ZONE 3 ADVISORY COMMITTEE

San Luis Obispo County Flood Control and Water Conservation District

AGENDA

Thursday, November 21, 2024, 10:30 A.M.
City of Arroyo Grande Council Chambers
215 East Branch Street, Arroyo Grande, California 93420

I. CALL TO ORDER AND ROLL CALL

II. PUBLIC COMMENT
This is an opportunity for members of the public to address the Committee on items that are not on the agenda

III. MEETING MINUTES
A. September 19, 2024, Meeting – Attachment 1

IV. APPROVAL OF 2025 MEETING SCHEDULE - Attachment 2

V. OPERATIONS REPORT
A. Water Plant Operations, Reservoir Storage, Downstream Releases - Verbal Update
B. Projected Reservoir Levels – Attachment 3
C. September and October Monthly Operations Report – Attachment 4

VI. INFORMATION ITEMS
A. 1st Quarter Budget Status – Attachment 5
B. HCP Update - Verbal Update

VII. CAPITAL PROJECTS UPDATE
A. Bi-Monthly Update – Attachment 6

VIII. ACTION ITEMS (No Subsequent Board of Supervisors Action Required)
A. Response to David Swift Report (Receive and File) - Attachment 7

IX. ACTION ITEMS (Board of Supervisors Action is Subsequently Required)

X. FUTURE AGENDA ITEMS

XI. COMMITTEE MEMBER COMMENTS

Next Regular Meeting is Scheduled for
January 16, 2025, at 10:30 AM
City of Grover Beach Council Chambers, 154 S. Eighth Street
Agendas accessible online at www.slocounty.ca.gov/pw/zone3

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
ZONE 3 ADVISORY COMMITTEE
MEETING MINUTES
THURSDAY SEPTEMBER 19, 2024

I. Call to Order and Roll Call

The Zone 3 Advisory Committee Meeting was called to order at 10:30 AM at the City of Arroyo Grande by Brian Talley. County Public Works Utilities Division Senior Engineer and Secretary to the Advisory Committee, David Spiegel, called roll. A quorum was present. Members in attendance were:

- Brian Talley, Agriculture
- Brad Hagemann, CSA 12
- Kristen Barneich, City of Arroyo Grande
- Shirley Gibson, Oceano Community Services District
- Daniel Rushing, City of Grover Beach
- Marcia Guthrie, City of Pismo Beach

II. Public Comment

No public comment was made.

III. Approval of Meeting Minutes

A. July 18, 2024, Meeting (Attachment 1 of the Agenda Packet) –
Member Rushing motioned to approve the minutes, seconded by Member Hagemann. Member Talley requested a roll call for approval. The motion passed.

IV. Operations Report

A. **Water Plant Operations, Reservoir Storage, Downstream Releases (Verbal Update)**
Plant production is at 4.5 million gallons per day (MGD); State Water is at 0.7 MGD; downstream release is at 4.25 MGD. Lopez Lake elevation is 519.66 feet with storage at 46,825 acre-feet (AF), which is 95% capacity.

B. **Projected Reservoir Levels (Attachment 2 of the Agenda Packet)**
Review of the Lopez Reservoir Storage Projection Chart. David Spiegel stated that revisions are being made to the rainfall projections, and they are seeking a new source that can project further out than one year.

C. **July and August Monthly Operations Report (Attachment 3 of the Agenda Packet)**
David Spiegel explained, “Water usage is tracking normally. There are no requests for state water from the agencies, except for San Miguelito. We are currently working with CCWA to develop a low-flow bypass on the turnout to the LWTP. State water will be shut off at the end of October through November and will remain off to make up for any stored state water that we previously brought in.”

V. Information Items

A. **4th Quarter Budget Status (Attachment 4 of the Agenda Packet)**

David Spiegel reported that budget expenditures are very high due to FEMA projects. These include the repair of the flip bucket at the spillway and ongoing work on the breach at the terminal reservoir. Both are unbudgeted projects costing $200,000 each, but reimbursement is expected through FEMA claims.

- Capital Outlay Projects are on track with the budget.
- The Carbon Dioxide project is over budget due to bulk CO2 chemical deliveries being incorrectly classified as part of the project costs instead of as chemical costs at the Lopez Water Treatment Plant. Efforts will be made to shift these costs to the plant's budget with finance.

B. **HCP Update – Verbal Update**

David Spiegel shared that County Counsel has reached out to the attorneys of all agencies to inform them of the ongoing litigation. He apologized for not informing the "Member at Large" and the "Agriculture" representative about the litigation. He stated that the information is public and can be found online, and he will email the Committee with details on how to access this information. Work on the Habitat Conservation Plan (HCP) has been paused due to the litigation.

- Member Brian Talley inquired if a formal briefing had been provided by County Counsel to the other agencies.
- David Spiegel confirmed that a briefing had taken place, and County Counsel had reached out to multiple staff members for declarations. Member Brad Hagemann noted that he had provided a declaration and that a status meeting with County Counsel and all agencies' legal teams is scheduled for next Friday.

VI. Capital Projects Update

A. **Bimonthly Update (Attachment 5 of the Agenda Packet)**

- **Lopez Terminal Breach Repair**
  - Rob Reynolds Construction is currently repairing the site.
  - Budget: ~$150,000 (FEMA), modification to original budget of $120,000.
- **Fireflow Tank Replacement (No Change/On Hold)**
  - Final Design Plans are complete.
  - Additional budget is needed to proceed.
  - Budget: ~$1,400,000.
- **Membrane Module Replacement (No Change/On Hold)**
  - Two additional racks are needed to complete the replacement and finalize the project, but a budget increase is required before moving forward.
  - Budget: ~$600,000.
- **Spillway Assessment and Investigation**
  - GEI began work on August 26th.
  - Piezometer installed.
  - Scheduled concrete core sampling on the chute floor and walls.
  - Remainder of the project: minimum of $3,000,000.
- **Geotechnical Testing & Seismic Alternatives Study of Terminal Reservoir Dam (No Change)**
  - Submitted to DSOD for review.

    - The Geotechnical Engineering Report is complete, but additional analysis is recommended due to the factor of safety being right at the limit.
    - Grants are opening up, and the necessary paperwork will be filed.
    - Budget: ~$500,000.
- **Cathodic Protection Repair Project**
    - Construction is complete.
    - Break in continuity investigation is ongoing.
    - Budget: ~$449,933.
- **DAF Building Repairs (No Change)**
    - The DAF building has rust damage in multiple girders and roll-up doors.
    - Rafters support safety tether for maintenance of DAF equipment.
    - Additional quotes are needed.
    - Budget: ~$95,000.

Completed Projects

- Sludge Bed Curtain Wall Rehabilitation
- Chemical Tank Replacement
- Spillway Flip Bucket Repair (FEMA)
- Bathymetric Study
- CO2 Injection System

VII. Action Items (No Subsequent Board of Supervisors Action Required)
No action items were discussed.

VIII. Action Items (Board of Supervisors Action Subsequently Required)
No action items were discussed.

IX. Future Agenda Items

- **AG/AG Gauge Fish Ladder Update**
    - David Spiegel stated that Phase 1 of vegetation clearing has been completed, and Phase 2 (construction) is currently underway. The AG/AG Gauge was listed as a fish barrier in the litigation.

X. Committee Member Comments

- No comments.

Meeting adjourned at 10:56 AM by Brian Talley. The next regular meeting is tentatively scheduled for November 21, 2024, at the City of Arroyo Grande Council Chambers.

Respectfully Submitted,
Darla Budge
County of San Luis Obispo Public Works Department

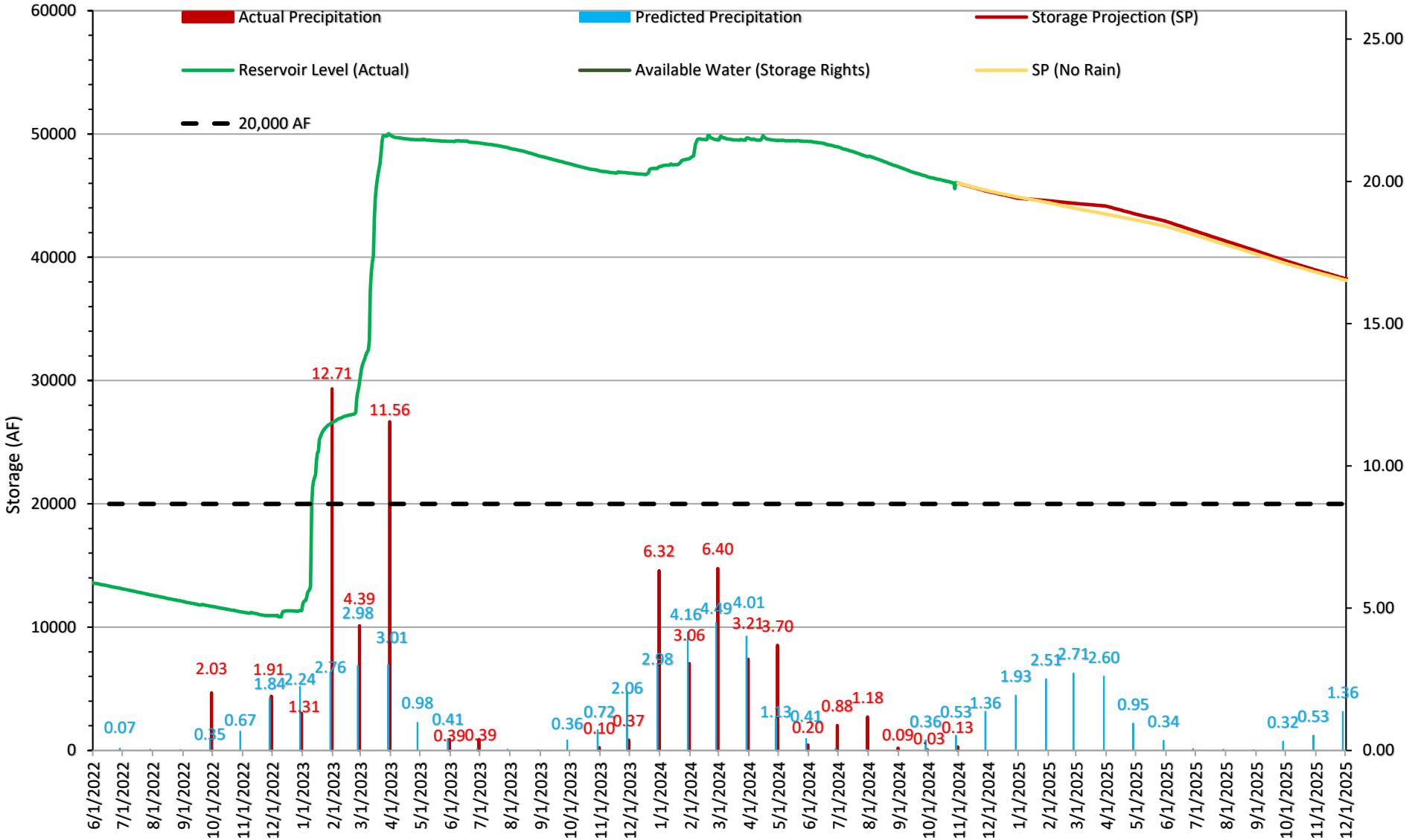
ZONE 3 - LOPEZ PROJECT

ADVISORY AND TECHNICAL ADVISORY COMMITTEES

2025 MEETING SCHEDULE

Date	Group	Location	Purpose
Jan 8, 2025	Technical Advisory Committee (TAC)	Teams Meeting, 9:00 AM	Discuss proposed FY 25/26 budget
Jan 16, 2025	Advisory Committee	Grover Beach, 10:30 AM 154 S. Eighth Street	Distribute proposed FY 25/26 budget
Feb 12, 2025	TAC	Teams Meeting, 9:00 AM	Distribute proposed FY 25/26 budget
Mar 12, 2025	TAC	Teams Meeting, 9:00 AM	Budget discussion/recommendation; present estimated surplus water quantity available in 25/26
Mar 20, 2025	Advisory Committee	Arroyo Grande, 10:30 AM 215 E. Branch St	Present 2nd quarter budget status; present proposed FY25/26 budget; endorse FY25/26 budget; present estimated surplus water quantity available in WY 25/26
Apr 9, 2025	TAC	Teams Meeting, 9:00 AM	Present actual surplus water quantity available in WY 25/26
May 14, 2025	TAC	Teams Meeting, 9:00 AM	Determine Surplus Water Needs
May 15, 2025	Advisory Committee	Pismo Beach, 10:30 AM 760 Mattie Rd	3rd Quarter Budget Status; Declare Surplus Water
Jun 11, 2025	TAC	Teams Meeting, 9:00 AM	
Jul 9, 2025	TAC	Teams Meeting, 9:00 AM	
Jul 17, 2025	Advisory Committee	Oceano CSD, 10:30 AM 1655 Front Street	Officer Rotations
Aug 13, 2025	TAC	Teams Meeting, 9:00 AM	
Sep 10, 2025	TAC	Teams Meeting, 9:00 AM	Request Water Delivery Schedule - due Oct 1
Sep 18, 2025	Advisory Committee	Grover Beach, 10:30 AM 154 S. Eighth Street	4th Quarter Budget Status;
Oct 8, 2025	TAC	Teams Meeting, 9:00 AM	
Nov 12, 2025	TAC	Teams Meeting, 9:00 AM	Discuss proposed Capital Improvement Projects for next FY
Nov 20, 2025	Advisory Committee	Arroyo Grande, 10:30 AM 215 E. Branch St	1st Quarter Budget Status; Set next year's meeting dates
Dec 10, 2025	TAC	Teams Meeting, 9:00 AM	Distribute Water Delivery Schedule by Jan 1

LOPEZ RESERVOIR STORAGE PROJECTION



Notes:

Reservoir Storage = Current Storage + Inflow - Outflow

Outflow = Agency Usage + Downstream Releases

Agency Usage: is based on 5-yr average monthly deliveries

Predicted Inflow: dependent on predicted rainfall data from longrangeweather.com; Only 12 months of predicted rainfall is available, projections beyond 12 months use previous year's data.

Inflow is affected by antecedant soil conditions and factored into the model. Rainstorms will produce less inflow during the dry months than during the rainy season when the soil is saturated.

The **Storage Projection Model** is based on a polynomial regresssion (concave in shape). The (concave) **Storage Projection Graph** will fall below the (linear) **Storage Projection with No Rain Graph** during months of low predicted rainfall.

San Luis Obispo County Flood Control and Water District
Zone 3 - Lopez Project - Monthly Operations Report
October, 2024

PROJECT WATER

	AVAILABLE WATER (APR-MAR)				DELIVERIES																
					THIS MONTH									APRIL TO PRESENT							
CONTRACTOR	ENTITLEMENT	STORED PW*	SURPLUS WATER AVAILABLE	TOTAL AVAILABLE PW	ENTITLEMENT USAGE	ENTITLEMENT %	STORED PW USAGE	STORED PW %	SURPLUS PW USAGE	SURPLUS PW %	DELIVERIES DURING SPILL	TOTAL USAGE	TOTAL %	ENTITLEMENT USAGE	ENTITLEMENT %	STORED PW USAGE	STORED PW %	SURPLUS PW USAGE	SURPLUS PW %	DELIVERIES DURING SPILL	TOTAL USAGE	TOTAL %
AG	2290	0	0	2290	183.19	8%	0.0	0%	0.0	0%	0.00	183.19	8%	885.3	39%	0.0	0%	0.0	0%	242.26	1127.57	49%
OCSD	303	0	124	427	51.84	17%	0.0	0%	0.0	0%	0.00	51.84	12%	229.4	76%	0.0	0%	0.0	0%	0.00	229.44	54%
GB	800	0	328	1128	72.13	9%	0.0	0%	0.0	0%	0.00	72.13	6%	303.4	38%	0.0	0%	0.0	0%	97.86	401.22	36%
PB	892	0	366	1258	136.10	15%	0.0	0%	0.0	0%	0.00	136.10	11%	622.1	70%	0.0	0%	0.0	0%	128.38	750.46	60%
CSA 12	245	0	0	245	6.78	3%	0.0	0%	0.0	0%	0.00	6.78	3%	47.7	19%	0.0	0%	0.0	0%	8.32	56.01	23%
SM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL	**4530**	**0**	**819**	**5349**	**450.04**	**9.9%**	**0.0**	**0%**	**0.0**	**0%**	**0.00**	**450.04**	**8.4%**	**2087.9**	**46.1%**	**0**	**0.0%**	**0.0**	**0%**	**476.82**	**2564.70**	**48%**

STATE WATER PROJECT WATER

			DELIVERIES											
			THIS MONTH						JANUARY TO PRESENT					
			ALLOCATION			DIE	AIE	TOTAL	ALLOCATION		DIE	AIE	TOTAL	
CONTRACTOR	ANNUAL REQUEST**	CUMULATIVE SSWPW ***	REQUEST	USAGE	%	USAGE	USAGE	USAGE	USAGE	%	USAGE	USAGE	USAGE	
AG	N/A	0.0	N/A	N/A	N/A	0.0	0.0	0.00	N/A	N/A	0	0	0.00	
OCSD	357.5	0.0	0.0	0.00	0.0%	0.0	0.0	0.00	281.0	79%	0	0	281.01	
GB	N/A	0.0	N/A	N/A	N/A	0.0	0.0	0.00	N/A	N/A	0	0	0.00	
PB	412.0	0.0	0.0	0.00	0%	0.0	0.0	0.00	380.0	92%	0	0	379.96	
CSA 12	96.0	0.0	8.5	8.50	9%	0.0	0.0	8.50	77.8	81%	0	0	77.81	
SM	90.0	0.0	7.0	5.30	6%	0.0	0.0	5.30	51.5	57%	0	0	51.45	
TOTAL	**955.5**	**0.0**	**15.5**	**13.80**	**1%**	**0.0**	**0.0**	**13.80**	**790.2**	**83%**	**0**	**0**	**790.23**	

CONTRACTOR	TOTAL MONTHLY DELIVERIES [AF]
AG	183.19
OCSD	51.84
GB	72.13
PB	136.10
CSA 12	15.28
SM	5.30
TOTAL	**463.84**

DAM & OTHER OPERATIONS

	THIS MONTH	WY TO DATE	MAX CAPACITY	
LAKE ELEVATION (ft)	518.69	N/A	522.60	
STORAGE [AF]	45,968	N/A	49,476	93%
MONTHLY RAINFALL [in]	0.13	25.67	N/A	
(Annual: July 1- June 30)		-		
DOWNSTREAM RELEASES [AF]	335.12	2,242.44	4,200.00	
LAKE TO TERMINAL [AF]	404.17	2,797.58	N/A	
SPILLAGE [AF] (WY)	-	2,810.76	N/A	
AG WHEELING OCEANO WATER	1.83	N/A	N/A	

District Stored SWPW

	[AF]
PREVIOUS DISTRICT SSWPW	109.42
DWR METER DELIVERIES	52
CHANGE IN STORAGE	38.2
EVAPORATION	TBD
REMAINING DISTRICT SSWPW	**147.62**

WATER ACCT. AFFECTED DUE TO SPILLAGE

	[AF]
DISTRICT SSWPW	N/A
CUMULATIVE SSWPW	N/A
TOTAL STORED PROJECT WATER	N/A
TOTAL	
NO WATER SPILLED IN OCTOBER	

GLOSSARY

AIE: Agency Initiated Exchange
DIE: District Initiated Exchange
N/A: Not Applicable
PW: Project Water aka Lopez Water
Stored PW: Generated from unused entitlement water at end of WY
Surplus Water (AKA Carry Over Water): Generated from unused DS Releases at end of WY
SWP: State Water Project
SSWPW: Stored SWP Water
* Stored PW includes Declared Surplus Water
** Actual amount available is dependent on the State's (DWR) delivery %
*** Stored SWP water resulting from AIE

NOTES

1) By March 31, 2024, a total of 2,532.60 AF of unused entitlement was generated. Corresponding amounts were transferred to each contractor's Stored Project Water bucket.
2) On May 1, 2024, 2,532.60 AF of Stored Project Water was lost due to April's 2,693.66 AF spill event.
2) Dam stopped spilling on June 16, therefore half of June Project Water Deliveries (162.55 AF) were reported under "Deliveries During Spill."

ZONE 3 Lopez Project

San Luis Obispo County Flood Control and Water Conservation District

November 21, 2024

MEMORANDUM

TO: Flood Control Zone 3 Advisory Committee

FROM: Kristina Borges, Accountant

SUBJECT: Flood Control Zone 3, First Quarter Budget Status, Fiscal Year 2024-25

Recommendation

The item to be received and filed.

Summary

Attached please find a comparison of the budget to actual expenses for the first quarter of fiscal year 2024-25. The $7.4M budget is broken into three categories: Routine Operations & Maintenance, Non-Routine Operations & Maintenance, and Capital Outlay. At the end of the first quarter, 19% of the total annual budget was expended.

Total Budget	Expenses through Q1	Balance Available	% of Budget Expended
7,447.453	1,390,548	5,325,058	19%

Routine O&M: This category has a budget of $5.02M dollars. At the end of the first quarter, 27% of the annual budget has been expended, resulting in approximately $3.68M being available for the remainder of the year. Expenses in this category are slightly above target with budgeted levels.

Total Budget	Expenses through Q1	Balance Available	% of Budget Expended
5,024,926	1,340,547	3,684,379	27%

Non-Routine O&M: This category has a budget of $1.46M. At the end of the first quarter, <1% of the annual budget had been expended, resulting in an available balance of $1.41M for the remainder of the year. Most of the items in this category have had the budget carried forward from the prior year to continue working on them.

Total Budget	Expenses through Q1	Balance Available	% of Budget Expended
1,460,490	48,694	1,411,796	<1%

Capital Outlay: This category has a budget of $962,038. At the end of the first quarter, expenses were <1% of the annual budget, resulting in $960,731 available for the remainder of the year. The unspent budget from the prior year has been carried forward for several projects and accounts for the majority of this category's budget.

Total Budget	Expenses through Q1	Balance Available	% of Budget Expended
962,038	1,307	960,731	<1%

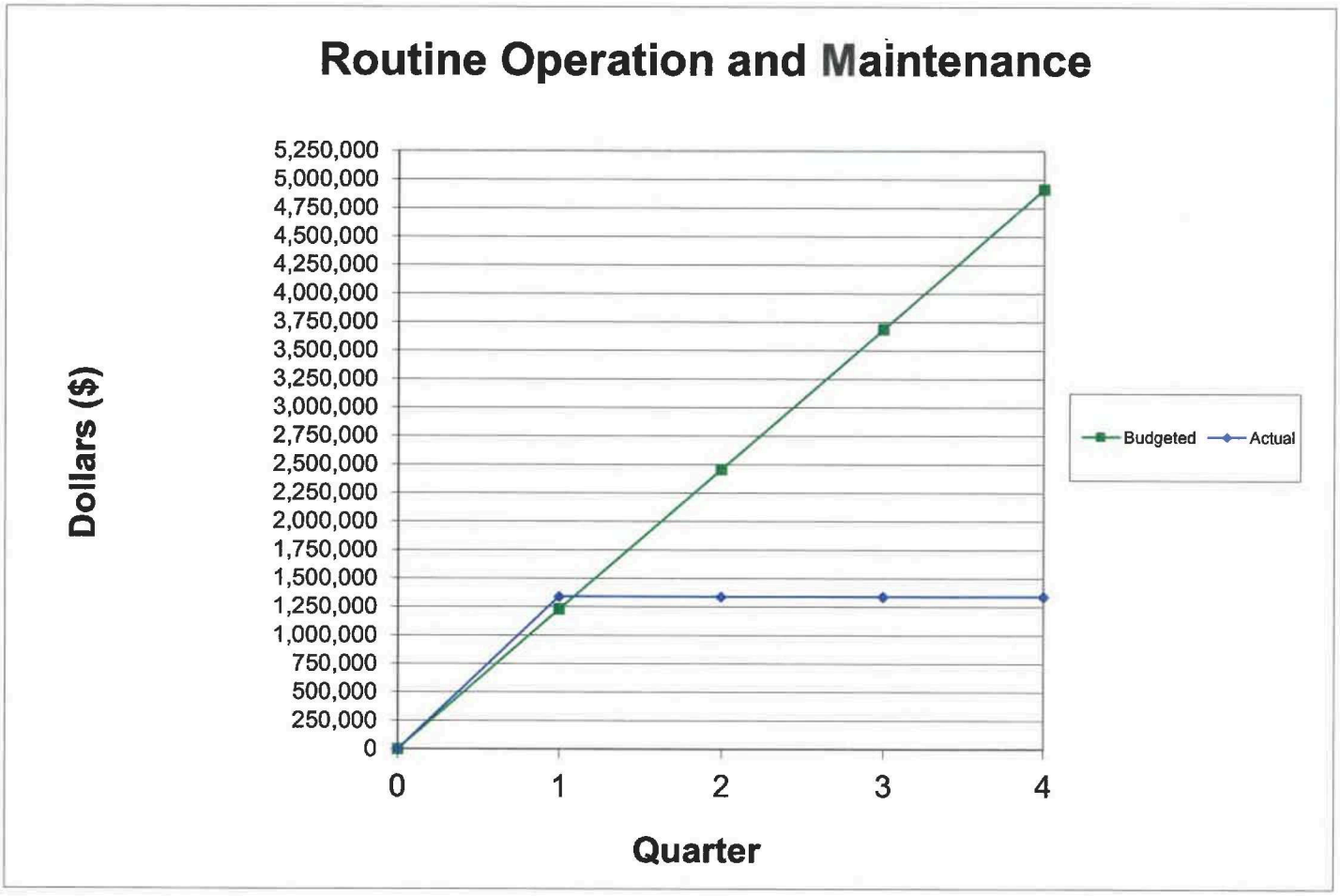
Other Agency Involvement/Impact

The agencies involved: City of Arroyo Grande, City of Grover Beach, City of Pismo Beach, Oceano Community Services District, and County Service Area 12. Subcontractors of CSA 12 include Port San Luis Harbor District and Avila Beach Community Services District.

Financial Consideration

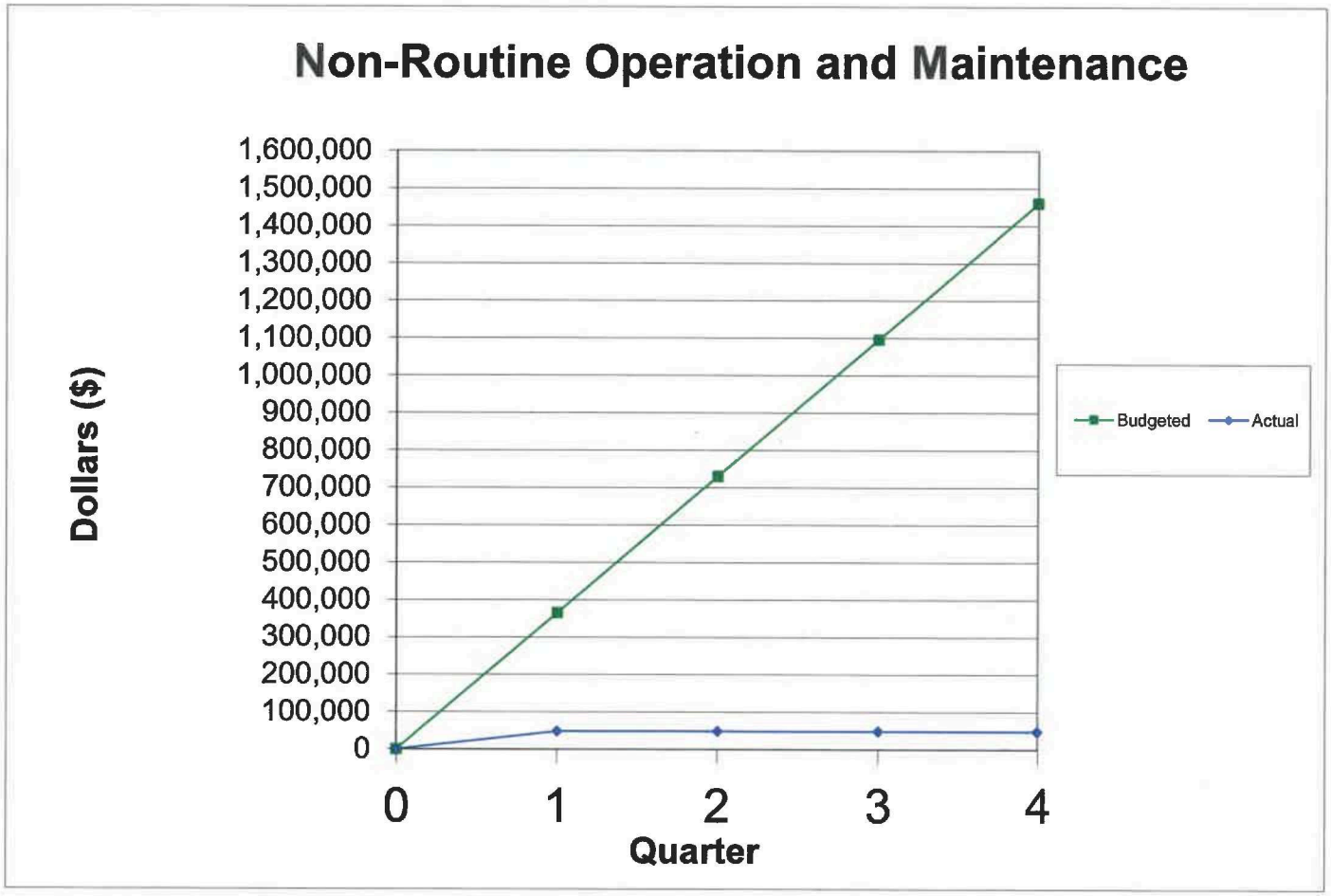
All agencies are current on their payments. The revised billings for FY 2023-24 will be mailed along with the 2nd installment of the FY 2024-2025 billings have been mailed. Payments are due January 1, 2024.

Zone 3 Budget Status
1st Quarter FY24/25



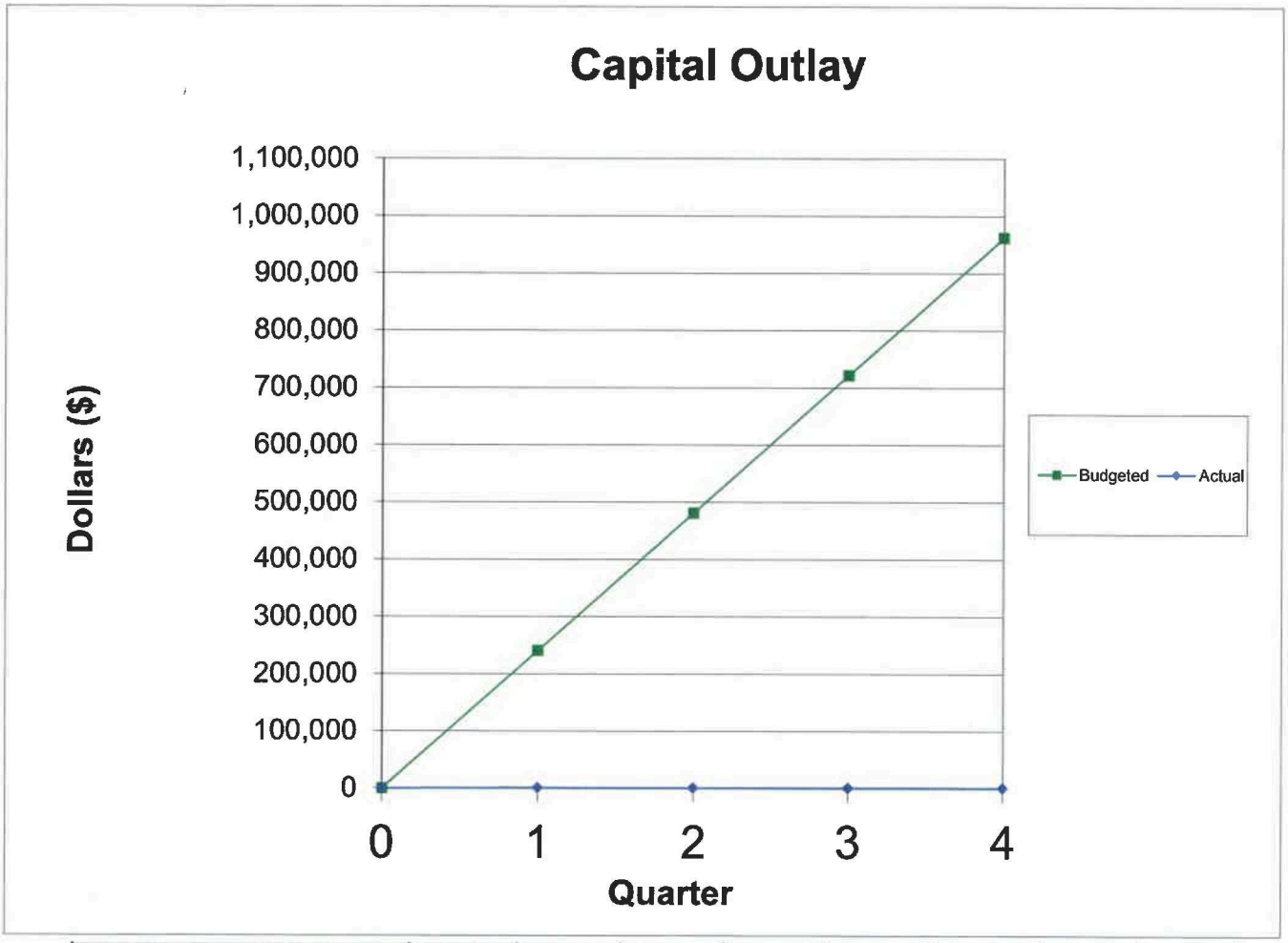
O&M Routine Category	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	Total Exp as % of Budget	Total Balance Avail
Labor Hours	23,800	5,559	-	-	-	5,559	23%	
Chemicals - Water Treatment Plant	$ 544,369	$ 160,700				$ 160,700	30%	$ 383,669
Water Quality Testing - Treatment Plant	185,882	12,900				12,900	0%	172,982
Electricity - Water Treatment Plant	355,277	114,494				114,494	32%	240,783
All Other Costs - Water Treatment Plant	2,175,368	446,932				446,932	21%	1,728,436
Terminal	143,484	56,456				56,456	39%	87,028
Main Dam	223,230	161,744				161,744	72%	61,486
Other	1,286,385	387,321				387,321	30%	899,064
Expenses		1,340,547	-	-	-	1,340,547	27%	3,573,448
Budget	4,913,995	1,228,499	1,228,499	1,228,499	1,228,499	4,913,999		
Variance (over)/under		(112,048)	1,228,499	1,228,499	1,228,499	3,573,448		
% Variance		-9%	100%	100%	100%			

Zone 3 Budget Status
1st Quarter FY24/25



O&M Non Routine Category	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	Total Exp as % of Budget	Total Balance Avail
Lopez Water Rights /HCP	$ 435,128	$ 13,973	$ -	$ -	$ -	$ 13,973	3%	$ 421,155
Cathodic Protection Maint	-	$ -	-	-	-	$ -	0%	$ -
Contribution to ISF/New Equip	77,873	$ -	-	-	-	$ -	0%	$ 77,873
Geotech Test/Seismic Alt Study Terminal Dam	31,080	$ 24,449	-	-	-	24,449	79%	6,631
Safety Upgrades to WTP	65,000	$ -	-	-	-	-	0%	65,000
Replace Obsolete Hach Turbidimeters	-	$ -	-	-	-	-	0%	-
Water Treatment Alternatives Study	-	$ -	-	-	-	-	0%	-
Risk Assessment Fault Zone Left Abutment	-	$ -	-	-	-	-	0%	-
Cloud Seeding Program	450,495	$ 1,565	-	-	-	1,565	0%	448,930
Plant Equipment Audit	-	$ -	-	-	-	-	0%	-
Domestic Tank Repair	-	$ -	-	-	-	-	0%	-
Spillway Physical Investigation	350,185	$ 8,707	-	-	-	8,707	2%	341,478
Contr to FC General AG Creek Subbasin	-	$ -				-	0%	-
Replace Stem Wall Sludge Bed 2	50,729	$ -			-	-	100%	50,729
Expenses		48,694	-	-	-	48,694	3%	1,411,796
Budget	1,460,490	365,123	365,123	365,123	365,123	1,460,490		
Variance (over)/under		316,429	365,123	365,123	365,123	1,411,796		
% Variance		87%	100%	100%	100%			

Zone 3 Budget Status
1st Quarter FY24/25



Capital Outlay Projects	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	% of Budget	Avail
Improved Boat Access at Term Res	$ -	$ -	$ -	$ -	$ -	$ -	0%	$ -
Fireflow Tank Repair	464,715	1,307	-	-	-	1,307	0%	463,408
Cathodic Protection Units 1-3	22,784	-	-	-	-	-	0%	22,784
Mini Excavator	-						0%	
Dump Trailer	-	-	-	-	-	-	0%	-
ATV, Polaris	-	-	-	-	-	-	0%	-
Mower	160,000	-	-	-	-	-	0%	160,000
Track Loader	-	-	-	-	-	-	0%	-
TBD - REPLACE CARBON FEED SYSTEM	50,000	-	-	-	-	-	0%	50,000
TBD - MEMBRANE REACK VALVE INSTALLATION	50,000	-	-	-	-	-	0%	50,000
TBD - TERMINAL DAM PEIZOMETER REPLACEMENT	100,000	-	-	-	-	-	0%	100,000
TBD - MEMBRANE RACK PIPE REPLACEMENTS	50,000	-	-	-	-	-	0%	50,000
Upgrade EQ Pump	37,623	-	-	-	-	-	0%	37,623
Carbon Dioxide Injection System	-	-	-	-	-	-	0%	-
WTP-Membrance Filter Modules (2 Racks)	26,916	-	-	-	-	-	0%	26,918
Chemical Tank Replacement	-	-	-	-	-	-	0%	-
Expenses		1,307	-	-	-	1,307	0%	960,731
Budget	962,038	240,510	240,510	240,510	240,510	962,038		
Variance (over)/under		239,203	240,510	240,510	240,510	960,731		
% Variance		99%	100%	100%	100%			

ZONE 3 Lopez Project

San Luis Obispo County Flood Control and Water Conservation District

TO: Zone 3 Technical Advisory Committee

FROM: David Spiegel, PE, Utilities Engineer

DATE: November 11, 2024

SUBJECT: Zone 3 Projects Update

Project Updates:

- Fire Flow Tank Replacement (No Change) – On Hold
  - Final Design Plans are complete
  - ~$500k in Zone 3 Funds
  - Budget ~$1,400,000

- Membrane Module Replacement (No Change)
  - 2 racks more racks have been replaced and are operational
  - Budget ~$600,000

- Spillway Assessment and Investigation
  - Performed ground penetrating radar
  - Removed concrete cores in chute and walls
  - Remainder of project ~ minimum of $300,000

- Geotechnical Testing & Seismic Alternatives Study of Terminal Reservoir Dam (No Change)
  - With DSOD for Review
  - Geotechnical Engineering Report Complete
  - Budget ~$500,000

- Cathodic Protection Repair Project
  - Working on transient monitoring station plans for DWR/State water line crossing
  - System working well
  - Budget ~$449,933

- DAF Building Repairs
  - Contracted with Quincon/PWS to repair building
  - Rafters support safety tether for maintenance of DAF equipment
  - ~$95,000

ZONE 3 Lopez Project

San Luis Obispo County Flood Control and Water Conservation District

Completed Projects

- Perimeter Channel Repair
- Sludge Bed Curtain Wall Rehab
- Chemical Tank Replacement
- Spillway Flipbucket Repair (FEMA)
- Bathymetric Study
- CO2 Injection System

November 21, 2024

TO: **Zone 3 Advisory Committee**

FROM: **David Spiegel, P.E., Utilities Engineer**

SUBJECT: **Interpretation and Response to David Swift's Lopez Reservoir Analysis**

Background

On March 21, 2024 the Zone 3 Advisory Committee was presented with an Analysis of the Lopez Reservoir by David Swift. This analysis came at a time when several Agencies that are part of Zone 3 had been working towards alternative sources of water supply/groundwater recharge. Mr. Swift is a resident of Grover Beach and a Licensed Mechanical Engineer who wanted to communicate the following, as stated in his report and presentation:

1. *In creating a historical supply (groundwater and Lopez water) and demand model, I was hoping to show a clear cycle in the supply side that necessitated additional supply during the low periods. This would correspond, in theory, to the severe drought cycle, which anecdotally, has a 25-year period.*
2. *With a clear picture of the past and predicted future low precipitation, I could communicate a future period of obvious need.*
3. *Having a predictive supply model and an anticipated demand would clearly communicate the severity of the future need.*

In his assessment he drew several conclusions and some final points:

1. *Lopez availability is impacted by multiple compounding (drought & diversions/releases) and competing (diversions/releases and high rainfall) forces.*
2. *Conservation response to drought or lower than normal rainfall is slow.*
3. *Downstream release to AG creek looks to be the single largest stressor for the last 35 years.*
4. *Releases in preparation for 2005 retrofit couldn't have been timed any worse. They robbed the lake of a complete recovery during the extreme wet cycle.*
5. *I was looking for trends to help me communicate a need for additional water supplies during extended and severe drought.*
6. *Just drawing a single conclusion based on availability, under current management*

strategies would lead me to believe additional water supplies are needed every ~25 years.

7. *As a side discovery, it looks like downstream releases to AG creek could be safely reduced by as much as 100AF/Mo or 1200AF/yr. That would provide an additional 15,000 residents with 70g/p/d.*
8. *Per the HCP, the Downstream Release could be as low as 3 cfs or about 178 AF/Mo. This represents additional water availability to another 4000 residents. While this may run contrary to the environmental agencies desires, it appears to be permissible.*

The San Luis Obispo County Flood Control and Water Conservation District, Zone 3 Technical Advisory Committee, wanted to provide a response to this analysis to clarify some of the information provided within Mr. Swift's report and explain why Mr. Swift's conclusions are skewed by both not having a full understanding of downstream releases as well as Mr. Swift's tendency to use the minimum release volumes on the range for various factors.

Conclusion #1: Lopez Availability Impacted by Compounding and Competing Forces:

While it's accurate that Lopez availability is influenced by various factors like drought, diversions, and high rainfall, it's crucial to recognize that various management strategies have been used to mitigate these impacts. Agencies that use Lopez water (AG, PB, GB, and Oceano) have various water portfolios between Lopez water, State water, and Ground water. Depending on drought conditions, ground water conditions, cost per unit, and other source availability it can be advantageous to source one supply over another. These factors can include:

1. Ground water recharge/availability
2. Rainfall to date
3. Antecedent moisture of soil
4. Evaporation
5. Lopez Water entitlement (including stored and surplus)
6. State Water Availability, drought buffer, storage, propensity for spill
7. Downstream and Municipal Deliveries

Conclusion #2: Slow Conservation Response to Drought:

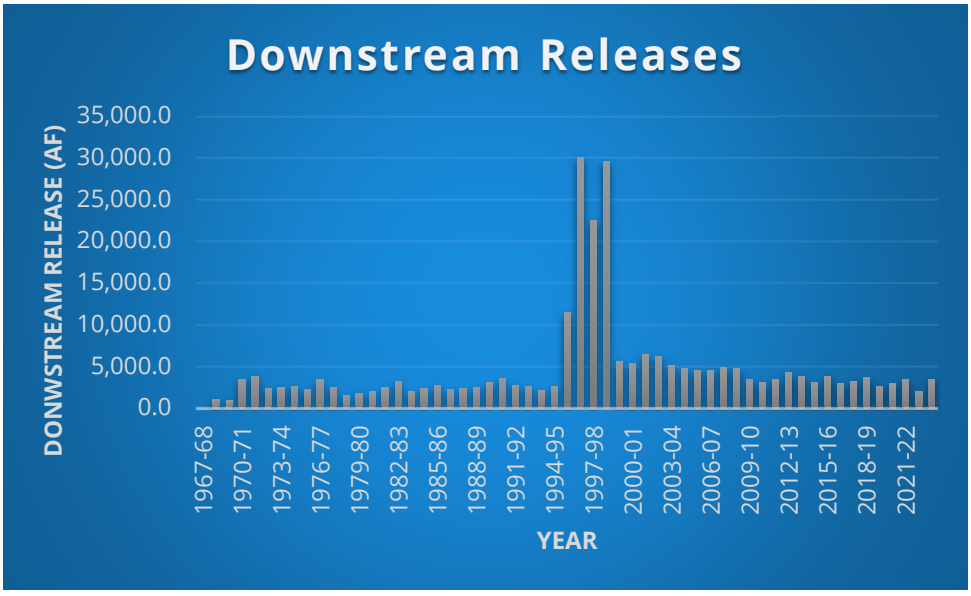
Prior to the large releases due to the seismic remediation project between 1996 and 2005, the reservoir recovered well between droughts. Due to the events leading up to 2005, the reservoir had been operated outside the

safe yield. This effectuated the need for a Low Reservoir Response Plan (LRRP) and Agency involvement in conservation that hadn't been seen before. Efforts by the Agencies since this point have been proactive; meeting or exceeding the requirements set forth in the LRRP by initiating reductions to deliveries prior to LRRP set reservoir limits. This is also mirrored by NCMA agencies reduction in groundwater withdrawal during the same period.

Conclusion #3: **Downstream Release to AG Creek as the Single Largest Stressor:**

Labeling downstream releases to AG Creek as the single largest stressor oversimplifies the situation. It's important to consider a comprehensive analysis of all stressors, including environmental, regulatory, and climatic factors. Other stressors may be equally or more significant and addressing them requires a balanced approach rather than focusing solely on the single element of downstream releases.

State regulation required the reservoir to be operated outside the safe yield. Environmental and climatic conditions required an adaptive management approach centered around drought and wet rainfall cycles. All this to further focus on multiple elements rather than just one single factor. Historical downstream releases, shown below, corroborate that this adaptive management approach, after the LRRP was implemented, has led to safer releases than in the past.



Conclusion #4: **Timing of Releases for 2005 Retrofit:**

While the timing of releases before the 2005 retrofit may have been suboptimal, it's also essential to recognize that decision-making often involves trade-offs. Future planning should involve a more dynamic approach to scheduling releases that accounts for various potential scenarios. Furthermore, the drought that followed could not have been anticipated at the time of the retrofit work.

Conclusion #5: **Need for Additional Water Supplies During Extended Drought:**

Seeking trends to communicate the need for additional water supplies is valid, but it's important to recognize that trends alone may not fully capture the complexity of water management needs. A more nuanced approach that includes predictive models and scenario planning could provide a clearer picture of when and how much additional supply is needed.

The State has completed significant modeling on what the projected climate will look like over the next several decades. (https://climateresilience.ca.gov/overview/impacts.html) Wetter wet's and dryer dry's will be the new normal, also called increased drought and deluge. Furthermore, it is anticipated that future snowfall precipitation will increasingly fall in the form of rain, thus decrease Sierra snowmelt storage and spring release to the State's reservoir system. Planning for additional sources of water is sensible in these varying times amid climate change

Conclusion #6: **Drawing Conclusions Based on Availability Under Current Management:**

Assuming additional water supplies are needed every ~25 years based on availability alone may be misleading. Changes in climate patterns, water use efficiency, changes in agricultural crops, regional growth, and management practices can alter these needs. A more adaptive and forward-looking approach should be used to forecast water supply needs.

Relying on historical patterns alone is a poor metric for the dynamic hydrological cycles anticipated ahead.

Conclusion #7: Potential Reduction of Downstream Releases to AG Creek:

While reducing downstream releases to AG Creek might offer additional water for residents, this proposal must consider the environmental impacts on AG Creek and its ecosystem, as well as state and federal regulations, the Endangered Species Act and a final Habitat Conservation Plan (HCP). Any adjustments to release levels should be thoroughly assessed for their ecological and regulatory consequences to ensure that they do not inadvertently harm the environment or violate environmental regulations. Additionally ground water recharge of the aquifer must be considered. Seawater intrusion is a threat to some of the agencies ground water wells and reductions to downstream releases will impact the groundwater supply for both agencies and the riparian users.

Conclusion #8: Permissibility of Reducing Downstream Releases According to HCP:

Although the Draft HCP might permit reductions in downstream releases, the broader environmental implications need to be carefully evaluated and approved by the regulators. Additionally, the permissibility does not cover all months of the year, only a few months of the year can be reduced to 3 cfs. A future final HCP may also have different conclusions.

Overall, while these conclusions offer valuable insights, they should be considered within a broader context that includes potential solutions, adaptive strategies, and the full range of impacts and trade-offs involved in Lopez water management.

Sincerely,

David Spiegel, P.E. – Zone 3 Representative