SANTA ANA WATERSHED PROJECT AUTHORITY

Middle Santa Ana River Pathogen TMDL Task Force 2026 Triennial Report and Synoptic Study

Commission Meeting
Agenda Item No. 6.A

Rick Whetsel
LESJWA Administrative Manager
June 3, 2025

Recommendation

It is recommended that the Commission authorize the General Manager to execute Task Order GEI384-03 with GEI Consultants for the amount not-to-exceed $168,039 to conduct a Synoptic Water Quality Study and prepare the 2026 Triennial Report in support of the Middle Santa Ana River (MSAR) Bacteria TMDLs.

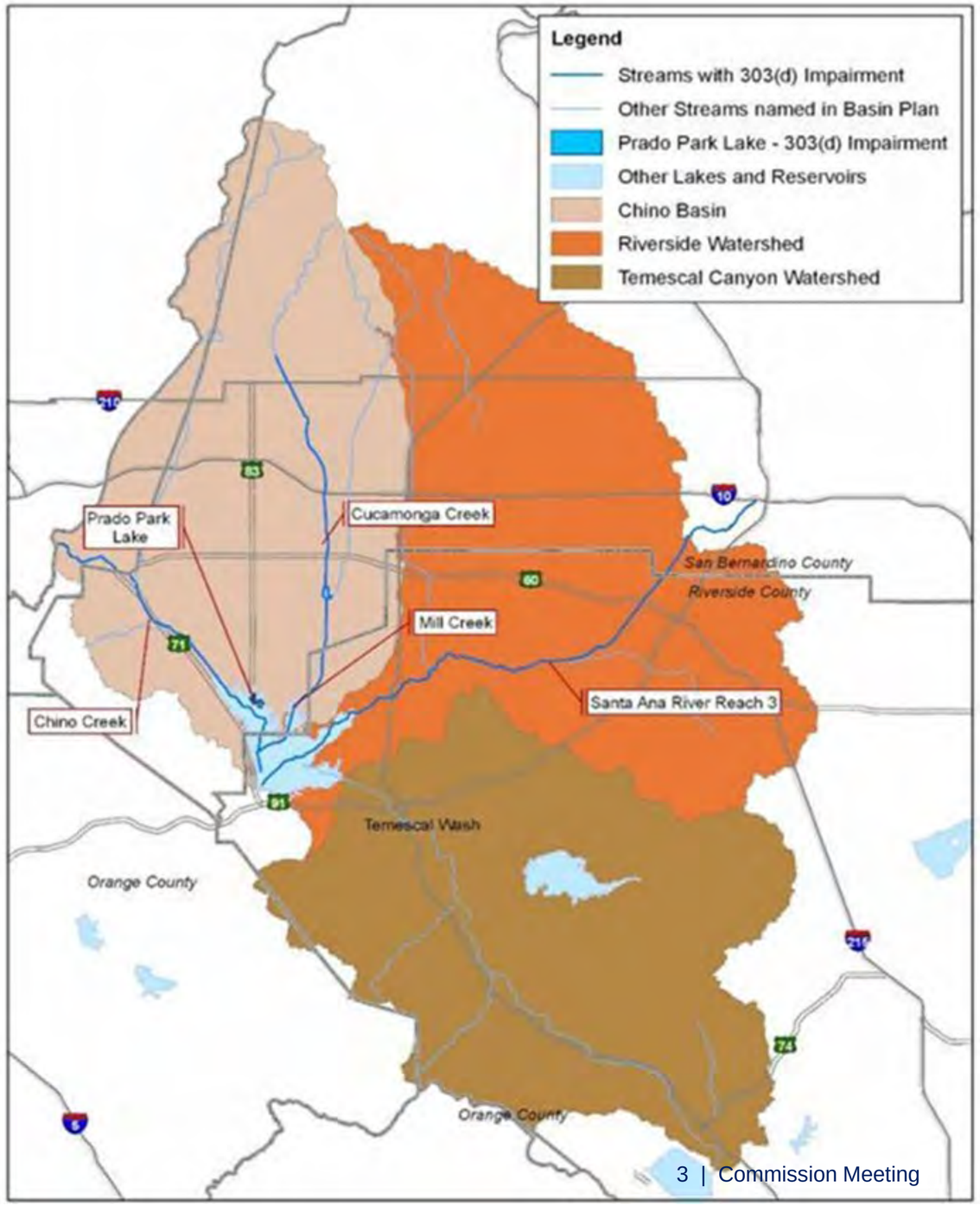
Middle Santa Ana River TMDLs

February 2005, Basin Plan amended to include Bacterial Indicator Total Maximum Daily Loads (TMDLs) for Middle Santa Ana River Waterbodies:

- Santa Ana River, Reach 3
- Chino Creek, Reaches 1 and 2
- Cucamonga Creek, Reach 1
- Mill Creek (Prado Area)
- Prado Park Lake

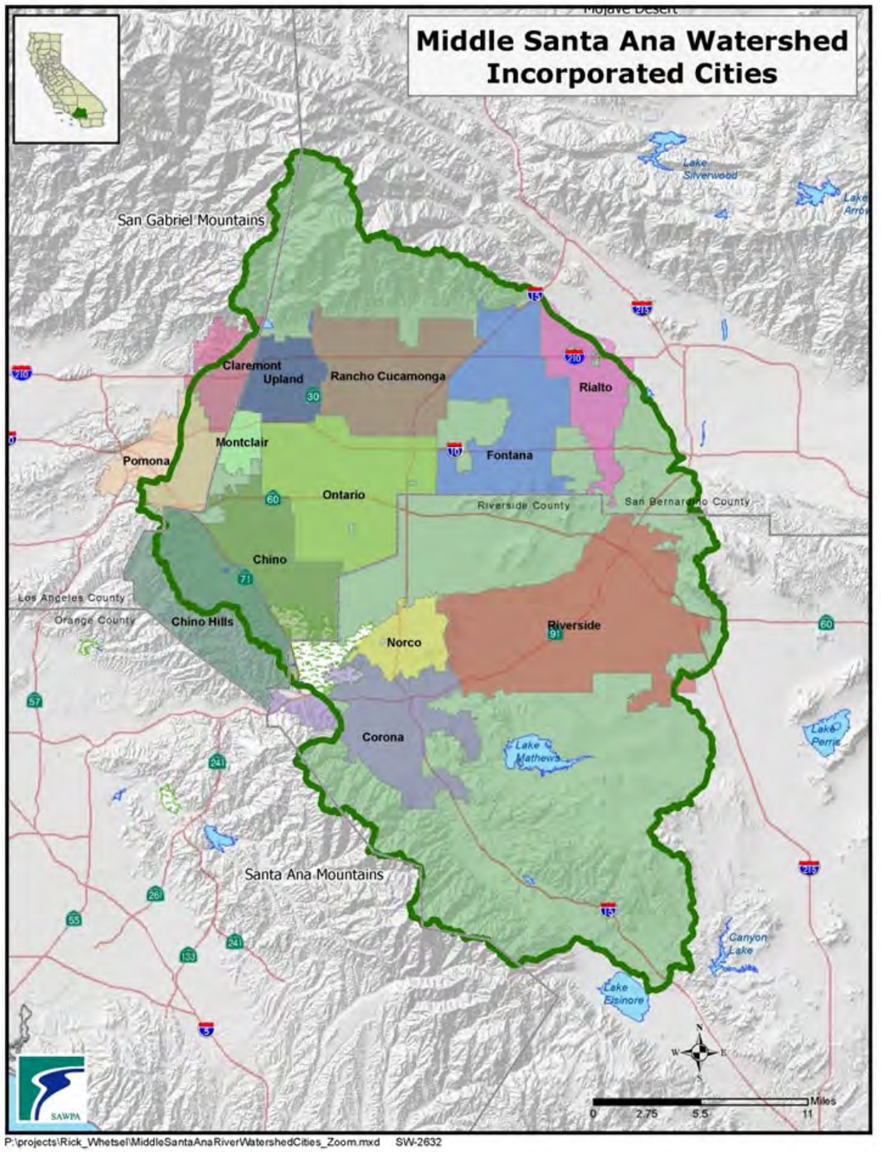
Current Activities:

- Middle Santa Ana River 2026 TMDLs Triennial Report (completed February 2026)
- Proposed Limited Basin Plan Amendment extending the wet weather implementation due date, currently set as December 31, 2025, out to December 31, 2035



Middle Santa Ana River Bacteria TMDL Task Force Members

- San Bernardino County Flood Control District representing the Cities of Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Rancho Cucamonga, Rialto, and Upland
- County of Riverside
- City of Claremont
- City of Corona
- City of Norco
- City of Pomona
- City of Riverside
- Agricultural Operators represented by Chino Basin Watermaster Agricultural Pool



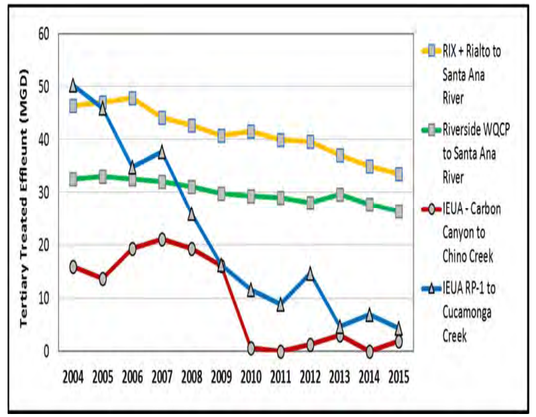
Task Force Purpose

- Implements regulatory requirements of the Middle Santa Ana River Watershed bacteria indicator TMDLs (R8-2005-0001)
  - Investigate Long Term TMDL Implementation Structure, Cost Sharing Formula, and Funding Sources.
  - Implement, report and update a watershed-wide bacterial indicator water quality monitoring program.
  - Implement, report and update bacterial indicator urban source evaluation activities.

2026 Triennial Report

Purpose

- Triennial Report - interpret water quality data and other implementation activities conducted over the 2023-2025 period
- Synoptic Study - evaluate the effectiveness of the Comprehensive Bacteria Reduction Plans (CBRPs) implemented by MS4 programs and to improve those programs where necessary.
  - The 2025 study builds upon methods and findings from past iterations conducted in 2007, 2012, and 2019.



2025 Synoptic Study

Objectives:

- Characterize flows and concentrations of E. coli and microbial source tracking (MST) markers for human sources.
- Update estimates of existing E. coli loads
  - Focus on controllable sources from within MS4 drainage areas.
  - Estimate the potential source contribution from releases of E. coli from channel bottom sediments defined as uncontrollable in the 2015 Basin Plan Amendment Revising Recreation Standards for Inland Freshwaters in the Santa Ana Region.

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Preliminary List of Sampling Locations

Site Type	Site Name	Site Description
Tier 1	T1-ANZA	Anza Drain
	T1-BRSC	Boys Republic South Channel
	T1-BXSP	Box Springs Channel
	T1-CCCH	Carbon Canyon Creek Channel
	T1-CHINOCRK	Chino Creek upstream of San Antonio Channel
	T1-CUCAMONGA	Cucamonga Creek at Hellman
	T1-DAY	Day Creek
	T1-LLSC	Lake Los Serranos Channel
	T1-MCSD	Magnolia Center Storm Drain
	T1-SACH	San Antonio Channel
	T1-SNCH	Sunnyslope Channel
	T1-SSCH	San Sevaine Channel
Mainstem	MISSION	SAR at Mission Blvd
	P3-SBC1	SAR Reach 4 above S. Riverside Ave Bridge

Site Type	Site Name	Site Description
Tier 2	T2-HWY60	Cucamonga Creek at Hwy 60
	T2-CHRIS	Chris Basin outflow to Cucamonga Creek
	T2-DEER	Deer Creek inflow to Chris Basin
	T2-CLCH	County Line Channel
	T2-EVLA	Eastvale Line A
	T2-EVLB	Eastvale Line B
POTW Treated Effluent	CCWRP	Carbon Canyon Water Recycling Plant effluent
	Rialto WWTP	Rialto Wastewater Treatment Plant effluent
	Riverside WQCP	Riverside Water Quality Control Plant effluent
	RIX	Rapid Infiltration and Extraction Facility effluent
	RP1	IEUA Regional Water Recycling Plant No. 1 effluent (at Chino Ave)
Watershed Compliance Site	WW-C7	Chino Creek at Central Ave
	WW-M6	Mill-Cucamonga Creek
	WW-S1	SAR at Pedley Avenue
	WW-S4	SAR at MWD Crossing

Scope of Work

Regulatory Facilitation Scope of Work for FYs 2025-26 & 2026-27:

- Task 1: Prepare a Study Plan
  - update microbial source tracking and source analysis sections of the approved Monitoring Plan and Quality Assurance Project Plan.
- Task 2: Conduct water quality sampling
- Task 3: Prepare a 2026 Triennial TMDL Report
  - summarizes current compliance with the TMDL,
  - presents interpretative findings from the 2025 Synoptic Study, and
  - provides recommendations to the Task Force.
- Task 4: provide progress reports at Task Force meetings

Project Budget

Task	Cost	
Task 1 - Study Plan	**$**	**15,490**
Draft Study Plan	$	7,240
Reconnaissance & Training	$	3,250
Final Study Plan	$	5,000
Task 2 - Data Collection	**$**	**50,629**
Field Team/Laboratory Management	$	4,400
Data Collection Activities	$	36,449
Data QA/QC	$	3,940
Data Compilation	$	5,840
Task 3 - 2026 Triennial TMDL Report	**$**	**78,750**
Draft 2026 Triennial TMDL Report	$	58,120
Final 2026 Triennial TMDL Report	$	18,380
CEDEN Upload	$	2,250
Task 4 - Task Force Meetings	**$**	**23,170**
Meeting Prep/Participation	$	23,170
Total:	**$**	**168,039**

Recommendation

It is recommended that the Commission authorize the General Manager to execute Task Order GEI384-03 with GEI Consultants for the amount not-to-exceed $168,039 to conduct a Synoptic Water Quality Study and prepare the 2026 Triennial Report in support of the Middle Santa Ana River (MSAR) Bacteria TMDLs.

SAWPA

Questions?

Thank You

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SANTA ANA WATERSHED PROJECT AUTHORITY

Phase 4 Network Coordinator Cost Sharing Agreement and FYE 2026/FYE 2027 Network Coordinator Task Order Approval

(SAWPA Task Order WSC373-04)

Commission Meeting
Item No. 6.B

Ian Achimore, Interim Planning Department Manager
Santa Ana Watershed Project Authority

June 3, 2025

Recommendation

Execute the following items related to the Roundtable of Integrated Regional Water Management (IRWM) Regions:

1. Phase 4 California IRWM Roundtable of Regions Network Coordinator Cost Sharing Agreement, and

2. Task Order WSC373-04 with Water Systems Consulting Inc. for $100,600 to serve as the Roundtable of Regions Network Coordinator for Fiscal Years Ending 2026 and 2027.

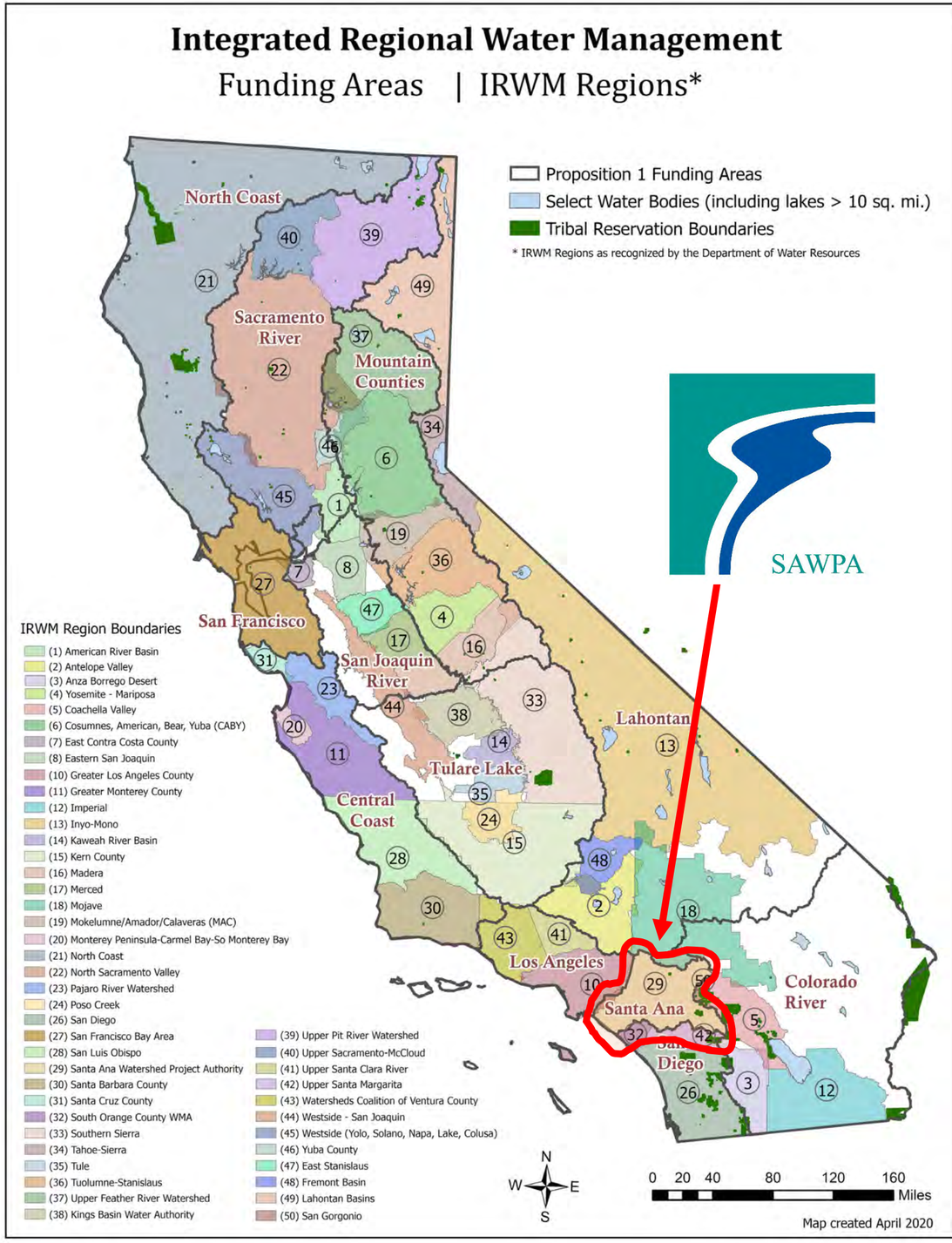
Overview

- Current Project:
  - Roundtable of Integrated Regional Water Management (IRWM) Regions Network Coordinator
  - Funding Partners: Nine IRWM Regions
  - Consultant: Water Systems Consulting, Inc. (WSC)
- Purpose: Review/approve
  - Cost Share Agreement with Nine Funding Partners
  - Network Coordinator Task Order with WSC
- Topics:
  - Scope of the agreement and task order
  - Funding contributions
  - Benefit to SAWPA

IRWM
ROUNDTABLE
OF REGIONS

Roundtable of Regions

- Roundtable of IRWM Regions began in 2006
- Informal partnership, led by engaged staff and a steering committee
- Network extends limited resources and amplifies results of all participants
- SAWPA represents OWOW on the Roundtable



Cost Share Agreement Phase 4

- This Cost Share Agreement is similar to a SAWPA Task Force agreement.
- Parties to the agreement are administrators of their own IRWM regions (like SAWPA).

Agreement Name	Commission Approval	Term of Agreement
Phase 1	December 18, 2018	Partial FYE 2019, FYE 2020, and FYE 2021
Phase 2	May 4, 2021	FYE 2022 and FYE 2023
Phase 3	June 20, 2023	FYE 2024 and FYE 2025
Phase 4	Recommended June 3, 2025	FYE 2026 and FYE 2027

Cost Share Agreement

- The other IRWM regions have requested that SAWPA continue to serve as the contract lead for the network coordinator consultant and continue to use WSC.
  - SAWPA has served in this role since December 2018
  - SAWPA will invoice partners for their annual amounts in July 2025 and July 2026
- The agreement allow SAWPA to collect Roundtable funding and enter into various task orders with consultants referred to as the “network coordinator”
  - JM Consultants (2018 to 2022)
  - WSC, Inc. (2022-present)

Partner Funding

- The Phase 4 Agreement pools $100,600 from the parties to fund WSC Inc. for FYE 2026 and FYE 2027
- SAWPA used April 2022 RFP to bring on WSC as the network coordinator
- SAWPA will invoice partners for their annual amounts in July 2025 and July 2026
- Nine funding parties want to continue to use WSC for this work.
  - WSC is completing the IRWM Transition Plan
  - A competitive bid process would not likely generate any competition for a two-year $100,600 contract.

Major Terms of Cost Share Agreement

- SAWPA will monitor the consultant's budget on a monthly basis and if there are or will be insufficient funds to cover the consultant's projected costs, SAWPA will direct the consultant to cease performing services under the Contracts and will refer to the Roundtable for feedback.
- SAWPA's contribution is administration (not funding).
- The agreement shall be effective once executed by parties whose contributions total at least $40,000.

Cost Share Agreement Funding Amounts

Signatory to Agreement	FYE 2026	FYE 2027	Totals
Greater Los Angeles County IRWM	$10,300	$10,300	$20,600
Regional Water Management Foundation	$3,000	$3,000	$6,000
San Diego County Water Authority	$9,600	$9,600	$19,200
San Luis Obispo County IRWM*	$2,500	$2,500	$5,000
Santa Barbara County IRWM Region	$3,000	$3,000	$6,000
Sonoma Water	$5,000	$5,000	$10,000
Upper Kings Basin IRWM	$5,100	$5,100	$10,200
Westside Sacramento IRWM	$1,500	$1,500	$3,000
Yuba County IRWM	$10,300	$10,300	$20,600
Total Funding from Nine Entities	**$50,300**	**$50,300**	**$100,600**

*New funding party for Phase 4.

Consultant Scope of Work (Partial List)

- Administration Tasks
  - Ensure accurate and up-to-date contact list
  - Support the development of quarterly meeting agendas and distribute through the membership list
  - Coordinate with the members of the steering committee
  - Prepare and distribute occasional web-based surveys to Roundtable members

- Programmatic Tasks
  - Finalize IRWM Transition Plan
  - Coordinate and finalize white papers to assist IRWM regions with expanding their IRWM networks
  - Draft comment letters to the State and legislature when needed
    - Most recently related to Department of Water Resource's Proposition 4 climate resiliency funding ($100 M total)

WSC Experience

Example Projects	Client
Adaptive Integrated Water Resource Management Plan	Northern Cities Management Area Technical Group
Replenish Big Bear OWOW Grant Application	Big Bear Area Regional Wastewater Agency
Drought Task Force Facilitation	Western Municipal WD
2020 Integrated Regional & Urban Water Management Plan	San Bernardino Valley MWD

Key WSC Team Member:

Amy Stevens

Benefits to SAWPA

- Roundtable is a trusted partner to DWR and Association of California Water Agencies
- Roundtable is involved in the State's new direction to grow the IRWM Program so it is focused on regional climate resilience at the watershed level
- Roundtable engaged with DWR and the Office of Planning and Research
- Supporting the Network Coordinator is a statewide role for SAWPA
- Roundtable partners thankful for SAWPA stepping up as contract lead

Recommendation

Execute the following items related to the Roundtable of Integrated Regional Water Management (IRWM) Regions:

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Thank You

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Santa Ana River Watershed Cloud Seeding Pilot Program

Commission Meeting
Agenda Item 6.C

Jeff Mosher
General Manager

June 3, 2025

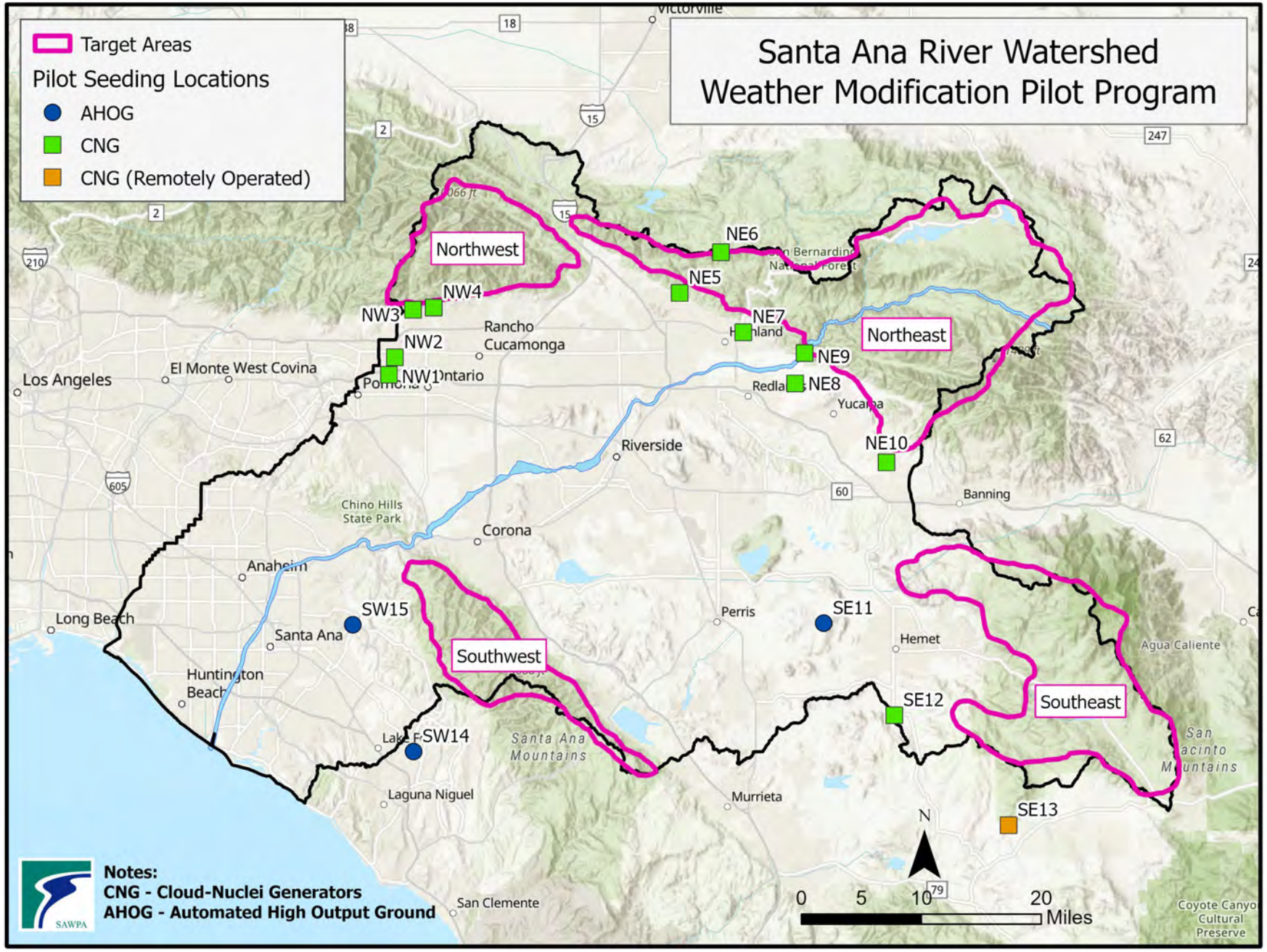
Recommendation

It is recommended that the Commission consider terminating the Cloud Seeding Pilot Program based on the inability to cloud seed for a second year and the inconclusive results of the first year of cloud seeding (2023-2024).

Pilot Program Overview

Pilot Program:

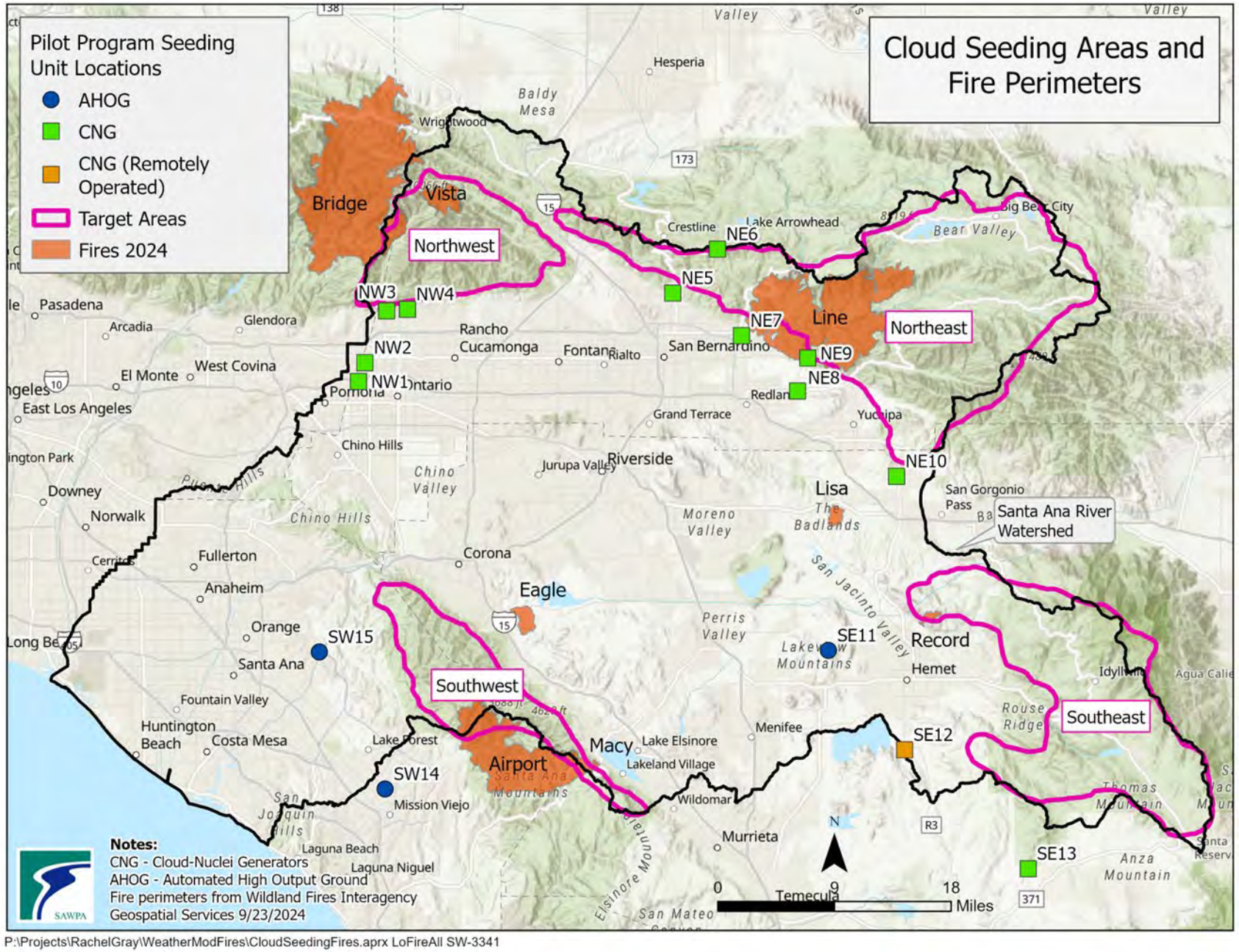
- 4-year study
- 4 Target Areas (NW, NE, SW, SE)
- Use of 15 ground-seeding units
- Use of Validation Study to assess increases in precipitation



Burn Scars: Feedback from Flood Control Districts

Burn Scars and Potential for Debris Flows

- Burn scars exist due to fires during the summer of 2024
- Suspension criteria considers the potential for debris flows from burn scars



Year 2 Status: Burn Scars / Debris Flows: Input from Flood Control Districts

Flood Control District	Feedback	Response
LA FCD	The Bridge Fire, located adjacent to the Northwest target area was extinguished November 2024. Cloud seeding should not occur on a burned watershed area until it has fully recovered, which is a minimum of 5 years. **We advise against seeding in that region.**	Noted.
Orange County	Our O&M team has requested to **pause cloud seeding operation**s in the sub-watershed of the burn scar area in the Santa Ana Mountains, due to implementation of Year 1 of the associated post-fire debris management plan.	**We agree.** Southwest Target Area should not be included.
Riverside County FCD	As described in SAWPA's suspension criteria memo, it could take several years for vegetation to become reestablished. **Reduce the Southwest cloudseeding target areas** by removing the Macy and Airport fire burn scar areas (Santa Ana Mountains) for this upcoming winter season.	**We agree.** Southwest Target Area should not be included.

Year 2 Status: Burn Scars / Debris Flows: Input from Flood Control Districts

FCD	Feedback	Response
San Bernardino FCD	• Given the recent fires and the associated risk of debris flow after storms, **FCD recommends closely monitoring the affected sections based on forecasted storm activity**. • Before proceeding with scheduling cloud seeding events, we would like to ensure that **no major storm effects or debris hazards could increase existing risks, especially in areas impacted by burn scars**. • Ahead of a storm, SB Flood gets daily notices from National Weather Service regarding burn scars. They have threshold values (i.e., **0.5 inches/60 minutes)**, that if it rains over a certain amount in an amount of time, debris flows happen from the burn scar. • Coordinate with SB Flood leading up to the possible seeded storm. **If the NWS daily reports show the storm will be over the threshold, they would not want SAWPA to seed the burn scar areas for the Bridge and Line fires (NE and NW target Areas).**	This approach is reasonable. The threshold constraint precludes us from cloud seeding in 2025-2026.

Revised Draft: Validation Report (May 2025)

Summary of 2023-2024 Cloud Seeding Operations

(12 storms seeded out of 20 total storms)

Units	Storm Periods	Nov 17-18	Dec 21-22	Dec 29-30	Jan 3	Jan 20-21	Jan 21-22	Feb 1	Feb 20-21	Mar 6-7	Mar 23-24	Mar 30-31	Apr 5	Apr 13-14
CNGs (Hours of Generator Runtime)	NW1			23	6.5			10	16.75	16	22	30	12.75	7
	NW2			23	7			9	16.25		20.25		9.25	7
	NW3	11.25	22	21	5.75			23.5	19.5	14	22.5	26.75	8.5	24.75
	NW4	13.25	20.75	22				23	19.75	14	22.5	27.75	8.5	25
	NE5		26.5	21.25	8.75	17.25	24.5			17	22.75	31.25	12.25	25.5
	NE6		21.5	9	12.25	17	14.25	11.75	18.25	14	18	31.25	14	20.25
	NE7		22.75	21	9	17			23	17.75	22.75	31.25	12.5	25.5
	NE8		22.25	18.75	9.75	18.5	23.25	7.75		15	20.5		13	25
	NE9		23	18.75	9.5	18.25	23.25	8	20.5		20.25	32.25	12.75	25.5
	NE10		24.25	21.25	9.25	17.75	24.75	23.5	24.25	18.75	22.5	31.25	12.25	25.25
	SE12		8.75	5.5	9.75			14		17	4.75	33	9	
	SE13		19	6.5	8	15.25	24.5	12.25		12.75	18.25	32.75	12.75	
AHOGS (Flares)	SE11		5		2		4	1				1	1	
	SW14		1	3		1	3			1		2	2	
	SW15									2			1	2

Cloud Seeding Validation

- Validate the “additional precipitation” from cloud seeding
- Independent review by Desert Research Institute

- Task 2: **Snow chemistry**
- Task 4: Target and Control – **precipitation gauges**
- Task 5: Target and Control – **stream gauge**

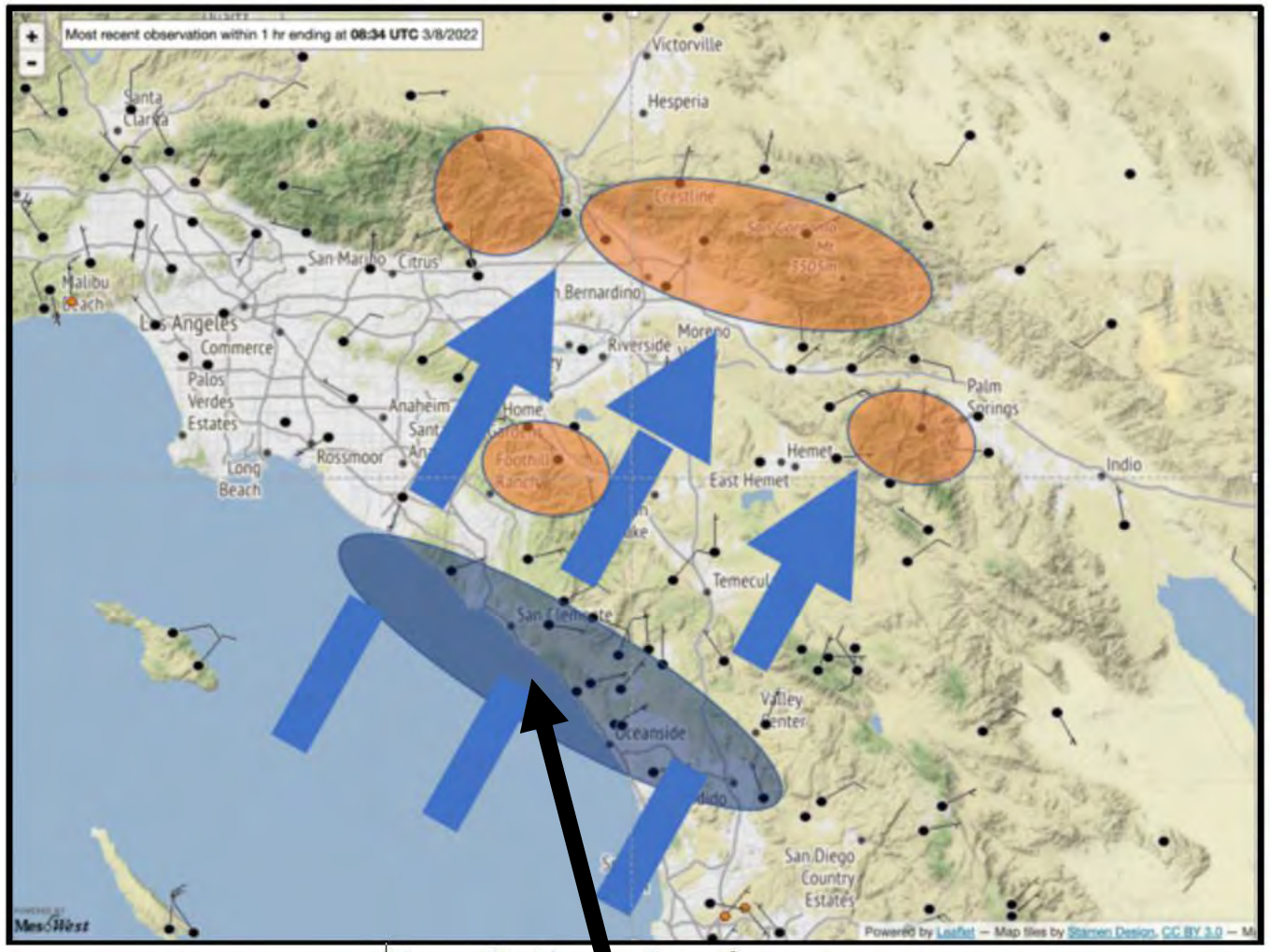
Task 2: Snow Chemistry Summary

Preliminary Results

Expected levels: 15-20+ ppt

Target Area	Control - No Seeding (Ag ppt)	Seeded Storms (Ag ppt)	Comment
Northwest	8.0	1.7	Lower than control levels
Northeast (SB)	9.1	4.3 <1 <1 9.5	Mostly lower than control levels
Southeast	--	4.5 <1	Low Levels
Southwest	1.8	--	NA

Task 4: Target and Control Analysis



Northeast Target Area

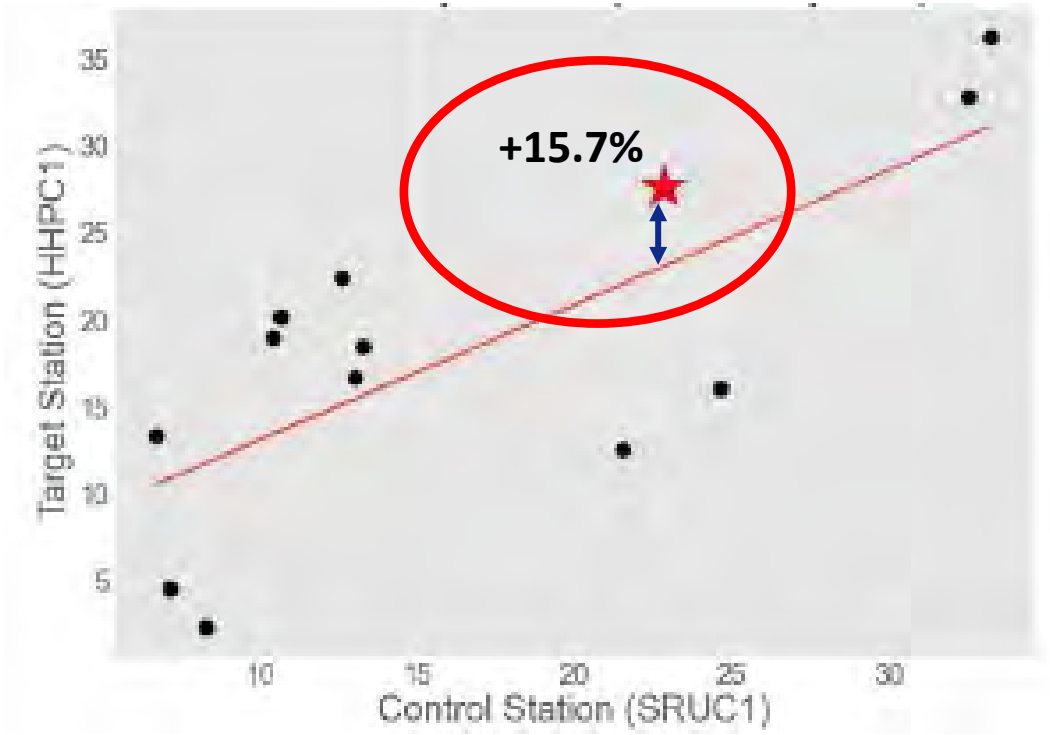
Target vs. Control

Individual Snow Gauges (**Year 1 – All Storms**)

Preliminary Results

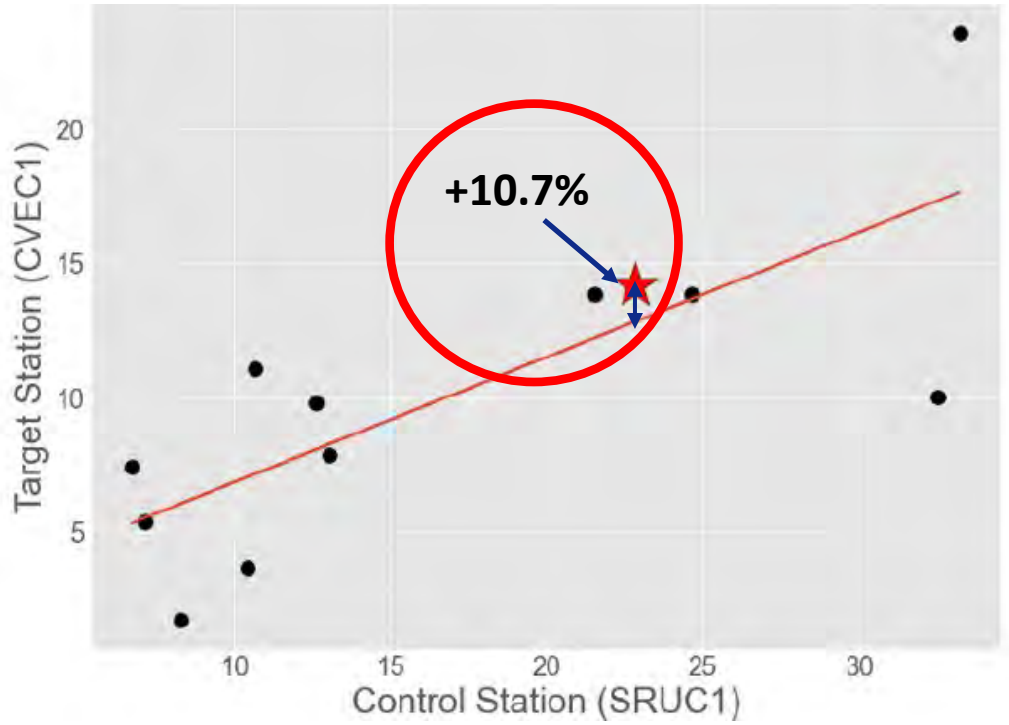
Desert Research Institute

Heaps Peak Gauge



Expected Precip: **23.5 in**
Observed Precip: **27.2 in**
+15.7%

Converse Gauge



Expected Precip: **13.0 in**
Observed Precip: **14.4 in**
+10.7%

Northeast Target Area

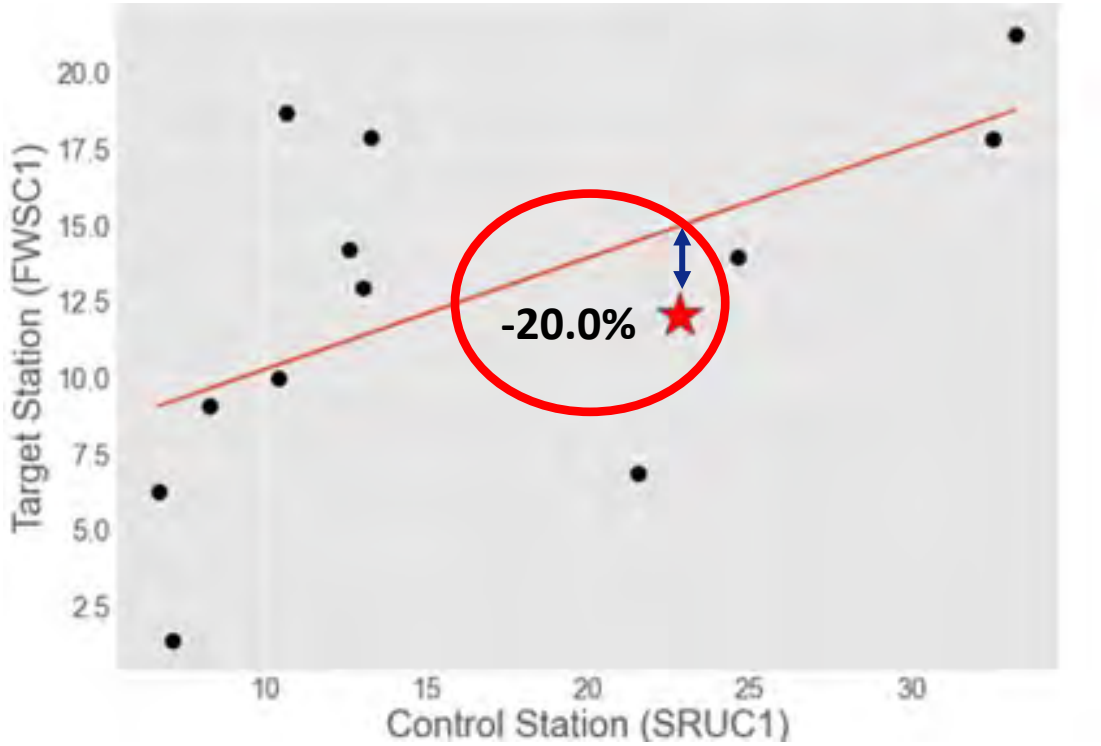
Target vs. Control

Individual Snow Gauges (**Year 1 – All Storms**)

★ **Preliminary Results**

Desert Research Institute

Fawnskin Gauge



Expected Precip: **15.0 in**

Observed Precip: **12.0 in**

-20.0%

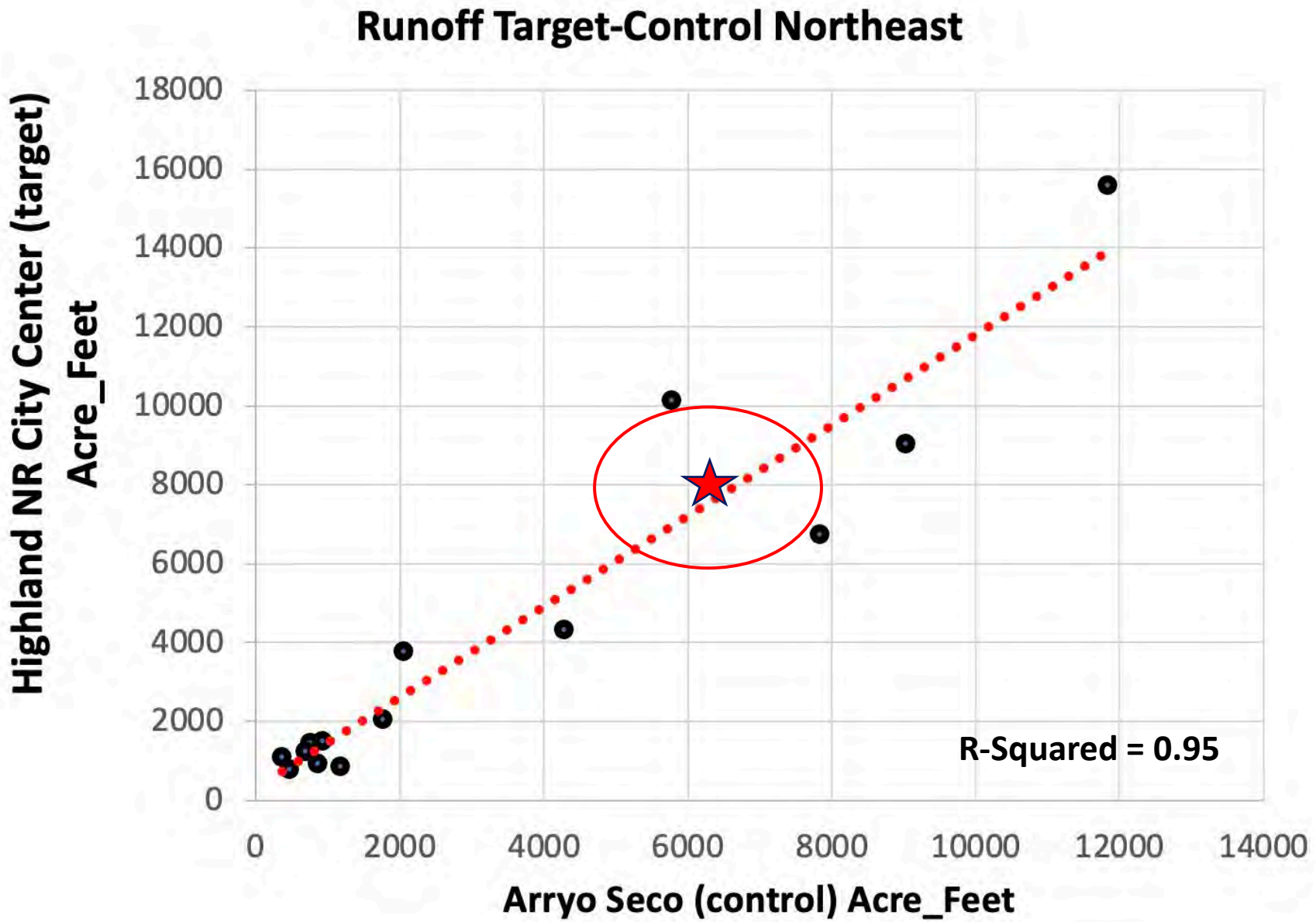
Target-Control Results by Target Area

Preliminary Results

Target Area	Year 1 (2023-2024)
Northeast (San Bernardino Mts)	Low/Inconsistent
Southeast (San Jacinto Mts)	Low/Inconsistent
Northwest (San Gabriel Mts)	No benefit
Southwest (San Ana Mts)	No benefit

Task 5: Preliminary Results for Northeast Target Area:

Stream Gauge



Desert Research Institute

Task 4: Year 1 Preliminary Validation Results Summary

Task	Findings	Comments
2. Snow Chemistry	• Higher silver levers were not seen in seeded samples	• Results were negative/inconsistent
4. Target and Control – Snow Gauges	• NE and SE were low/inconsistent • NW and SW showed no benefit	• Benefits were low or zero.
5. Target and Control - Stream Gauges	• Steam gauge for NE did not show an increase	• No benefits were shown.

Recommendation

It is recommended that the Commission consider terminating the Cloud Seeding Pilot Program based on the inability to cloud seed for a second year and the inconclusive results of the first year of cloud seeding (2023-2024).

SAWPA

Questions