



**SAWPA COMMISSION
REGULAR MEETING MINUTES
AUGUST 6, 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 [via - zoom]
David J. Slawson, Eastern Municipal Water District
Jasmin A. Hall, Inland Empire Utilities Agency

COMMISSIONERS ABSENT

None

**ALTERNATE COMMISSIONERS
PRESENT; NON-VOTING**

Gil Botello, San Bernardino Valley Municipal Water District
Denis Bilodeau, Orange County Water District

STAFF PRESENT

Jeff Mosher, Karen Williams, David Ruhl, Rachel Gray, Shavonne
Turner, Rick Whetsel, Sara Villa, Dean Unger, John Leete, Alison
Lewis, Zyanya Ramirez, Natalia Gonzalez

OTHERS PRESENT

Andrew Turner, Lagerlof, LLP; Joe Mouawad, Eastern Municipal
Water District; Ken Tam, Inland Empire Utilities Agency; Kevin O'
Toole, Orange County Water District; Paul R. Kielhold, San
Bernardino Valley Municipal Water District; Adekunle Ojo, San
Bernardino Valley Municipal Water District; Jake Loukeh, Western
Municipal Water District; Mallory O'Connor, Western Municipal Water
District; Craig Miller; Western Municipal Water District; Derek Kawaii,
Western Municipal Water District; Tammie Myers, Monte Vista Water
District; Gene Hernandez, Yorba Linda Water District

The Regular Meeting of the Santa Ana Watershed Project Authority Commission was called to order at 9:30 a.m. by Chair Bruce Whitaker on behalf of the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California and Commissioner T. Milford Harrison's location, Hotel La Jolla, Curio Collection by Hilton, 7955 La Jolla Shores Drive, Room #308, La Jolla, CA 92037.

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: JULY 16, 2024

Recommendation: Approve as posted.

B. TREASURER’S REPORT: JUNE 2024

Recommendation: Approve as posted.

MOVED, to approve the Consent Calendar as posted.

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

6. NEW BUSINESS

A. SANTA ANA RIVER WATERSHED CLOUD SEEDING PILOT PROGRAM: YEAR 1 SUMMARY (CM#2024.42)

Rachel Gray provided a presentation on the Santa Ana River Watershed Cloud Seeding Pilot Program: Year 1 Summary, contained in the agenda packet on pages 21-40. The Cloud Seeding Pilot Program Year 1 Annual Operations Report was prepared by North American Weather Consultants, Inc. (NAWC). Ms. Gray provided an overview of the report outline and summarized the science behind cloud seeding and the benefits. The Pilot Program seeding unit locations were selected as close to locations from the Feasibility Study (SAWPA, 2020), and two changes were made for the Pilot Program that were different from the feasibility study: the addition of one CNG unit for the Northwest Target area, and the switch of one of the CNG sites for the Southwest target area to an AHOGS unit. The total number of seeding units was 15; 12 CNG units and 3 AHOGS units.

The kickoff of the four-year Pilot Program began in August 2022, the following tasks occurred in preparation for the start of the Year 1 Operations (November 15, 2023 – April 15, 2024):

Task	Date
Site Access Agreements (11 proponents/ 15 units)	August 2022 – August 2023
Operations Plan (project communication, operational criteria, and suspension criteria)	January – October 2023
Communications Plan	July – November 2023
Preliminary Biological Surveys	July 31, 2023
45-Day Public Notice Submission	September 28, 2023
Final Biological Surveys (10 days before construction)	October 5 – 9, 2023
Equipment Set Up, Propane Tank Delivery, and Equipment Testing	October 9 – 20, 2023
Operator Training	October 23 – 27, 2023
Program Kick Off Meeting	November 1, 2023
FY23-24 Program Start	November 15, 2023
Notification to Local Fire Departments	December 2023 – January 2024
FY23-24 Program End	April 15, 2024
Equipment Collected (summer storage)	May 30, 2024

Ms. Gray provided a brief overview of the weather data and models and noted that the Meteorological data and models used in seeding operations are acquired from a wide variety of sources, including some subscriber services. This information includes radar data, satellite data (e.g., visible, infrared, water vapor) weather forecast model data, surface observations, rawinsonde (weather balloon) upper-air soundings, and weather cameras. NAWC's meteorologists have access to all meteorological products on a 24-hour basis, allowing for continued monitoring so that seeding operations can be performed at any time of the day or night. The wide variety of available meteorological data products and information provides the data necessary for meteorologists to determine when conditions are appropriate for cloud seeding.

The 2023-2024 season was active, with 20 storm event periods. Of these, operations of cloud seeding occurred for 13 storm events. A total of 13 seeded storm events occurred over a combined period of 22 days. CNG hours and flare usage are documented for each unit during each storm event. A total of 2135.25 hours of seeding time from all CNG units was recorded, amounting to 17,092 g of silver iodide (Agl) used for seeding for the season. A total of 32 Agl flares were used from the AHOGS units, totaling 640 g of Agl. One suspension period occurred during the season; from February 3-8, 2024, as a significant Atmospheric River event affected much of California bringing abundant mountain snow and heavy lower elevation rainfall resulting in significant flooding in some areas. A second period of active weather in mid-March 2024 also saw no seeding activity; this was not due to suspension criteria being enacted, but instead due to a wind flow pattern that the Pilot Program was not set up for as earlier studies showed the pattern to be a rare occurrence. Summary of materials used for each unit for each storm event is documented and includes CNG runtime hours and number of flares, Agl used in grams, and acetone used in gallons.

Ms. Gray provided a list of findings and recommendations based on lessons learned during the first year of operations:

- Send notices to fire departments in advance of the start of Year 2 Operations.
- Field technician local to the project area is identified and trained to be able to service CNGs and AHOHS units.
- Regularly troubleshoot cloud seeding units for optimal equipment operation.
- Consideration should be given to moving one of the NW1 and NW2 sites further northwest closer to the NW Target area.
- Considerations should be given to the possibility of installing seeding sites on the east and northeast sides of the NE and SE target areas to account for this pattern, with the understanding that these sites may rarely be activated.
- Be transparent with the public about technical studies conducted for cloud seeding.
- Maintain effective communication with sponsors to mitigate site access issues.
- Train backup site operators for continuous unit operations.
- Collaborate with Flood Control Districts for environmental insights.
- Understand the impact of successive storms on infrastructure.

SAWPA is also 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. Jeff Mosher emphasized that the Year 1 Annual Operations Report does not include the validation only operations results. The preliminary validation information will be brought forward to the Commission in late August or early September. DRI is working through what the methodology is for the validation.

Validation tasks include the following:

1. Task 1: Evaluate NAWC Operations
2. Task 2: Snow Chemistry – collect baseline and seeded snow samples
3. Task 3: Calculating the Seeding Snow-Water Equivalent: Assessing precipitation as rainfall and snowfall
4. Task 4: Target/Control Statistical Analysis
5. Task 5: Stream Flow Analysis

The Pilot Program Schedule is as follows:

First Year Summary Report	July 2024
Project Validation Tasks	August 2024
Year 2 Equipment Mobilization	October 2024
Year 2 Operations Start	November 15, 2024

Commissioner Hall reported that she appreciates the Year 1 Operations Report and asked if there will be more information available specifically from an expert to validate and report that there is no health risk or impact to the public. Mr. Mosher noted that SAWPA is formulating internally with the communication folks as well as planning and engineering on how to launch the second year. It is anticipated to do an online seminar for the public and have DRI (the experts) present to answer any questions. Commissioner Gardner referenced the 2023-2024 Operations Summary slide and suggested including the square miles of target area.

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

B. ENHANCEMENTS TO WATERSHED-WIDE WATER BUDGET DECISION SUPPORT TOOL PROJECT UPDATE (CM#2024.43)

Rick Whetsel provided a presentation on the Enhancements to Watershed-Wide Water Budget Decision Support Tool Project Update, contained in the agenda packet on pages 43-66. A brief overview was provided on the awarded grants from California Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (Reclamation); DWR Proposition 1 Grant Agreement executed in May 2021, the key element to upgrade SAWPA/ESRI data viewer and the Reclamation WaterSmart Basin Study agreement that was executed in February 2021. The key element being a proposed automated method to classify land use.

The project goal was to produce a cost effective, consistent, and reproducible method to identify and measure outdoor landscape features. To create parcel level outdoor landscape budget data that meets or exceeds quality and accuracy expectations of DWR and certify data as an alternative residential landscape area data set to be used in place of the 2018 data provided by DWR. The project objectives were to acquire high resolution aerial imagery for the urbanized Santa Ana River Watershed, South Orange County, and a portion of the Upper Santa Margarita Watershed. Identify and measure irrigated landscape and irrigable land to create parcel level water budgets for Retail Water Agencies and create an online decision support tool for Retail Water Agencies to access water budgets and associated data.

A brief overview of Deep Learning was described as the utilization of Machine Learning involving leveraging sophisticated algorithms and deep neural networks to effectively train a model. Machine Learning is the application of Artificial Intelligence (AI) that allows a system to automatically learn and improve from experience, and AI is the ability of a digital machine to imitate intelligent human behavior. Mr. Whetsel noted that SAWPA's goals of this project include applying the results of the work by Reclamation to create parcel level outdoor landscape budget data that meets or exceeds quality and accuracy expectations of DWR,

so that the data can be used as an Alternative Residential Landscape Area Data set.

The Decision Support Tool is a “tool” to reside on a dedicated SAWPA webpage, where Agency staff can go to view sample data and request their retail agency level data, including the following: Imagery, Modeled Outdoor Landscape (GIS layer), Landscape budgets, GIS Tools, and Landscape Area Measurements Reports. The Decision Support Tool work is expected to begin August 2024. The next step is for Reclamation to complete outdoor landscape modeling for retail water agency services areas in the Upper Santa Ana River Watershed by December 2024. SAWPA staff is coordinating with MWDOC to prepare and submit a watershed level data validation report to DWR for consideration of the Alternative Landscape Data set. Staff is also set to initiate efforts to design the web-based tool following approval of the data validation report by DWR.

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

7. **INFORMATIONAL REPORTS**

Recommendation: Receive for Information.

A. **OWOW QUARTERLY STATUS REPORT: APRIL – JUNE 2024**

B. **ROUNDTABLES QUARTERLY STATUS REPORT: APRIL – JUNE 2024**

C. **GENERAL MANAGER REPORT**

Jeff Mosher informed the Commission that SAWPA is a sponsor for the BIA Southern California Water Conference that is scheduled for Friday, August 9th. Mr. Mosher, along with the General Managers of IEUA, SBVMWD, WMWD, and EMWD will moderate a panel on Local Supply Reliability in the Upper Santa Ana Watershed.

D. **COMMUNICATIO S REPORT – JULY 2024**

Jeff Mosher noted that SAWPA staff is in the process of filling the Communications Specialist position. This comes as a result of Melissa Bustamante accepting a new job offer at WMWD.

E. **CHAIR’S COMMENTS/REPORT**

Chair Whitaker commended Karen Williams and staff for all their efforts and highlighted the plaques displayed in the hallway of the annual awards of excellence in financial reporting and excellence in budget presentations. Chair Whitaker also noted that he will be attending the Urban Water Institute Conference in San Diego.

F. **COMMISSIONERS’ COMMENTS**

Commissioner Gardner noted that there is a scheduled hearing for August 7th regarding Senate Bill 366 due to it having a financial impact.

G. **COMMISSIONERS’ REQUEST FOR FUTURE AGENDA ITEMS**

There were no requests for future agenda items.

8. **CLOSED SESSION**

There was no Closed Session.

9. ADJOURNMENT

There being no further business for review, Chair Bruce Whitaker adjourned the meeting at 10:34 a.m.

Approved at a Regular Meeting of the Santa Ana Watershed Project Authority Commission on Tuesday, August 20, 2024.

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Bruce Whitaker

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Bruce Whitaker, Chair

Attest:

DocuSigned by:

Sara Villa

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Sara Villa, Clerk of the Board