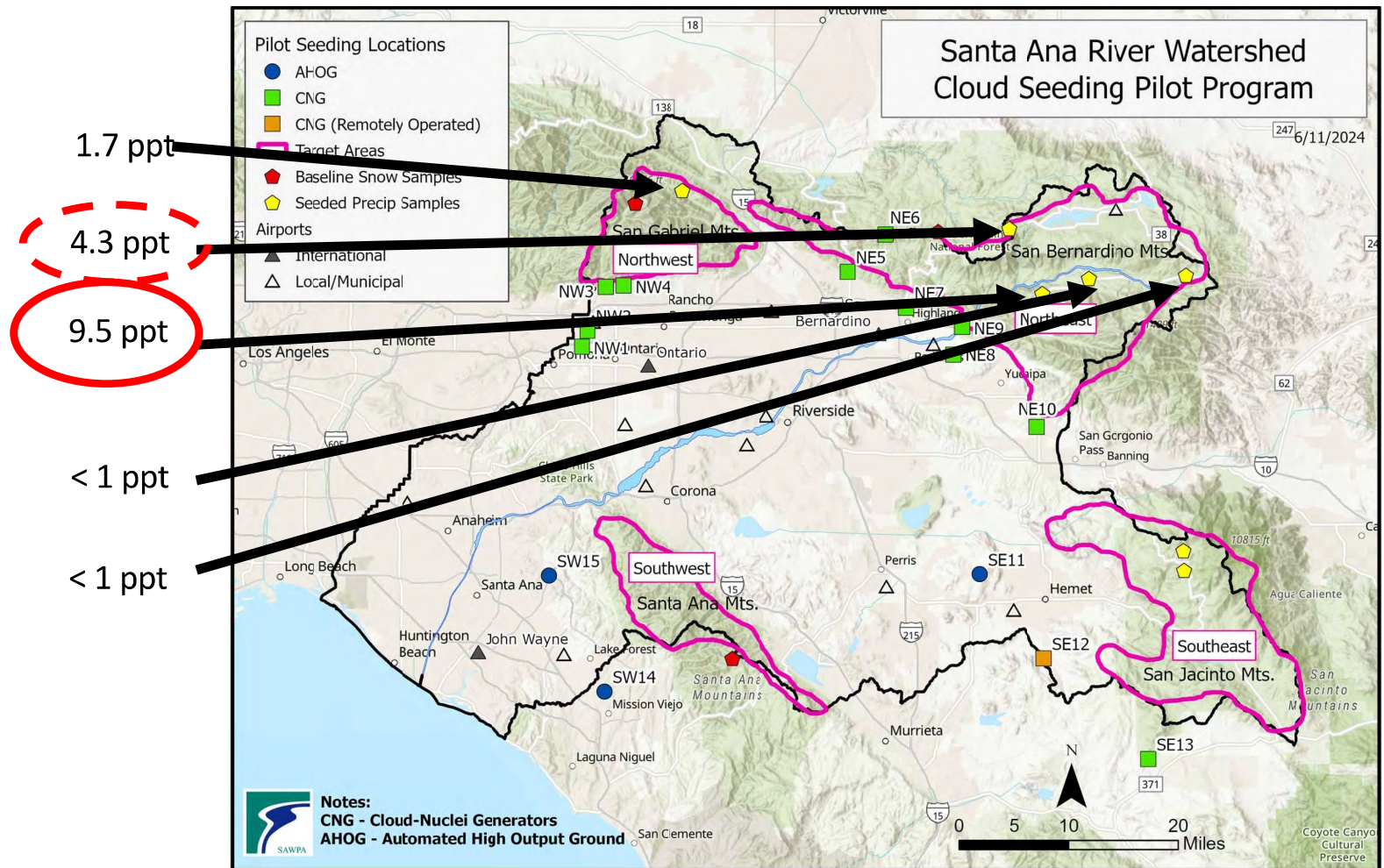
Task 2) Collection sites Feb 20 - 21, 2024 (NW & NE target areas)



Task 2) Snow Chemistry Results

Feb 20 - 21, 2024

Possible
successful
collection



Task 2) Storm 2 – Mar 6 - 7, 2024 (SE target area)

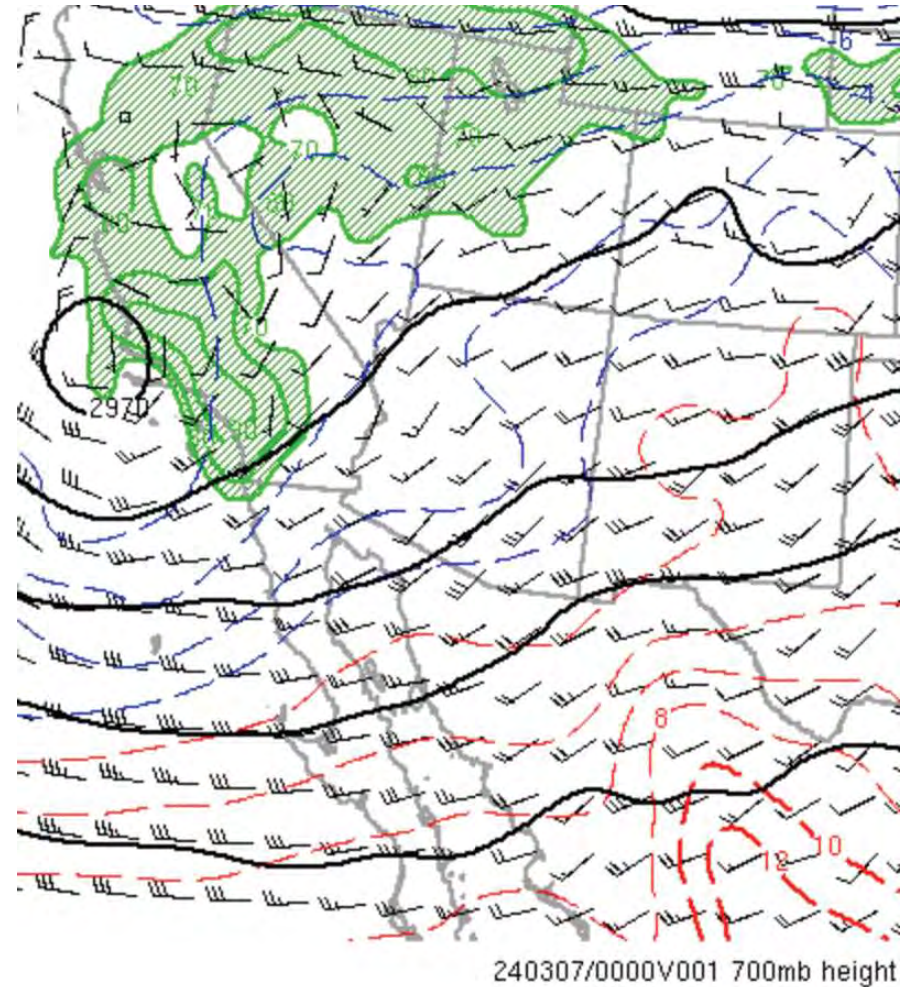
10,000' (MSL) cold front/closed low crossing area.

Clouds present below mountain tops.

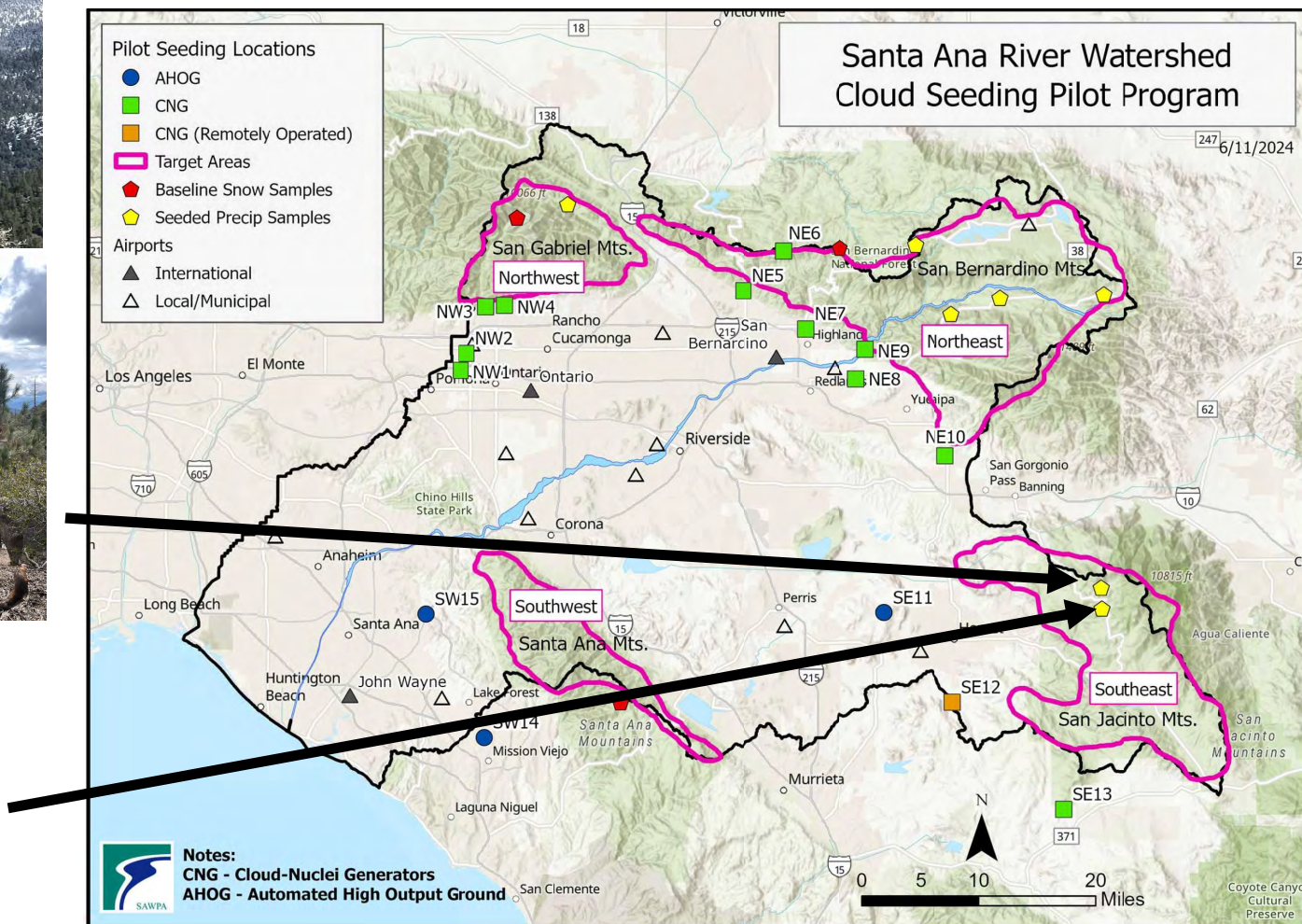
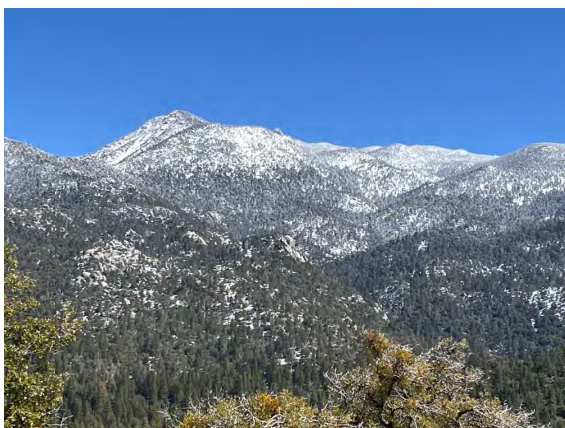
Temperatures at 10,000' MSL about -5.5C (22F).

Winds from the south-southwest.

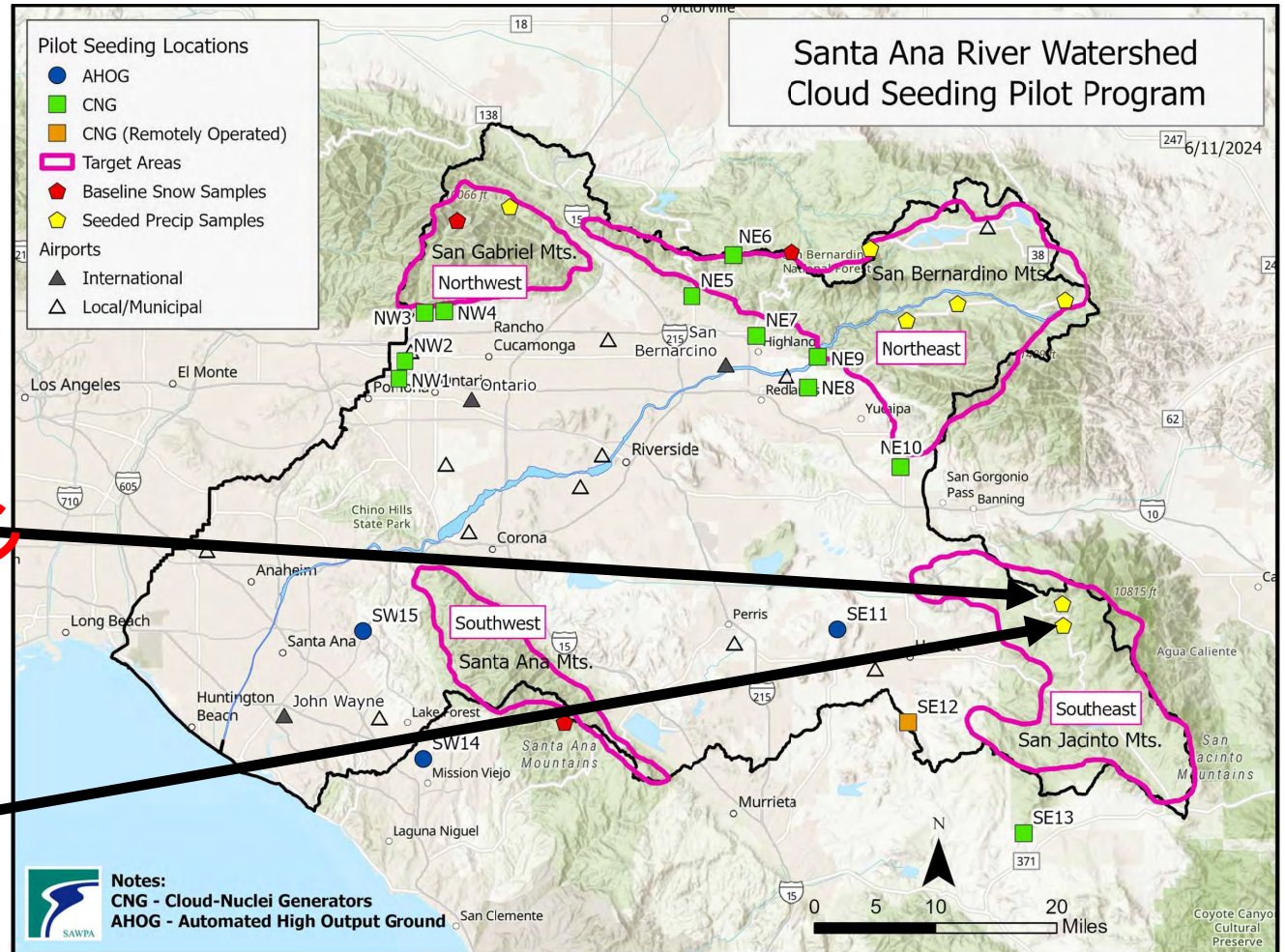
On-shore flow from Pacific.



Task 2) Collection Sites – Mar 6 - 7, 2024 (SE target area)



Task 2) Snow Chemistry – Mar 6 - 7, 2024 (SE target area)



4.5 ppt

Possible successful collection

< 1 ppt

Task 3) Estimating seeded precipitation

Background:

-50-year project over southern Sierra (Big Creek) showed an average seasonal precipitation increases of 8%. (McGurty 1999) and 4% increases in stream flow.

- Several other historical deep pocket research projects over the central Sierra suggested average increases of 0.01” of snow water equivalent during seedable periods (Huggins 2007, Reynolds (1980).

-\$25M project showed a statistically significant 14% seasonal increase in precipitation across the Snowy Mountains in Australia.

American Meteorological Society states in their capability statement that seasonal increases of 10% over unseeded precipitation can be realized by a well run cloud seeding program.

- A NSF research program conducted over Idaho showed 200 – 400 acre-feet per hour increases in snow water equivalent during a Pacific storm using a mountain-top cloud radar, research aircraft, and high-resolution precipitation gauges.

Task 3 Estimating seeded precipitation

Assume a 0.01" per hour increase in precipitation along the terrain under generators footprint (30 sq mi) during the time periods when seedable conditions were present.



Task 3 Estimating seeded precipitation all seedable times (Northeast)

Storm	Seeding Hours	Flares during seeding	Increased Precipitation (acre-feet)
Dec 21-22, 2023	80.50	-	1288
Dec 29-30, 2023	47.50	-	760
Jan 03, 2024	49.25	-	788
Jan 20-21, 2024	105.25	-	1684
Jan 21-22, 2024	99.75	-	1596
Jan 31- Feb 1, 2024	39.00	-	624
Feb 21-22, 2024	80.00	-	1280
Mar 6-7, 2024	82.50	-	1320
Mar 23-24, 2024	63.00	-	1008
Mar 30-31, 2024	157.25	-	2516
April 5, 2024	80.25	-	1284
April 13-14, 2024	80.00	-	1280
=====	=====	=====	=====
Total	964.25		15428

Task 3 Estimating seeded precipitation all seedable times (Northwest)

Storm	Seeding Hours	Flares during seeding	Increased Precipitation (acre-feet)
Dec 21-22, 2023	24	-	384
Dec 29-30, 2023	31	-	496
Jan 03, 2024	19.25	-	308
Jan 20-21, 2024	0	-	0
Jan 21-22, 2024	0	-	0
Jan 31- Feb 1, 2024	42.75	-	684
Feb 21-22, 2024	144.50	-	2312
Mar 6-7, 2024	44.00	-	704
Mar 23-24, 2024	48.00	-	768
Mar 30-31, 2024	84.50	-	1352
April 5, 2024	39.50	-	632
April 13-14, 2024	26.25	-	420
=====	=====	=====	=====
Total	503.75		8060

Task 3 Estimating seeded precipitation all seedable times (Southeast)

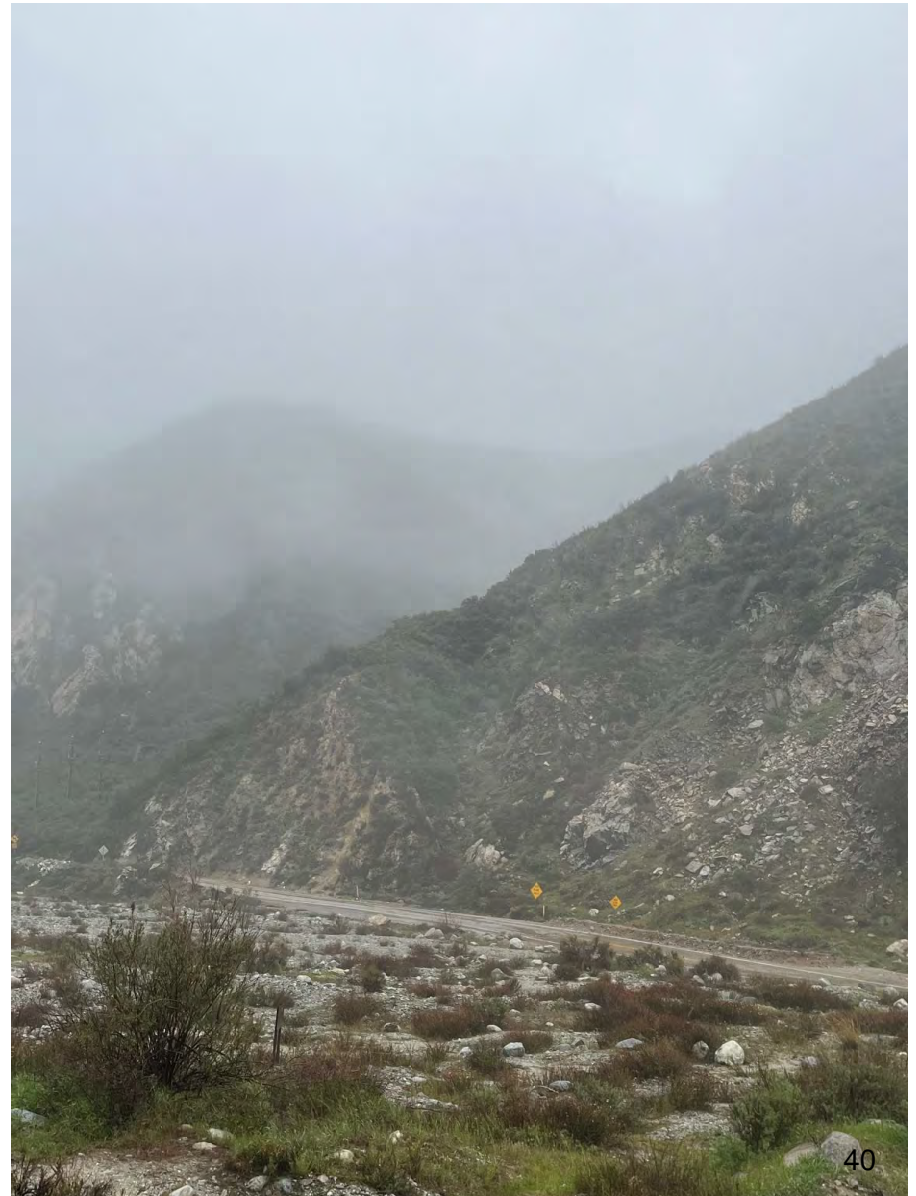
Storm	Seeding Hours	Flares during seeding	Increased Precipitation (acre-feet)
Dec 21-22, 2023	14.75	5 (250 ac-ft)	486
Dec 29-30, 2023	12.00	-	192
Jan 03, 2024	17.75	-	284
Jan 20-21, 2024	15.25	-	244
Jan 21-22, 2024	14.25	4 (200 ac-ft)	228
Jan 31- Feb 1, 2024	26.25	1(50 ac-ft)	420
Feb 21-22, 2024	0	-	0
Mar 6-7, 2024	29.75	-	476
Mar 23-24, 2024	27.50	-	440
Mar 30-31, 2024	55.75	1 (50 ac-ft)	892
April 5, 2024	21.75	-	348
April 13-14, 2024	0	-	0
=====	=====	=====	=====
Total	235.00	11 (550 ac-ft)	4210

Task 3 Estimating seeded precipitation all seedable times (Southwest)

Storm	Seeding Hours	Flares during seeding	Increased Precipitation (acre-feet)
Dec 21-22, 2023	-	1 (50 ac-ft)	50
Dec 29-30, 2023	-	3 (150 ac-ft)	150
Jan 03, 2024	-	-	0
Jan 20-21, 2024	-	1 (50 ac-ft)	50
Jan 21-22, 2024	-	3 (150 ac-ft)	150
Jan 31- Feb 1, 2024	-	1(50 ac-ft)	50
Feb 21-22, 2024	-	-	0
Mar 6-7, 2024	-	3 (150 ac-ft)	150
Mar 23-24, 2024	-	-	0
Mar 30-31, 2024	-	2 (100 ac-ft)	100
April 5, 2024	-	-	0
April 13-14, 2024	-	-	0
=====	=====	=====	=====
Total	-	14 (700 ac-ft)	700

Task 3 Estimating seeded precipitation when precipitation was measured

Assume a 10% increase in precipitation along the terrain under generators footprint (30 sq mi) during the time periods when seedable conditions were present and precipitation was observed.



Task 3 Estimating seeded precipitation all seedable times and precipitation present (Northeast)

Storm	Precip during seeding	Precip during (10%) increase seeding	Number of generators	Precip increase acre feet;
Dec 21-22, 2023	0.31"	0.031"	6	298
Dec 29-30, 2023	0.29"	0.029	6	278
Jan 03, 2024	0.26"	0.026"	6	250
Jan 20-21, 2024	0.67"	0.067"	6	643
Jan 21-22, 2024	1.43"	0.143"	5	1373
Jan 31- Feb 1, 2024	1.12"	0.112"	4	717
Feb 21-22, 2024	0.36	0.036"	4	230
Mar 6-7, 2024	0.40	0.040"	5	320
Mar 23-24, 2024	0.27	0.027"	6	259
Mar 30-31, 2024	1.22"	0.12"	5	960
April 5, 2024	0.23	0.023	6	221
April 13-14, 2024	0.80	0.080	6	768
=====	=====	=====		=====
Total	7.36"	0.736		6,017

Task 3 Estimating seeded precipitation all seedable times and precipitation present (Northwest)

Storm	Precip during seeding	Precip during seeding (10%)	Number of generators	Precip increase acre feet;
Dec 21-22, 2023	0.79"	0.079"	2	253
Dec 29-30, 2023	0.17"	0.017"	4	109
Jan 03, 2024	0.39"	0.039"	3	187
Jan 20-21, 2024	1.02"	0.102"	0	0
Jan 21-22, 2024	1.76"	0.176"	0	0
Jan 31- Feb 1, 2024	2.06"	0.206"	3	989
Feb 21-22, 2024	0.00"	0.000"	3	0
Mar 6-7, 2024	0.00"	0.000"	3	0
Mar 23-24, 2024	0.33"	0.033"	4	211
Mar 30-31, 2024	1.96"	0.196"	3	941
April 5, 2024	0.00"	0.000"	4	0
April 13-14, 2024	0.70	0.070"	4	448
=====	=====	=====		=====
Total	9.18"	0.918		3,138

Task 3) Estimating seeded precipitation all seedable times and precipitation present (Southeast

Storm	Precip during seeding	Precip during seeding (10%)	Number of generators (flares)	Precip increase acre feet;
Dec 21-22, 2023	0.25"	0.025"	2 (5)	80
Dec 29-30, 2023	0.46"	0.046"	2	147
Jan 03, 2024	0.43"	0.043"	2 (2)	187
Jan 20-21, 2024	0.84"	0.084"	1	134
Jan 21-22, 2024	0.98"	0.098"	1	157
Jan 31- Feb 1, 2024	1.05"	0.105"	2	336
Feb 21-22, 2024	0.00"	0.000"	0	0
Mar 6-7, 2024	0.44"	0.044"	2 (1)	140
Mar 23-24, 2024	0.00"	0.000"	0	0
Mar 30-31, 2024	1.41"	0.141"	2	541
April 5, 2024	0.10"	0.010"	2	32
April 13-14, 2024	0.48"	0.048"	0	0
=====	=====	=====		=====
Total	6.44"	0.644		1754

Task 3) Estimating seeded precipitation Summary

Target Area	Seedable Clouds Present	Seedable Clouds and Precipitation Present
Northeast	15,428	6,017
Northwest	8,060	3,138
Southeast	4,210	1,754
Southwest	700	338

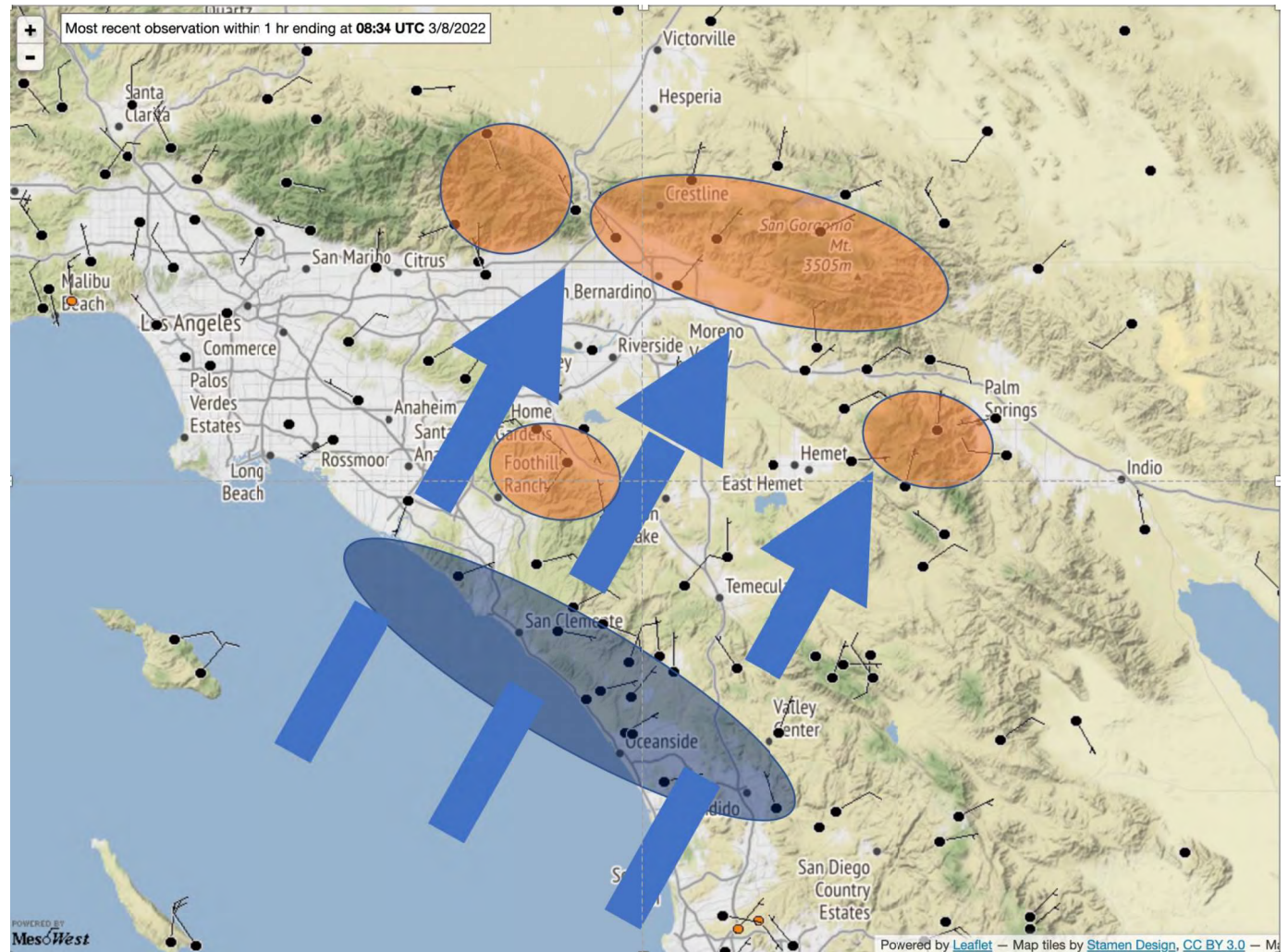
Task 4 Target Control Assessment (only one year)

Target area climatology and project design require south through southwesterly winds when seeding conditions are present.

An upstream control site was identified (Santa Rosa Plateau).

Gauges within the target area were identified.

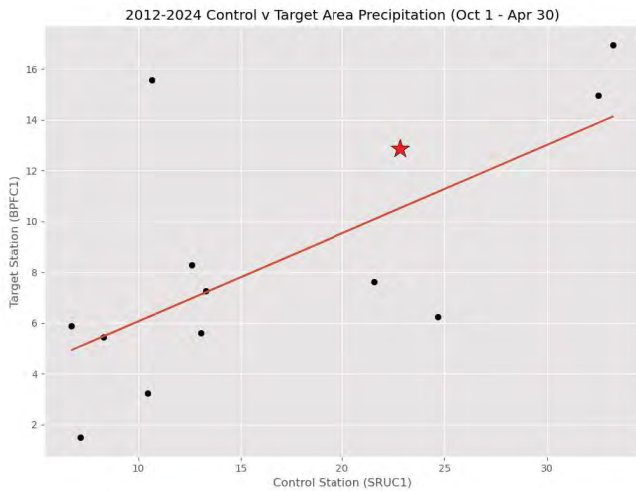
The non-seeded seasonal relationship between the target and control were computed and plotted with the clouds seeding season added to the plots.



Task 4) Target-Control – Sites

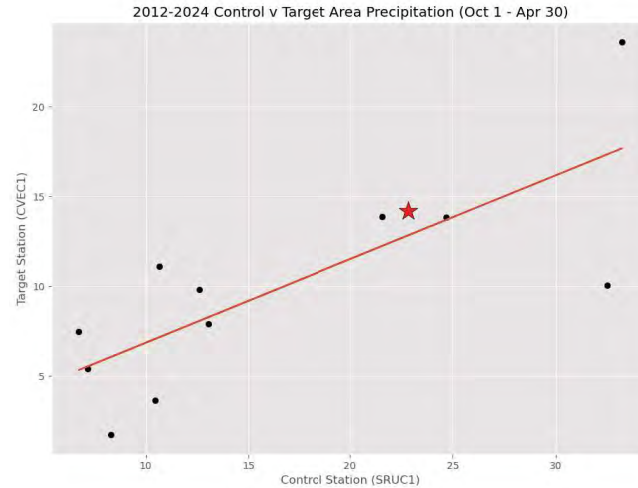


Task 4) San Bernardino Target Upstream Control – Results



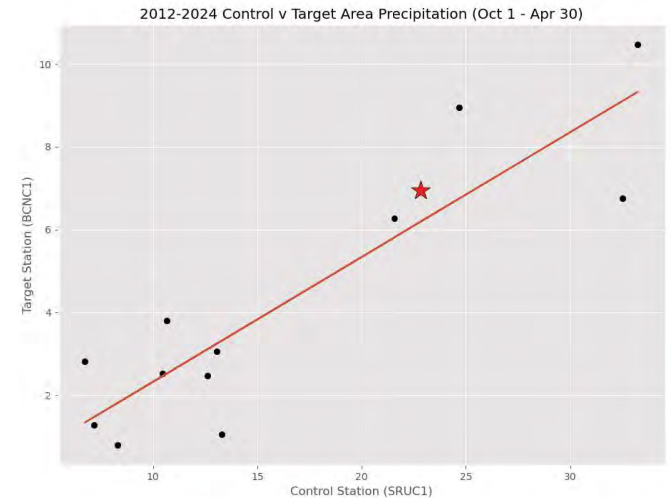
Big Pine Flat (6,851')
 V
 Santa Rosa Plateau (1,987')

Expected precipitation 10.2"
 observed 12.8"
 (+25.5%)



Converse (5,618')
 V
 Santa Rosa Plateau (1,987')

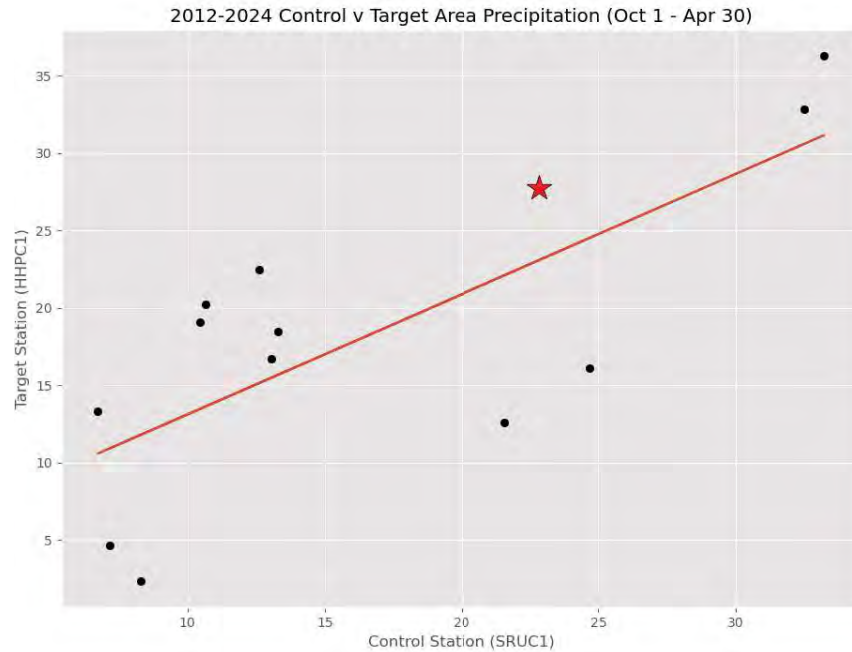
Expected precipitation 13.0" observed
 14.4"
 (+10.7%)



Burns Canyon (6,284')
 V
 Santa Rosa Plateau (1,987')

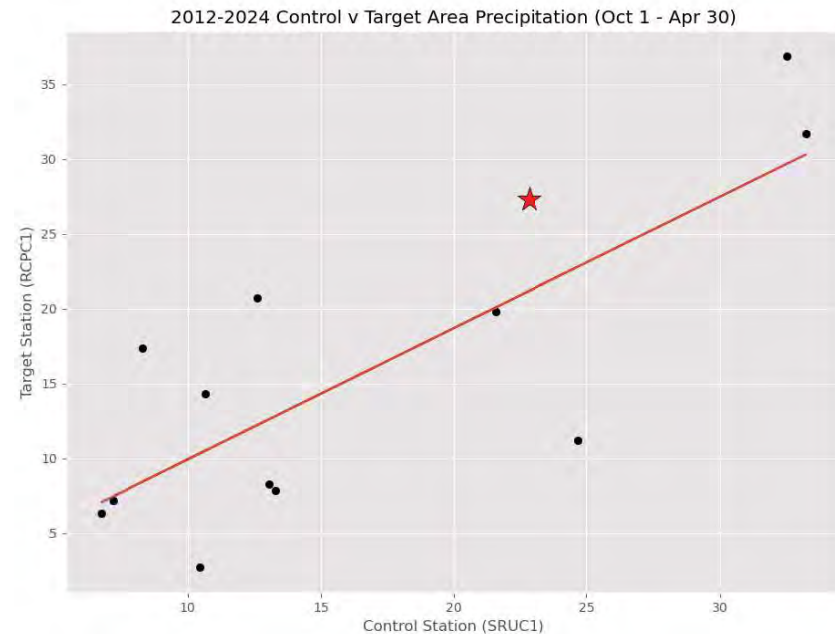
Expected precipitation 6.1" observed 6.9"
 (+12.1%)

Task 4) San Bernardino Target Upstream Control – Results



Heaps Peak (6,455')
 V
 Santa Rosa Plateau (1,987')

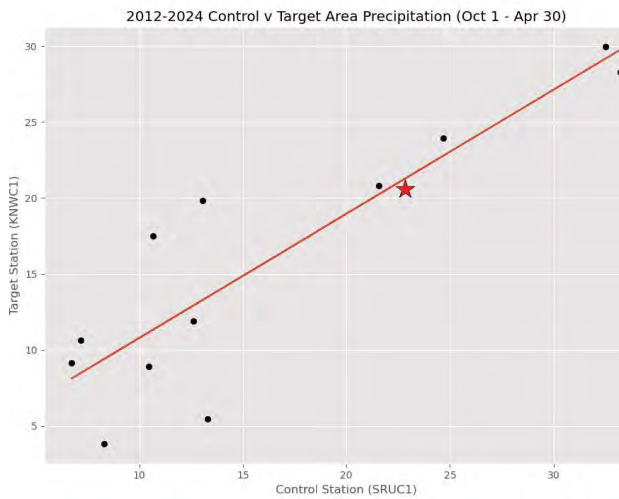
Expected precipitation 23.5" observed 27.2"
 (+15.7%)



Rock Camp (4,900')
 V
 Santa Rosa Plateau (1,987')

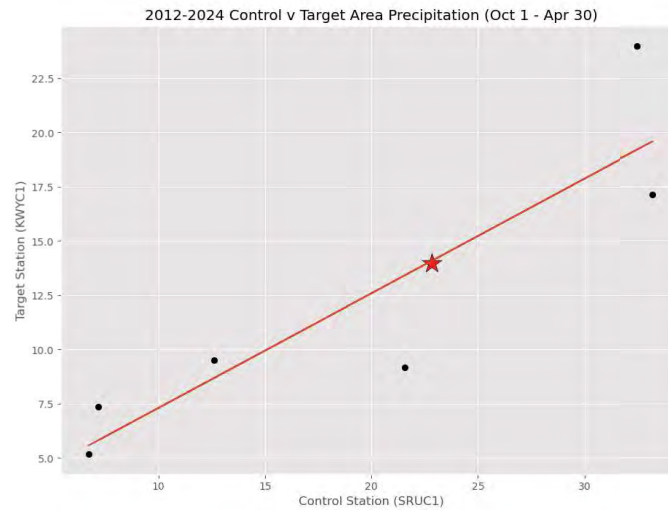
Expected precipitation 20.9" observed 26.2"
 (+25.3%)

Task 4) San Jacinto Target Upstream Control – Results



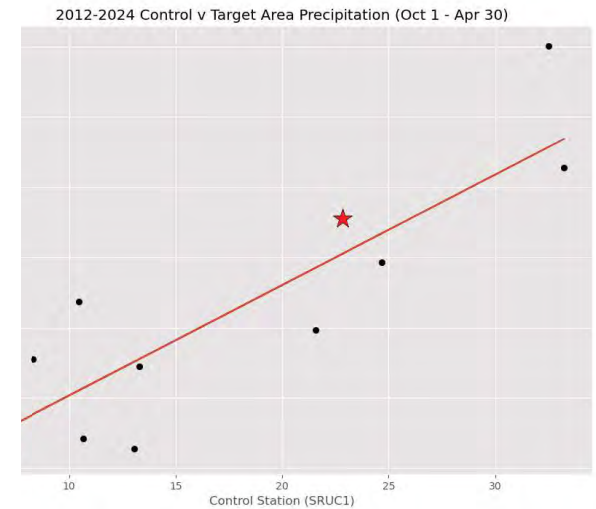
Keenwild (4,752')
 V
 Santa Rosa Plateau (1,987')

Expected precipitation 20.3" observed
 20.1"
 (-1.0%)



Kenworthy (4,590')
 V
 Santa Rosa Plateau (1,987')

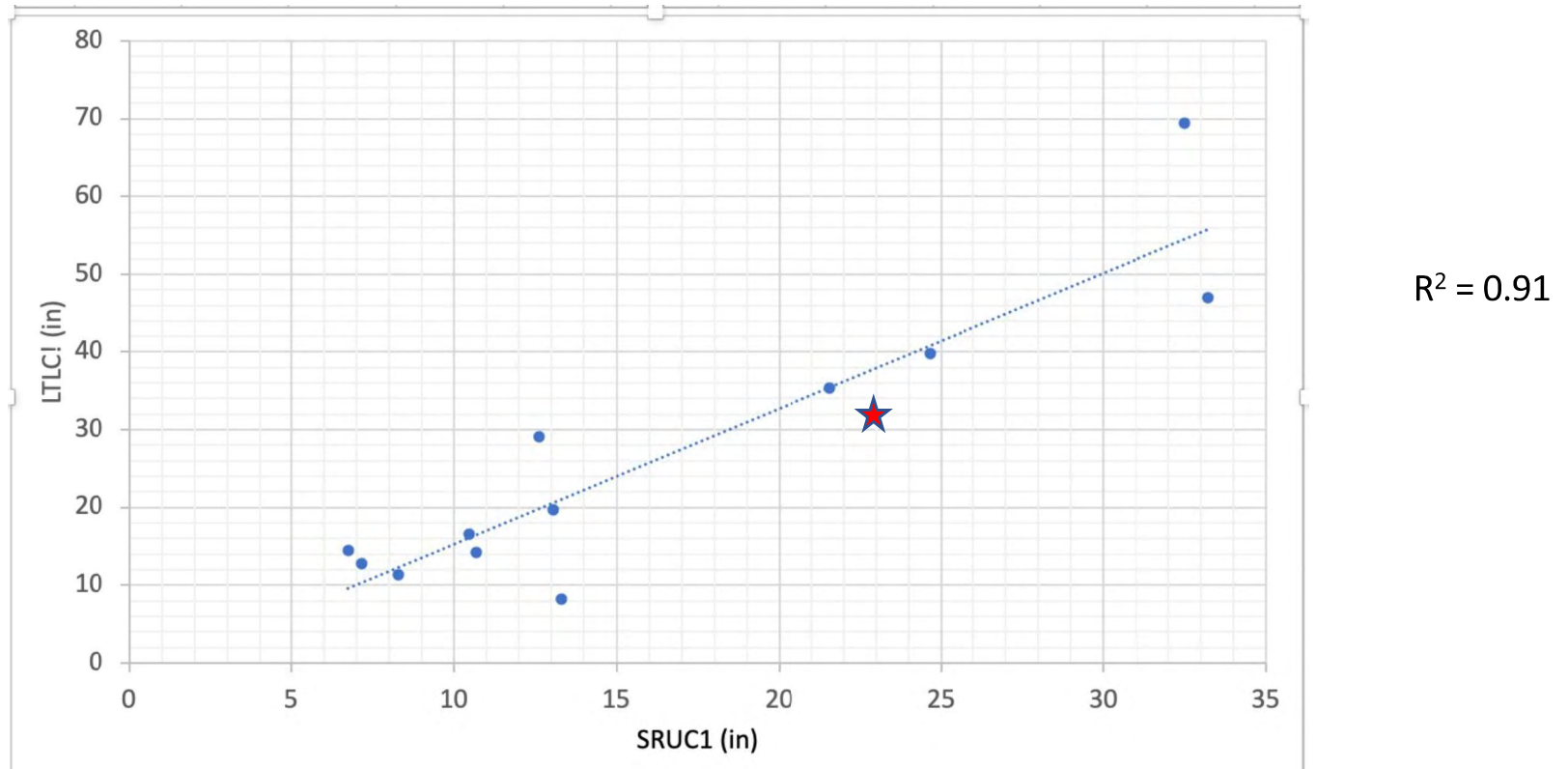
Expected precipitation 13.7" observed
 13.6"
 (-0.7%)



Vista Grande (4,906')
 V
 Santa Rosa Plateau (1,987')

Expected precipitation 20.1" observed
 22.9"
 (+13.9%)

Task 4) Santa Ana Target Upstream Control – Results



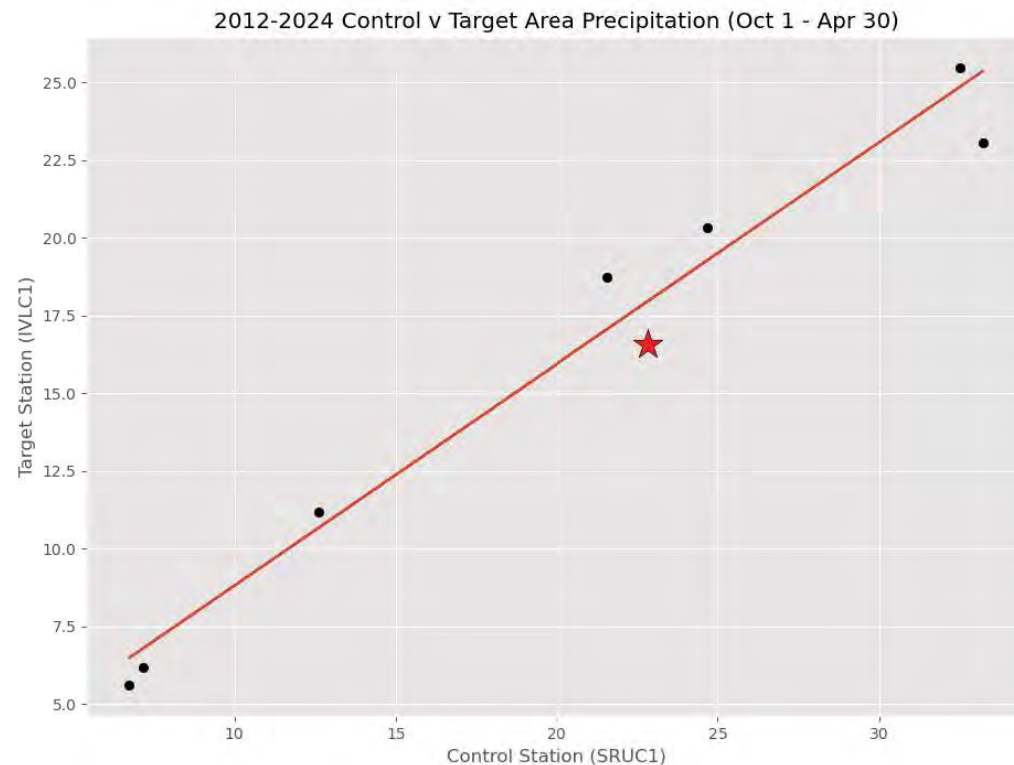
Lytle Creek(2,792')

V

Santa Rosa Plateau (1,105')

Expected precipitation 37.7" observed 31.8"
(-18.5%)

Task 4) Santa Ana Target Upstream Control – Results



$R^2 = 0.91$

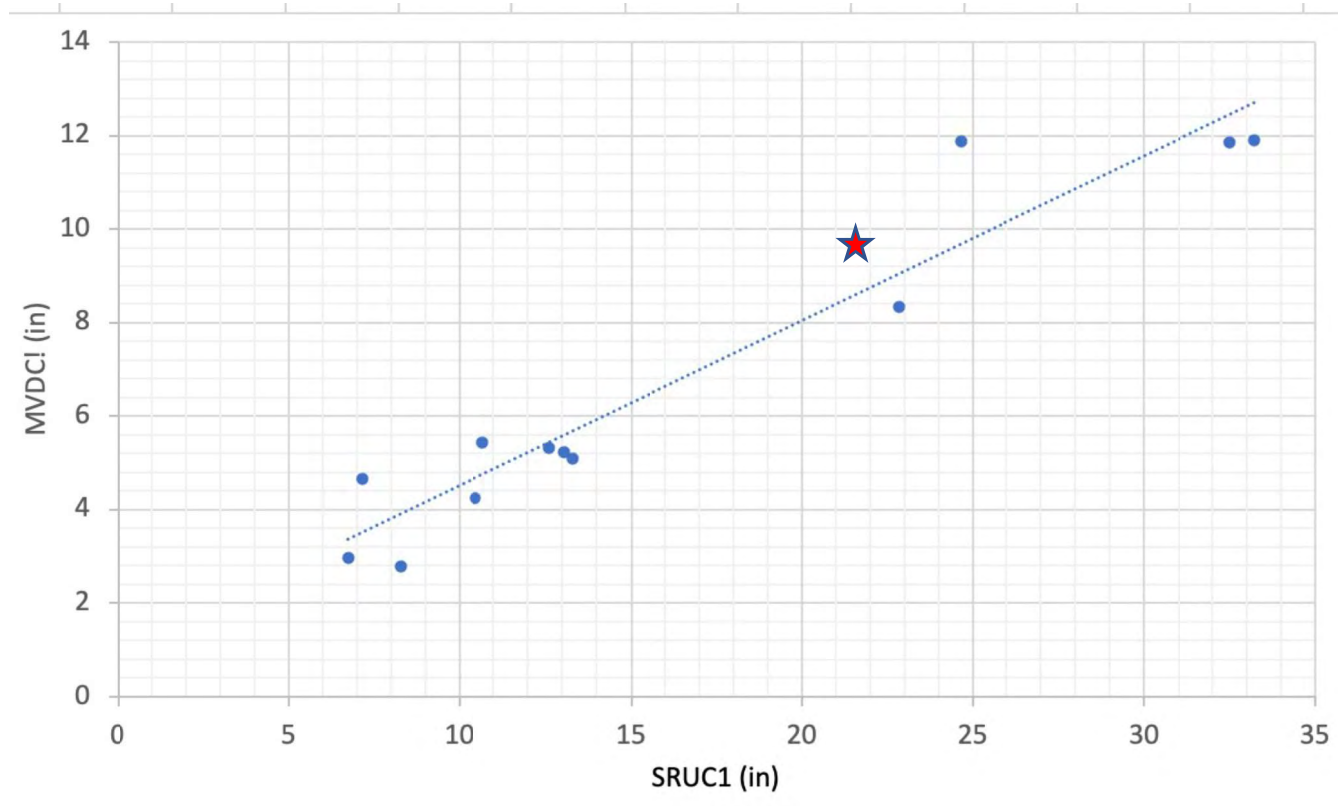
Silverado (4,752')

V

Santa Rosa Plateau (1,105')

Expected precipitation 17.7" observed 16.9"
(-4.7%)

Task 4) Target Control – Extra Area Effects



$R^2 = 0.95$

Mojave Dam (3,134')

V

Santa Rosa Plateau (1,105')

Expected precipitation 8.5" observed 9.6"
(+12.9%)

Task 4) Estimating seeded precipitation

Summary

Potential positive seasonal seeding precipitation increases for the Northeast target area and the northern gauge of the Southeast target area.

Neutral to negative seasonal precipitation increases over the Northwest (1 gauge) and the Southeast (limited seeding)

The extra-area gauge suggested a precipitation increase.

Task 5) Target-Control Runoff Evaluation

San Gabriel River (Control)

vs.

Santa Ana watershed gauges

COMMISSION MEMORANDUM NO. 2024.57

DATE: October 1, 2024

TO: SAWPA Commission

SUBJECT: Santa Ana River Watershed Cloud Seeding Pilot Program: Year 2 Operations

PREPARED BY: Rachel Gray, Water Resources and Planning Manager

RECOMMENDATION

Receive and file.

DISCUSSION

Staff will be postponing Year 2 Operations (November 15, 2024-April 15, 2025) of the Santa Ana River Watershed Cloud Seeding Pilot Program based on the potential for debris flows from the burn scars from recent wildfires in the watershed and based on input received from the three Flood Control Districts.

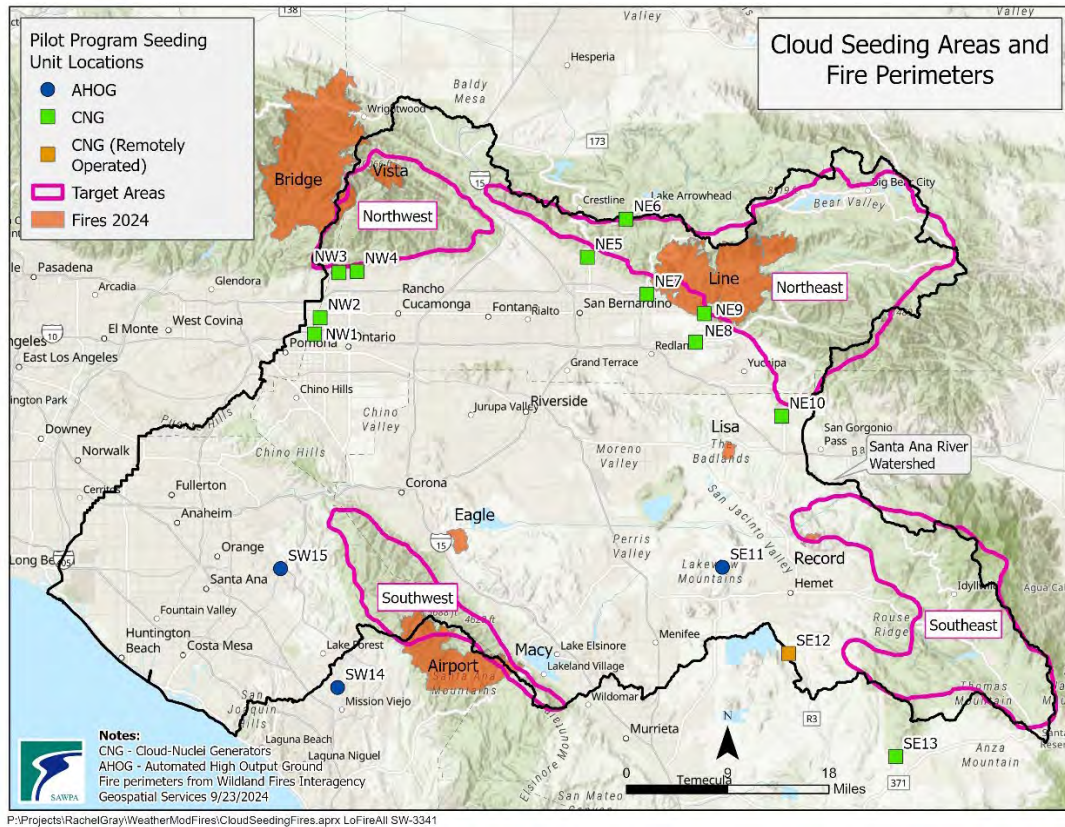
On July 19, 2022, the SAWPA Commission authorized an award of a contract with North American Weather Consultants, Inc. (NAWC) to conduct the Santa Ana River Watershed Cloud Seeding Pilot Program operations.

The Pilot Program is a four-year project spanning the four winter seasons starting in 2023 and running between November 15 and April 15 for each season. The operations are based on past work described in the SAWPA feasibility study published in 2020, updated seeding site analysis, and reflects requirements from CEQA, and comments from SAWPA member agency staff and other stakeholders. The focus of the Pilot Program will be on seeding the four higher elevation target areas identified in the feasibility study surrounding the watershed with an emphasis on increasing precipitation in the form of snow.

Over the past several weeks, the Watershed has experienced a number of fires, some of which are inactive (Vista, Lisa, Eagle, Record, and Macy) and some of which are currently active (Bridge, Line, and Airport) [see figure below]. Seeding Suspension Criteria were developed for the Pilot Program and includes the following:

Burn Scars

After a wildfire is contained, a burn scar will form in the impacted area. According to the National Weather Service (NWS), the length of time the burn scar remains a threat for debris flow “depends on the severity of the wildfire that occurred as well as how much erosion occurs. It could take many years for vegetation to become reestablished and this is the main factor in slowing the precipitation run off that creates flash flooding and debris flows. Most burn areas will be prone to this activity for at least two years.” Following a wildfire, SAWPA will share the impacted areas with NAWC and coordinate the fire severity and extents of the burn scar with the applicable flood control district. If the burn scar is a threat for debris flow, NAWC will not conduct seeding operations that will affect the burn scar area.



SAWPA contacted the Flood Control Districts and was provided input on cloud seeding relative to the burn scars from the inactive and active fires. General feedback was to suspend cloud seeding for the upcoming Year 2 of Operations.

CRITICAL SUCCESS FACTORS

- Successful implementation of an integrated regional water resource plan that reflects the watershed management needs of the public and the environment.
- Data and information needed for decision-making is available to all.

RESOURCE IMPACTS

In April 2023, SAWPA was notified by the Department of Water Resources (DWR) that the SAWPA Santa Ana River Weather Modification Pilot Program will receive a grant valued at \$861,400 under the Proposition 1 Round 2 funding program. SAWPA staff anticipates requesting a project extension for the grant period in light of postponing Year 2 Operations from 2024-2025 to potentially 2025-2026. Local funding has been secured totaling \$94,000. Project operations and validation study costs are budgeted and reflected in the FYE 23-24, FYE 24-25, FYE 25-26 and FYE 26-27 SAWPA Budgets.

Attachments:

1. PowerPoint Presentation



SANTA ANA WATERSHED
PROJECT AUTHORITY

Santa Ana River Watershed Cloud Seeding Pilot Program: Year 2 Operations

Item No. 6.B

Jeff Mosher, General Manager

Recommendation

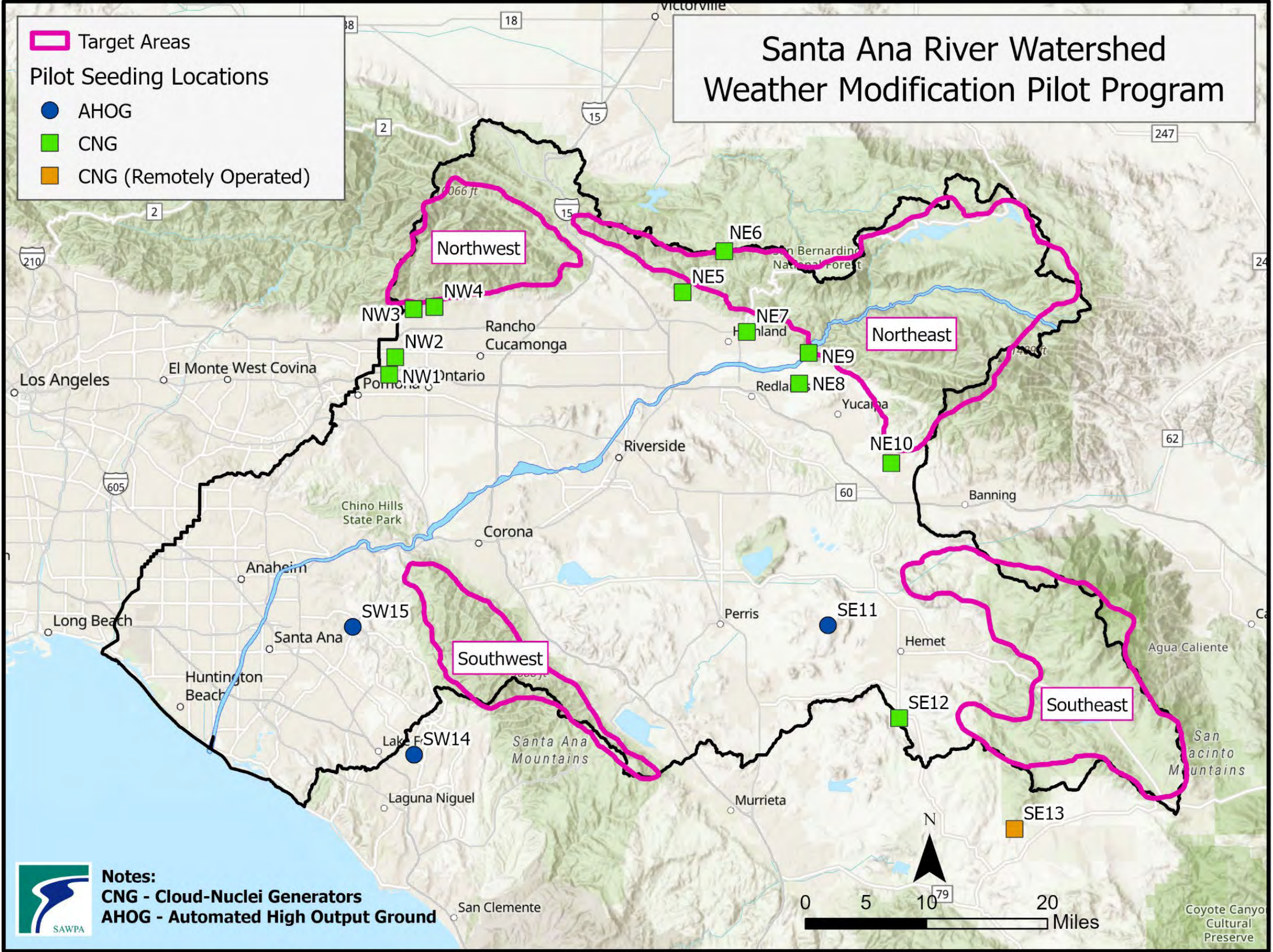
Receive and file.

Postpone Year 2 Cloud Seeding Pilot Program Operations

- SAWPA Staff will be postponing Year 2 Operations (November 15, 2024-April 15, 2025) of the Santa Ana River Watershed Cloud Seeding Pilot Program
- The decision was based on:
 - The potential for debris flows from the burn scars from recent wildfires in the watershed
 - Input received from the three Flood Control Districts
 - Program's Suspension Criteria

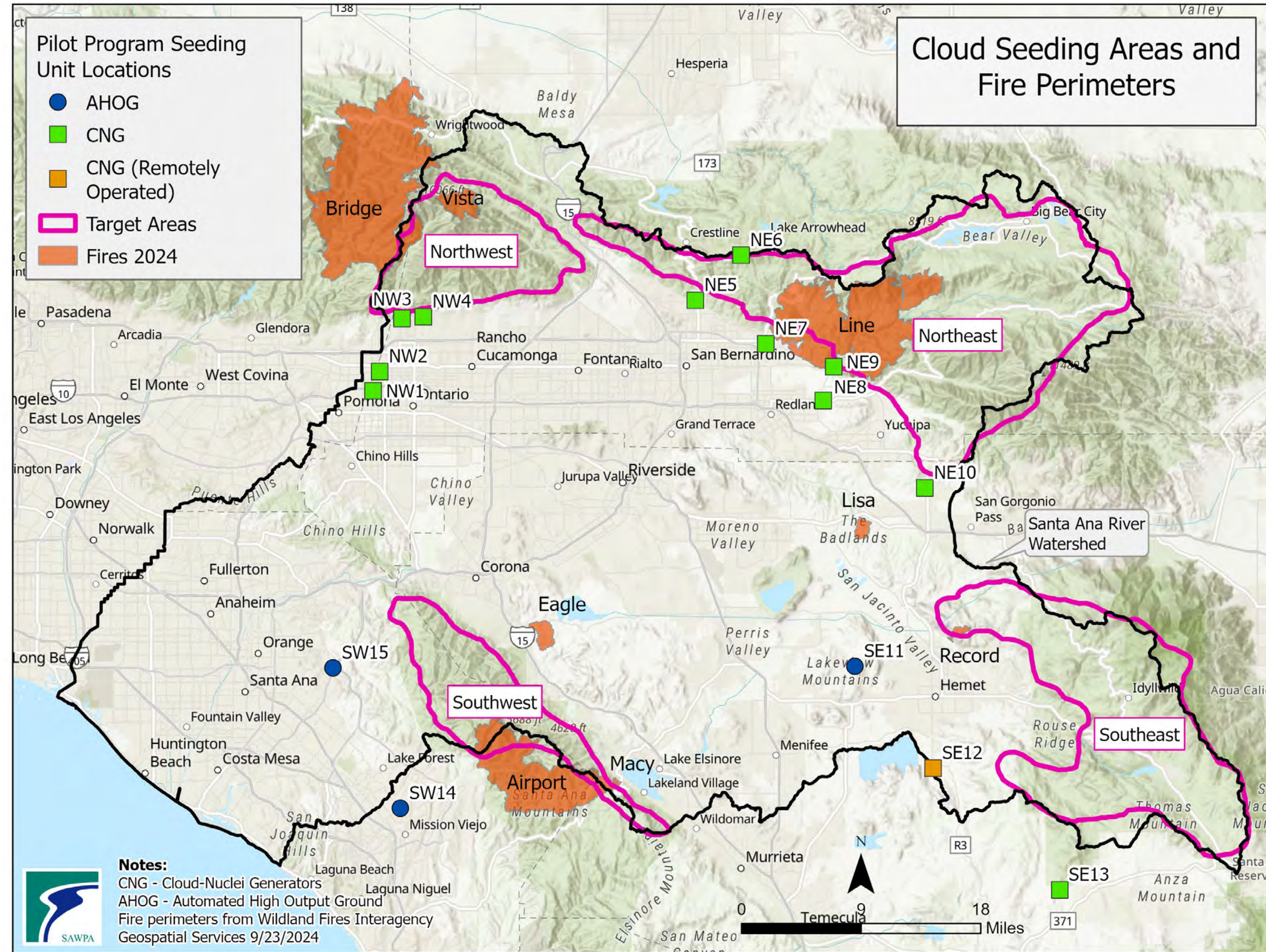
Cloud Seeding Pilot Program

Site (15)	Sponsors (11)
Northwest	
NW1	Chino Basin Water Conservation District
NW2	
NW3	San Antonio Water Company
NW4	
Northeast	
NE5	City of San Bernardino MWD
NE6	Private Landowner
NE7	San Bernardino Valley MWD
NE8	San Bernardino Valley Water Conservation District
NE9	
NE10	San Gorgonio Pass Water Agency
Southeast	
SE11	Eastern Municipal Water District
SE12	
SE13	Private Landowner
Southwest	
SW14	El Toro Water District
SW15	East Orange County Water District



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Santa Ana River Watershed Fires (2024)

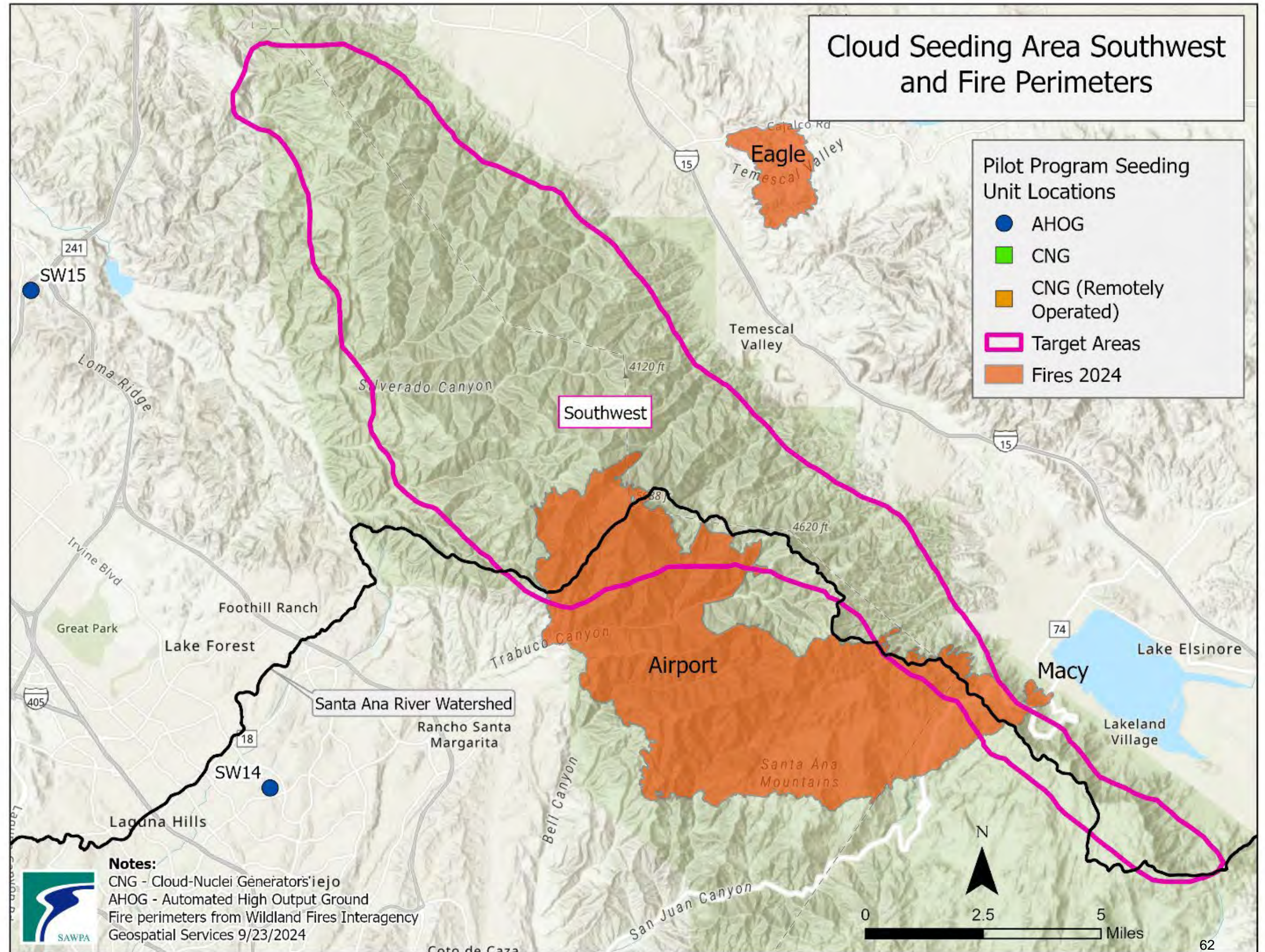


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Santa Ana River Watershed Fires (2024)

Southwest Target Area:

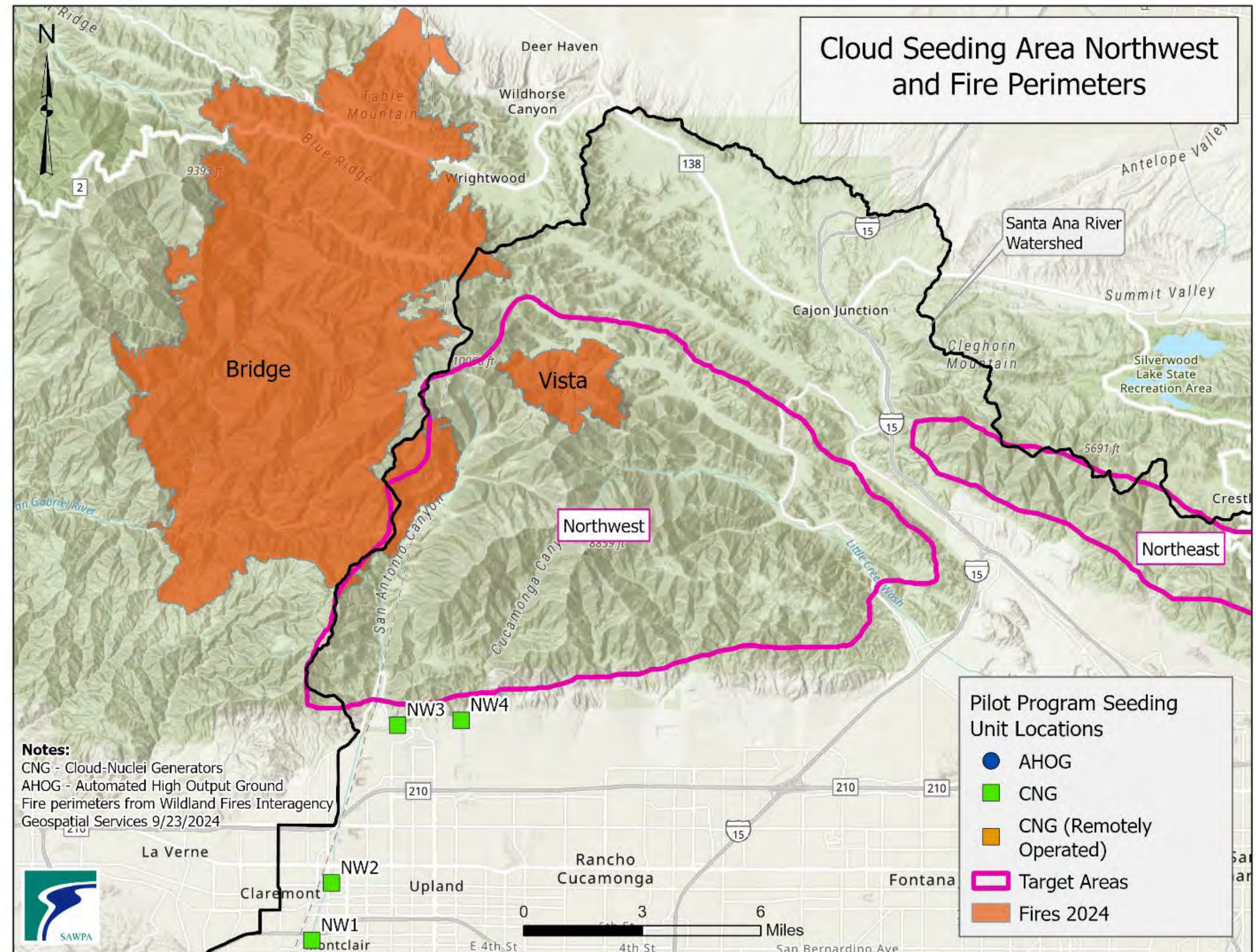
- Airport Fire
- 23,526 acres
- 95% contained
- Equipment



Santa Ana River Watershed Fires (2024)

Northwest Target Area:

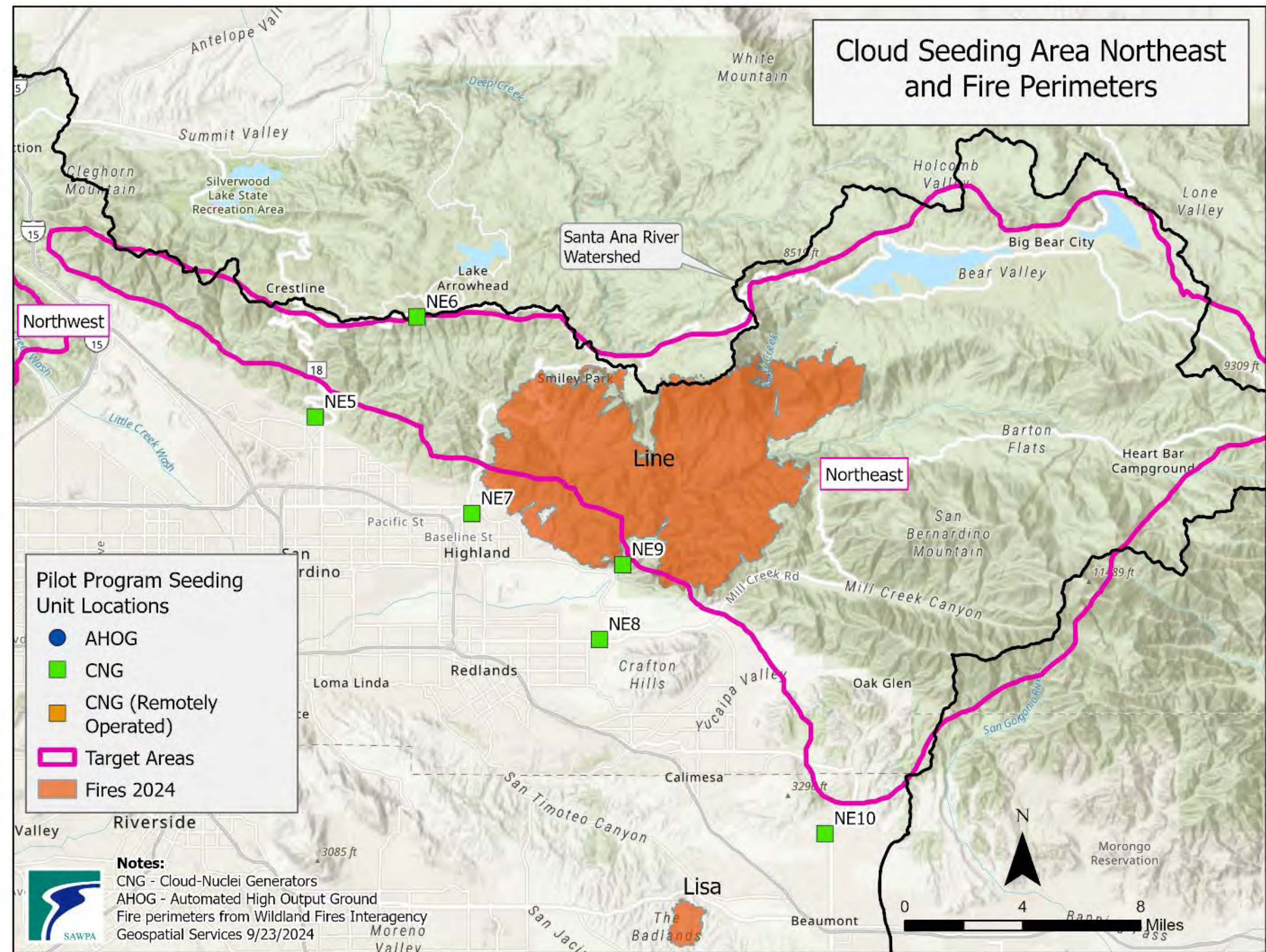
- Bridge Fire
 - 54, 878 acres
 - 97% contained
 - Under investigation
- Vista Fire
 - 2,936 acres



Santa Ana River Watershed Fires (2024)

Northeast Target Area:

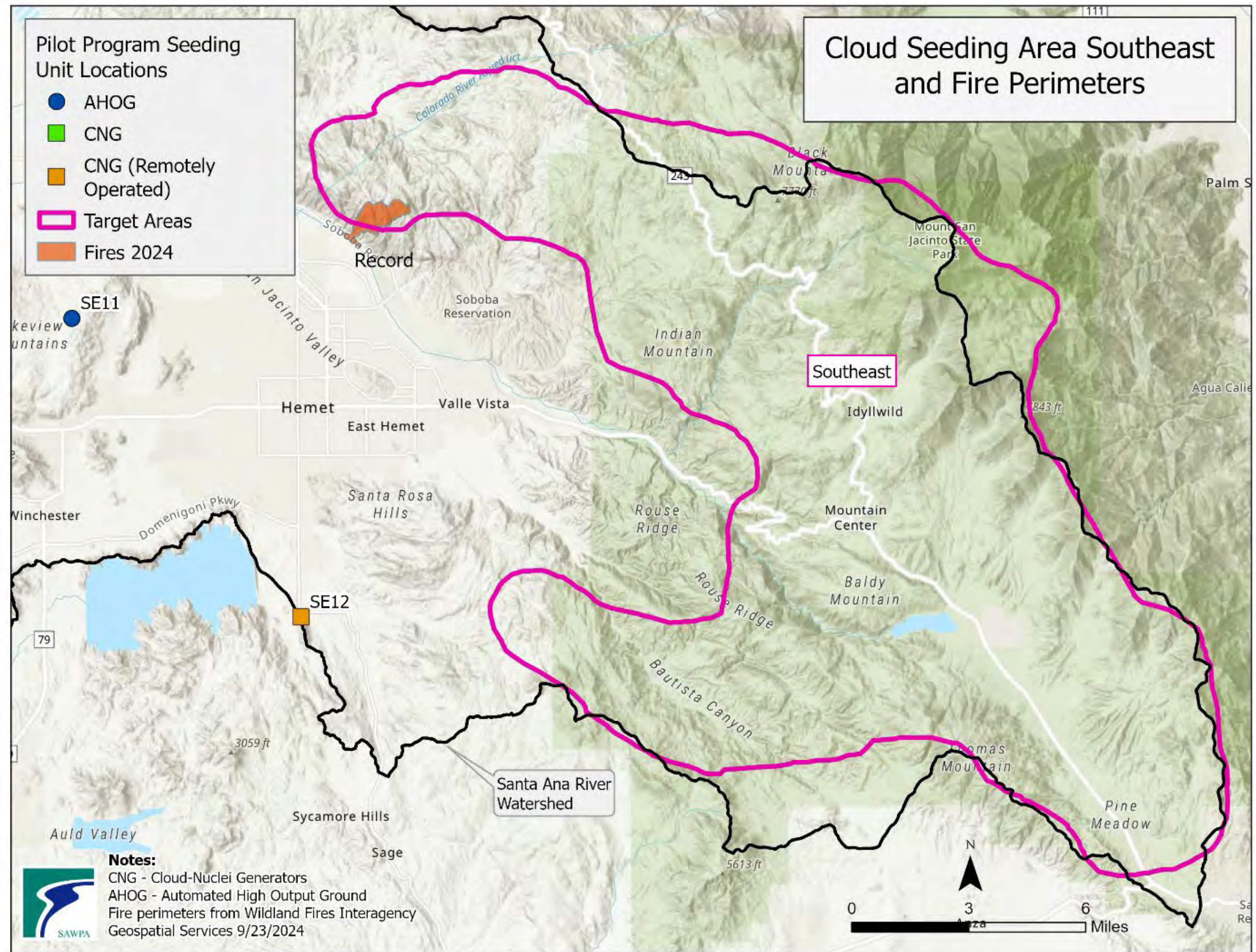
- Line Fire
- 39,232 acres
- 80% contained
- Arson



Santa Ana River Watershed Fires (2024)

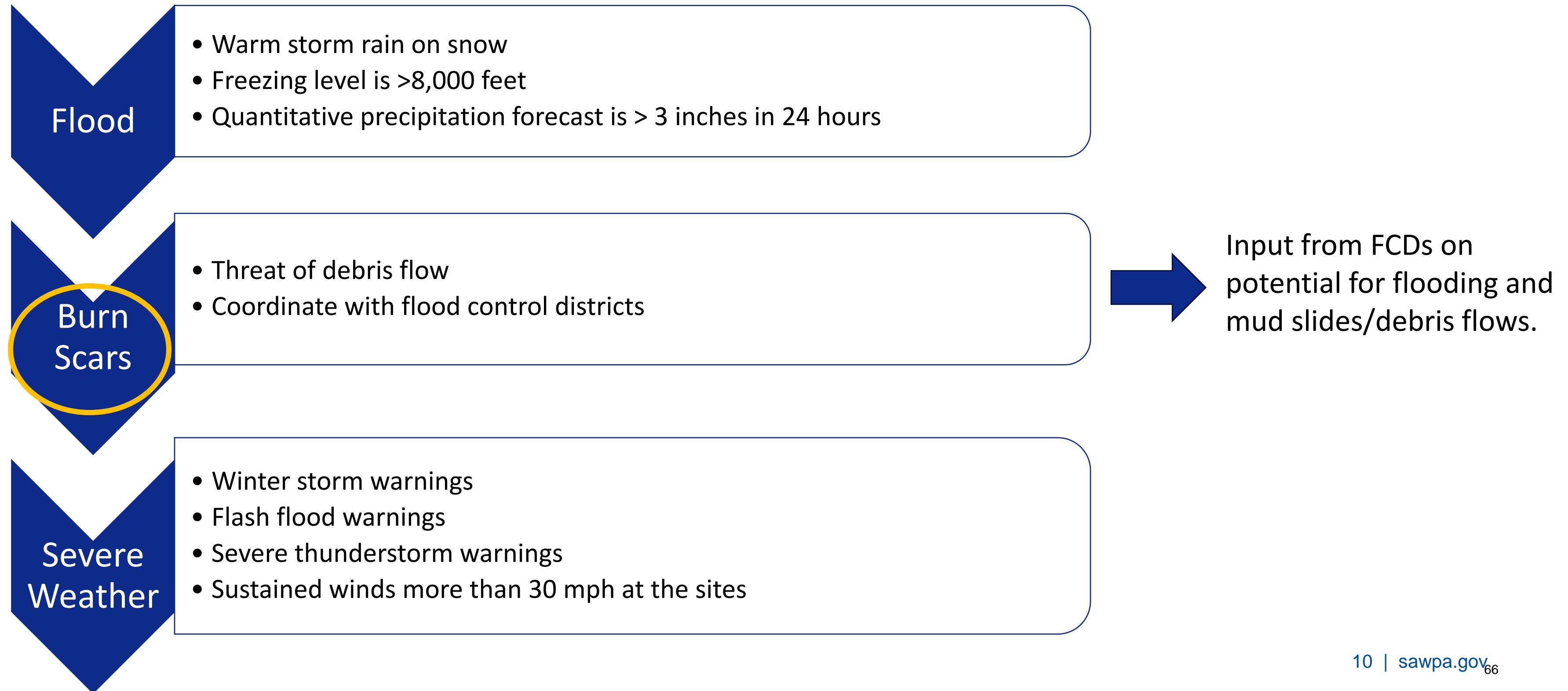
Southeast Target Area:

- Record Fire
- 517 acres
- 100% contained
- Human



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Suspension Criteria



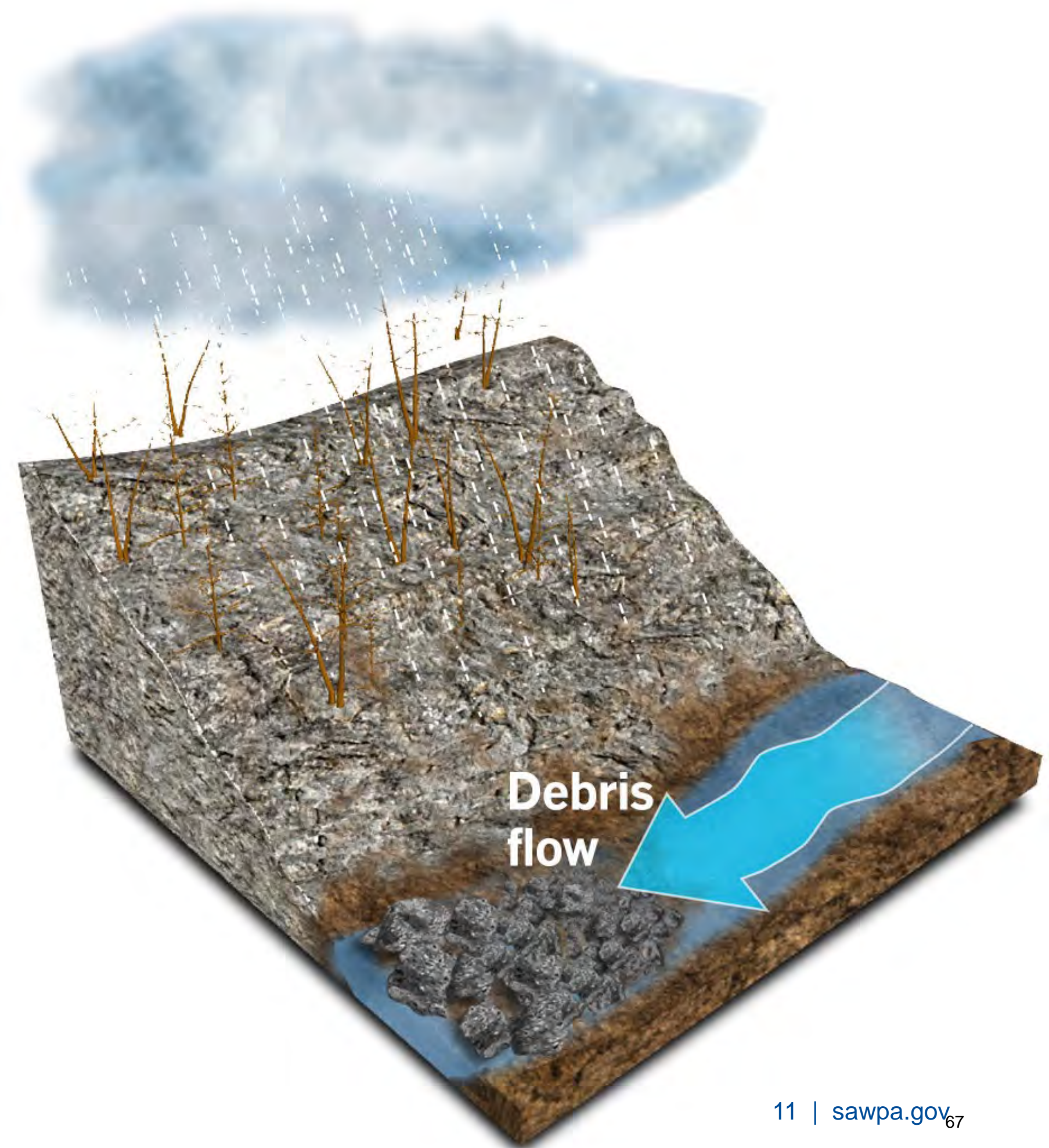
Flood Control District Input

San Bernardino County
Flood Control District

Riverside County Flood
Control District

Orange County Public
Works

Los Angeles County
Flood Control District



Flood Control Districts Input

LA County Flood Control:

- Cloud seeding recently burned areas could potentially lead to **additional sediment deposition within flood control facilities/dams** and may result in increased cleanout costs and/or flood risks.

San Bernardino County Flood Control

- In light of these fresh burn scars, recommend suspending the cloud seeding pilot project for this upcoming winter season. This precaution could help **avoid any unintended consequences related to runoff and debris flows** from the burn areas.



Debris flow from the El Dorado fire burn scars (2022)
Source: KTLA 5 News

Flood Control Districts Input

Riverside County Flood Control

- Reduce the Southwest, Northeast, and Northwest cloudseeding target areas by removing the Macy, Airport, Bridge, and Line fire burn scar areas.

OC Public Works

- Recommend holding off on performing cloud seeding in the Santa Ana Mountains (due to the ongoing fire) and in the San Bernardino Mountains by Seven Oaks Dam (due to the ongoing fire).



Postpone Year 2 Cloud Seeding Pilot Program Operations

- SAWPA Staff will be postponing Year 2 Operations (November 15, 2024-April 15, 2025) of the Santa Ana River Watershed Cloud Seeding Pilot Program
- The decision was based on:
 - The potential for debris flows from the burn scars from recent wildfires in the watershed
 - Input received from the three Flood Control Districts
 - Program's Suspension Criteria

Proposed Schedule

Tasks	2024			2025												2026				
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
Year 1 Validation Results																				
Year 2 Operations		Postpone																		
Input from FCDs																				
Mobilization (Y2 Operation)																				
Year 2 Operations																				

Recommendation

Receive and file.

Thank You



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Santa Ana Watershed Project Authority | 11615 Sterling Avenue, Riverside, CA 92503 | www.sawpa.gov

1 Brine Line Pretreatment Program Annual Report

Brine Line Pretreatment Program Annual Report

SAWPA staff submitted the Annual Report, for the July 1, 2023 through June 30, 2024 reporting period, to Orange County Sanitation District (OC San) for review and inclusion in the combined OC San Annual Report in September 2024. This report included at a minimum, a list and description of all Brine Line dischargers, a description of all high level enforcement actions, all water quality data collected throughout the reporting period (over 13,000 individual points of data), a summary of inspection activities, and updates on upcoming permitting activities for new dischargers.

2 SAWPA Works with Member Agencies on Watershed Sustainability and Aerial Imagery Projects

SAWPA Works with Member Agencies on Watershed Sustainability and Aerial Imagery Projects

SAWPA Planning Department coordinated with Member Agencies Planning Managers where a number of efforts were discussed including Update of Santa Ana River Watershed Sustainability Indicators, Enhanced Aerial Imagery Analysis of Outdoor Landscape, Mapping results of Aerial Imagery Analysis of *Arundo donax*, *Arundo donax* Workgroup, CARP Workgroups, and Upcoming Riverwalk Event.

3 LESJWA Engages Canyon Lake Residents on Alum Treatments and Watershed Monitoring Efforts

LESJWA Engages Canyon Lake Residents on Alum Treatments and Watershed Monitoring Efforts

SAWPA staff, in the role of the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) Administrator, hosted a public meeting in the City of Canyon Lake. The objective of the meeting was to conduct public outreach to the residents of Canyon Lake to discuss the alum applications conducted on behalf of the Lake Elsinore and Canyon Lake Total Maximum Daily Loads (LE/CL TMDL) Task Force. Presentations were given on Alum efficacy and safety, and the Canyon Lake Monitoring Program.

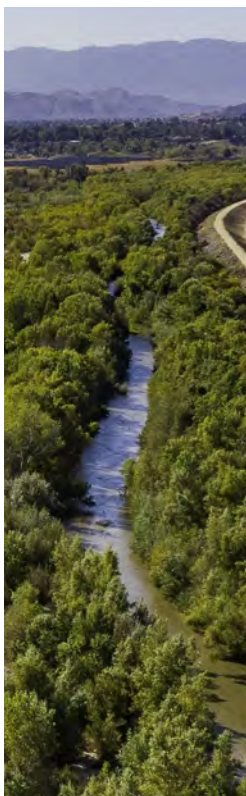
4 SAWPA Presents at Inland Empire Chapter to WateReuse California Board

SAWPA Presents at Inland Empire Chapter Update to WateReuse California Board

SAWPA staff, serving as the WateReuse Inland Empire Chapter Trustee, provided an overview of the IE Chapter activities to the WateReuse California Board of Directors.

5 SAWPA Staff Attend Fire Extinguisher Training

6 City Approves SAWPA Lobby Renovation Plans





SAWPA Staff Attend Fire Extinguisher Training

SAWPA staff participated in a comprehensive fire extinguisher training session designed to enhance safety practices across the workplace. Led by certified fire safety professionals, the training gave staff hands-on experience using a standard fire extinguisher to handle a small fire, similar to those commonly found in office environments. SAWPA continues to prioritize safety training to ensure all employees are prepared for emergency scenarios.



City Approves SAWPA Lobby Renovation Plans

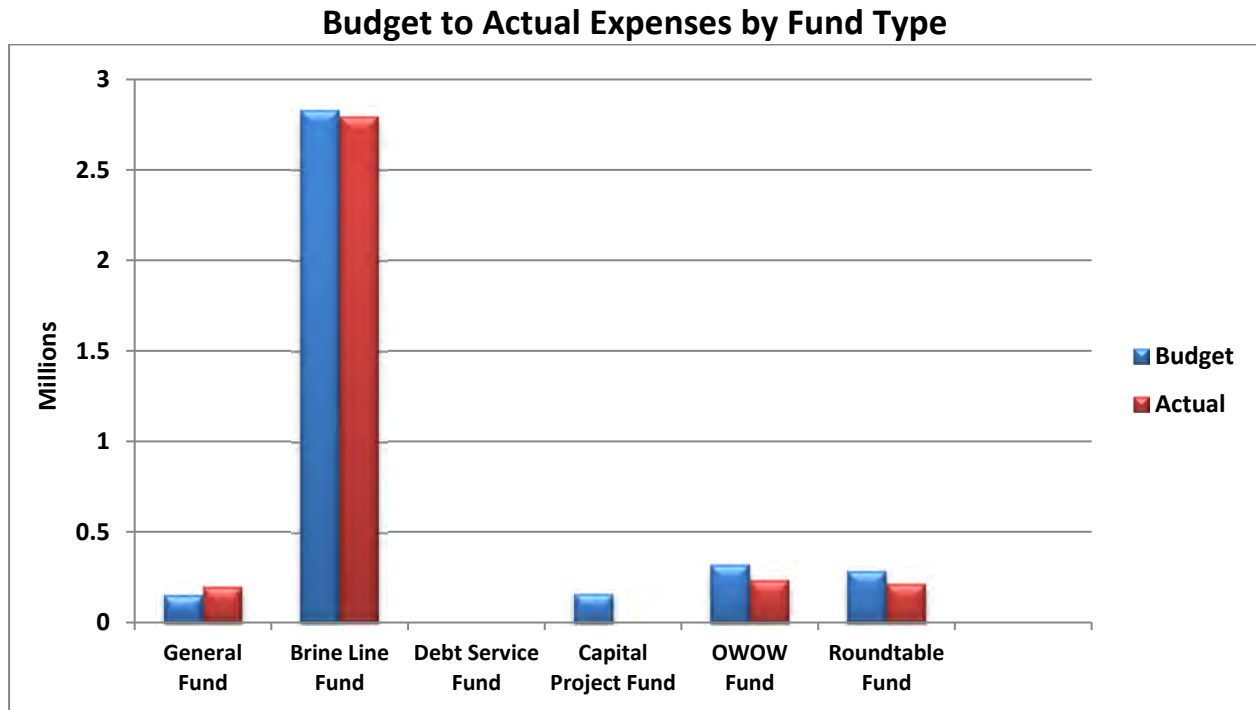
The City of Riverside has officially approved SAWPA's plans for interior and exterior lobby renovations. These improvements aim to achieve several key objectives, including enhancing security, improving traffic flow within the lobby, and ensuring the space meets Building Code and ADA (Americans with Disabilities Act) standards. Now that the city's approval is secured, the next step is to issue a Request for Proposals (RFP) for construction in the coming months.

Santa Ana Watershed Project Authority Executive Financial Information Report July 2024

Staff comments provided on the last page are an integral part of this report.

Overview	This report highlights the agency’s key financial indicators for the Fiscal Year-to-Date (FYTD) July 2024 unless otherwise noted.
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Budget to Actual Expenses by Fund Type	✔ Favorable			
	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
General Fund	\$712,910	\$151,076	\$195,245	(\$44,169)
Brine Line Enterprise	11,368,636	2,831,858	2,796,460	35,398
Debt Service Fund	1,709,476	-	-	-
Capital Project Fund	1,870,013	155,835	1,650	154,185
OWOW Fund	4,229,319	319,111	234,794	84,317
Roundtable Fund	1,953,263	282,230	213,067	69,163
Total	\$21,843,617	\$3,740,110	\$3,441,216	\$298,894



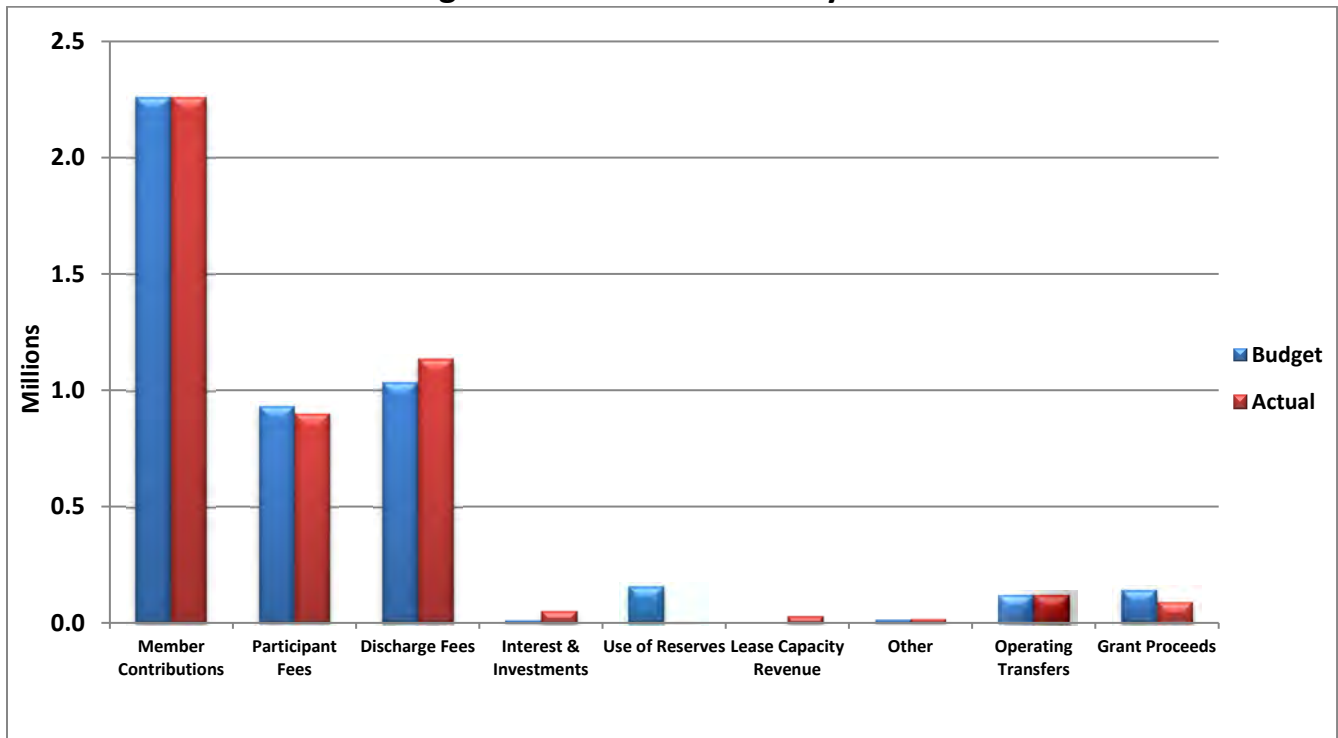
Budget to Actual Revenues by Source



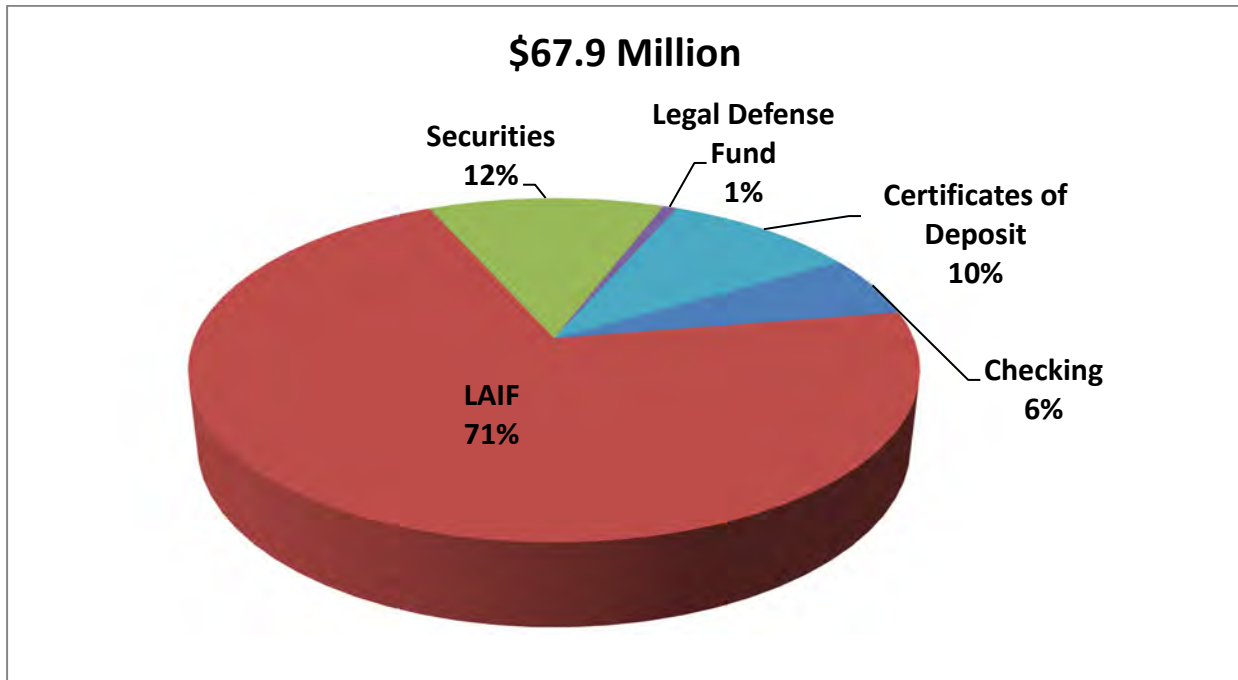
On Track

	Annual Budget	FYTD Budget	FYTD Actual	Favorable (Unfavorable) Variance
Member Contributions	\$2,261,410	\$2,261,410	\$2,261,410	\$-
Participant Fees	1,324,212	931,820	899,365	(32,455)
Discharge Fees	12,405,112	1,032,643	1,134,164	101,521
Interest & Investments	673,000	14,417	51,696	37,279
Use of Reserves	1,870,013	155,835	1,650	(154,185)
Lease Capacity Revenue	-	-	29,091	29,091
Other	1,078,085	15,690	20,269	4,579
Operating Transfers	120,320	120,320	120,320	-
Grant Proceeds	2,359,785	142,482	91,580	(50,902)
Total	\$22,091,937	\$4,674,617	\$4,609,545	(\$65,072)

Budget to Actual Revenues by Source



Total Cash & Investments







Reserve Fund Balance

	Amount
General Fund	\$2,172,937
Building Fund	726,694
OWOW Fund	2,251,959
Roundtable Fund	2,642,473
Debt Retirement	3,011,686
Pipeline Replacement & Capital Investment	36,121,180
OC San Pipeline Rehabilitation	3,036,460
Pipeline Capacity Management	12,808,111
OC San Future Treatment & Disposal Capacity	1,960,963
Brine Line Operating Reserve	2,288,059
Brine Line Operating Cash	3,426,197
Total Reserves	\$70,446,719

Legend

Compared to Budget

	Ahead or Favorable	Above +5% Favorable Revenue or Expense Variance
	On Track	+5% to -2% Variance
	Behind	-3% to -5% Variance
	Concern	Below -5% Variance

Staff Comments

For this month's report, the item(s) explained below are either "behind", a "concern", or have changed significantly from the prior month.

Both expenses and revenues are on track with the budget.
