



**SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND WATER CONSERVATION DISTRICT
ZONE 3 ADVISORY COMMITTEE**

AGENDA

Thursday, September 17, 2015 6:30 PM
City of Grover Beach

- 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. APPROVAL OF MEETING MINUTES OF July 16, 2015
- IV. OPERATIONS REPORT
 - A. Water plant operations, dam storage, and creek releases
- V. 4th QUARTER BUDGET STATUS
- VI. INFORMATION ITEMS
 - A. Climate Update
 - B. Habitat Conservation Plan (HCP) Update
- VII. CAPITAL PROJECTS UPDATE
 - A. Bi-Monthly Update
- VIII. ACTION ITEMS (No Subsequent Board of Supervisors Action Required)
 - A. Technical Advisory Committee's (TAC's) Extended Drought Emergency Water Supply Options Evaluation
 - B. Cost Implications of the IDRS, LRRP and Water-Recharacterization
 - C. How the IDRS works with the LRRP
 - D. Declaration of Surplus Water and 2014 Water Re-Characterization
- IX. ACTION ITEMS (Board of Supervisors Action is Subsequently Required)
- X. FUTURE AGENDA ITEMS
 - C. Contract Renegotiation Discussions
 - D. Water Wheeling
 - E. Funding Groundwater Modeling
- XI. COMMITTEE MEMBER COMMENTS

Next Regular Meeting is Tentatively Scheduled for
Thursday, November 19, 2015 at 6:30 PM at City of Arroyo Grande
Agendas accessible online at www.SLOCountyWater.org

**SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
ZONE 3 ADVISORY COMMITTEE
DRAFT MEETING MINUTES
THURSDAY July 16, 2015**

I. Call To Order/Roll Call

The Meeting was called to order at 6:30 pm at the Oceano Community Services District by Zone 3 Advisory Committee Chairman, Ed Waage. County Public Works Department Administrator and Secretary to Committee, John Diodati called role. Members in attendance were:

Karen Bright, City of Grover Beach

Brian Talley, Agriculture Delegate

Jim Garing, Member at Large

John Wallace, County Service Area 12 Member at Large

Paavo Ogren, Oceano Community Services District

Ed Waage, Chairman, City of Pismo Beach

Quorum was established and the meeting continued.

II. Annual Fiscal Year Rotation - Position of Chairman and Vice-Chairman --

City of Pismo Beach rotated position of Committee Chairman to Oceano Community Services District; and position of Vice Chair has rotated to County Service Area 12 (CSA 12) representative.

- III. Public Comment** – Mr. Diodati announced County Public Works Accountant, Joanne Hilker, has been assigned to Zone 3 following former Zone 3 Accountant Jennifer Colvard's departure from the County. Mr. Diodati also stated July's Committee Meeting will be the last meeting he will serve as Secretary to, as County Public Works Utilities Program Manger Andrea Montes will fill the role of Secretary for future Zone 3 Advisory Committee Meetings. The Committee thanked Mr. Diodati, as well as Ms. Colvard for their years of service.

IV. Approval of Meeting Minutes of May 21, 2015 –The minutes of the May 21 meeting were approved unanimously with no public comments.

V. Operations Report -- The Operations Report was presented by Lopez Water Treatment Plant (LWTP) Assistant Superintendent, Joe Philips. Mr. Philips reported the Lopez Reservoir elevation was at 475.05 feet. Lopez Storage was 17,469 Acre-Feet (AF) and was at approximately 35.5 percent capacity. Rainfall to date was 0 inches. The plant production was 2.3 Million Gallons per Day (MGD). Filter range-turbidity was .01-.02. The terminal visibility was 11 feet. Downstream releases were 5.0 MGD to the creek, with 2.78 MGD in State Water production.

Vice-Chair John Wallace asked for confirmation of the increased downstream release of 5.0 MGD, which was 4.3 MGD. Mr. Philips indicated the increased release was due to absence of surface water in the creek. Chairman Paavo Ogren commented the City of San Luis Obispo had Trihalomethanes (THM) issues in the water. Mr. Philips stated the THM levels at the LWTP are within the acceptable limits.

VI. Information Items

A. Climate Update – Mr. Diodati reported via map slides included in the Agenda Packet, US Drought Monitor, still experiencing severe drought mode for most of California due to lack of precipitation this spring and summer.

Based off of the NOAA forecast higher temperatures are predicted and predictions of above average precipitation for the months of July, August, September and October are represented of an El Nino weather pattern.

B. Habitat Conservation Plan (HCP) Update – Mark Hutchinson, County Public Works Deputy Director indicated the County is making progress on the Habitat Conservation Plan (HCP). Per Mr. Hutchinson, hydrogeological ECORP Consulting Inc. has completed the technical reservoir downstream release model and are currently making model runs.

ECORP is also tasked with the Water Availability Analysis, essentially a part of the water rights permit. The San Luis Obispo County Flood Control and Water Conservation District (District) will be showing the State Water Board where the water right holders are, how much water they use and how much they need and how water right holders can be affected by District practices.

Meanwhile, HT Harvey, experts on the Endangered Species Act and authors of HCP, who are connecting with ECORP and will be looking at preliminary modeling runs and begin drafting various downstream release program alternatives that will be analyzed in the HCP.

C. Water Supply Update – The Declaration of Surplus Water pursuant to Article 4(D) of the water supply contracts, originally scheduled for April 14 of this year, was delayed pending agency decisions on the State Water/Zone 3 Recharacterization Proposal. With all agencies agreements, the water accounting method between State Water and Lopez Water will be changed.

According to Mr. Hutchinson the County over-delivered State Water. By switching the accounting procedure so stored water in the reservoir would become Lopez Water, it would, per the Low Reservoir Release Plan carry over into the accounts of the Lopez subcontractors that are also State water subcontractors. This procedure essentially allows for more flexibility on behalf of Zone 3 contractors.

The State Water/Zone 3 Recharacterization will go to the Board of Supervisors on September 22, 2015. The following agencies have agreed upon how the water will be divided up: Avila Beach Community Service District, the City of Pismo Beach and Oceano Community Services District.

Member Brian Talley asked Mr. Hutchinson if anyone was opposed to the recharacterization of the State Water and Zone 3. Mr. Hutchinson replied environmental interests might be concerned, however there has been no opposition to date.

Mr. Hutchinson indicated public outreach is occurring between the District, Northern Cities Management Area Technical Group (NCMA TG), Zone 3 TAC, and the agriculture industry to share what conclusions are being developed as a result of different water supply alternatives.

Chairman Ogren indicated the TAC has been evaluating different alternative to backfill for reductions in Lopez Water deliveries, and further indicted he was hoping to see this topic on the September Advisory Committee agenda.

No public comments were made.

VII. Capital Projects Update

A. Bi-Quarterly Update – County Public Works Engineer, Jeff Lee, indicated the 6th Rack Addition for the Filtration Module Project is currently out to bid, and the bid opening date has been extended to July 30, 2015.

Mr. Lee indicated the new delivery date for the Turnout SCADA Project is late August (August 20th approximately), due to a manufacturing delay from a Honeywell sensor. Cannon is under contract to install the panels after fabrication, installation is anticipated to be completed upon panel delivery.

There have been several audits reinitiated (i.e. health and safety audit from the membranes) initiated at the Plant for the Equipment Replacement Program. More information will follow.

Mr. Lee reviewed the new Work Program for Fiscal Year 15-16, which includes efforts include the Lopez Dam and a repair concrete V-ditch adjacent to the spillway, as requested by the Division of Safety of Dams (DSOD). In addition, the Water Treatment Plant parking lot will be resurfaced as part of a County Public Works Roads Division project; however, Zone 3 will be providing the funding for the parking lot portion. In regards to the 33" Piggings Project, the TAC recommended it be delayed one year due to the heavy water use component.

Member Waage asked whether new sensors needed to be installed to accommodate for the new model for the HCP. Mr. Hutchinson indicated no.

Member Garing asked how much will be charged for the parking lot resurface project. Mr. Lee stated indicated it is budgeted at around \$90,000 and it will be a part of the larger resurfacing efforts that the Roads Division is doing; however it will be under contract. Vice-Chair Wallace questioned about the agencies along the pipeline will be able to integrate the data that is going to be coming off of the SCADA system. Mr. Lee responded that agencies will be able to real-time data whether that be flow, temperature, etc.; this will be a firewall through the County system however.

B. Consideration of Maintenance Project – Mr. Lee indicated this item is a "placeholder" item to allow the TAC and the Advisory Committee to consider. He indicated the TAC supports the recommendation of making this a maintenance effort as long funding is available. As part of the recent Division of Safety of Dams review of the Lopez project, two items needed to be reviewed and addressed: Lopez Dam (repair V-ditch adjacent to the spillway) and Water Treatment Plant (terminal dam intake repair). The terminal intake repair for the Water Treatment Plant is estimated to cost \$30,000 based on the initial inspection to identify the issue and a preliminary repair estimate. This cost will also take two divers that will dive down when the plant is not in operation

(ideally when the 6th Rack is in installation). Mr. Lee asked for a acknowledgement for the consideration of the maintenance project. Chairman Ogren asked for confirmation that this work needs to be done, according DSOD, and can be done with the existing Capital Improvement Project funding. Mr. Lee confirmed and indicated the anticipated funding would come from savings from the Perimeter Security Fence Project or the Pigging Project, and would be sufficient to fund the Intake Repair Project. No public comments were made.

Member Waage moved the motion and Member Bright second the motion. Motion was then modified to take the money from the Pigging Project which is deferred. Modified motion passed unanimously.

VIII. Action Items - (No Subsequent Board of Supervisors Action Required)

No items noted on Agenda to discuss.

IX. Action Items (Board of Supervisors Action is Subsequently Required)

No items noted on Agenda to discuss.

X. Future Agenda Items – Mr. Diodati reiterated that as of the September Zone 3 Advisory Committee, County Public Works Utilities Division staff will fill the secretarial position he has been filling. Chairman Ogren summarized that based on the meeting's discussion items to be placed on the September 17 Advisory Committee Agenda include: 1.) update of the IDRS and its relationship to the LLRP; and 2.) update on options for emergency water supplies.

A. Contract Renegotiation Discussions – Will not be ready for September 17 meeting.

B. Water Wheeling – With the adoption for 2014 rate recharacterization, the Zone 3 TAC will be engaging in negotiation discussion before September's Zone Advisory Committee Meeting.

C. Funding Groundwater Modeling – Zone 3 TAC will be addressing this item along with the emergency water supplies options.

Member Talley questioned what the contract renegotiation discussion means. Mr. Diodati indicated the contract negotiations will be vetted through the Advisory Committee after they are decided between the County, municipalities and the contractors. Ultimately, contracts will go to the Board of Supervisors who want to know the Advisory Committee has been engaged in the contract negotiation process.

Chairman Ogren answered as well, discussing the water storage rights. As of right now, Zone 3 agencies don't have the water storage right. The question is, "Should Zone 3 agencies have the mechanism to provide storage rights at Lopez if they do not use their water allocation in a particular year."

Vice-Chair Wallace would like to better understanding the cost of recharacterization and the deliveries and storage of water in the reservoir, and pinpointing where the cost implications of what we're looking at with some of these programs.

XI. Committee Member Comments- Vice-Chair Wallace complimented the TAC and subcommittee members of the TAC who have been working on the scenarios in case there is another dry winter. Chairman Ogren and City of Arroyo Grande Public Works Director, Geoff English spoke about the Water Symposium scheduled for August 13, 2015 at 5:30 PM at the South County Regional Center. The symposium is sponsored via Arroyo Grande/Grover Beach Chamber of Commerce and the local Lion's club. Member Garing will be the keynote speaker.

The focus of the event is to educate residents about the water supply and the conditions, water conservation tools and options, and permanent changes for future water saving. Member Waage stated that the City of Pismo Beach made the 24% cutback. No further comments were made.

Next Regularly Scheduled Meeting will be held Thursday September 17, 2015 at 6:30 pm at the City of Grover Beach. The meeting was adjourned at 7:30 pm.

Respectfully Submitted,

Andrea M. Montes



SAN LUIS OBISPO COUNTY
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September 17, 2015

MEMORANDUM

TO: Flood Control Zone 3 Advisory Committee

FROM: Joanne Hilker, Accountant

VIA: Andrea Montes, Public Works Department Administrator

SUBJECT: Flood Control Zone 3 Fourth Quarter Budget Status FY2014/15

Recommendation

The item to be received and filed.

Discussion

Attached please find the fourth quarter budget versus actual results for the fiscal year 2014/15. The \$5 million dollar budget is broken into three categories: Routine O&M expenditures (\$3 million), Non Routine O&M expenditures (\$500,000), and Capital Outlay expenditure (\$1.5 million). Combined expenditures ended the fiscal year under budgeted levels by \$759,000 producing approximately 15% savings.

Routine O&M annual budget was approximately \$3 million dollars. The actual expenditures ended the fiscal year slightly over budget by \$29,000, or 1%.

Non Routine O&M annual budget was approximately \$500,000 dollars. The actual expenditures at year-end produced savings of 61% or \$282,000. Savings were realized primarily in the Lopez Water Rights/Habitat Conservation Plan (HCP) and Pipeline Valve Replacement/Pigging projects. Year-end encumbered amounts will be carried into FY2015/16. HCP efforts were delayed pending a Hydrogeologic Services contract with ECORP. Approval of the contract work on the Water Availability Analysis and revised Downstream Release Schedule is ongoing. HCP efforts assigned to H.T. Harvey & Associates have resumed in support of said Hydrogeologic Services. HCP efforts will continue into FY 16/17. Preliminary pigging design will begin FY2015/16 with construction efforts scheduled through FY2017/18.

Capital Outlay annual budget was approximately \$1.5 million dollars. The actual expenditures at year-end produced savings of approximately 36% or \$500,000 primarily in the following projects:

1. Lopez Turn-out SCADA
2. 6th Rack Filtration Module Addition
3. Lopez Equipment Replacement Project

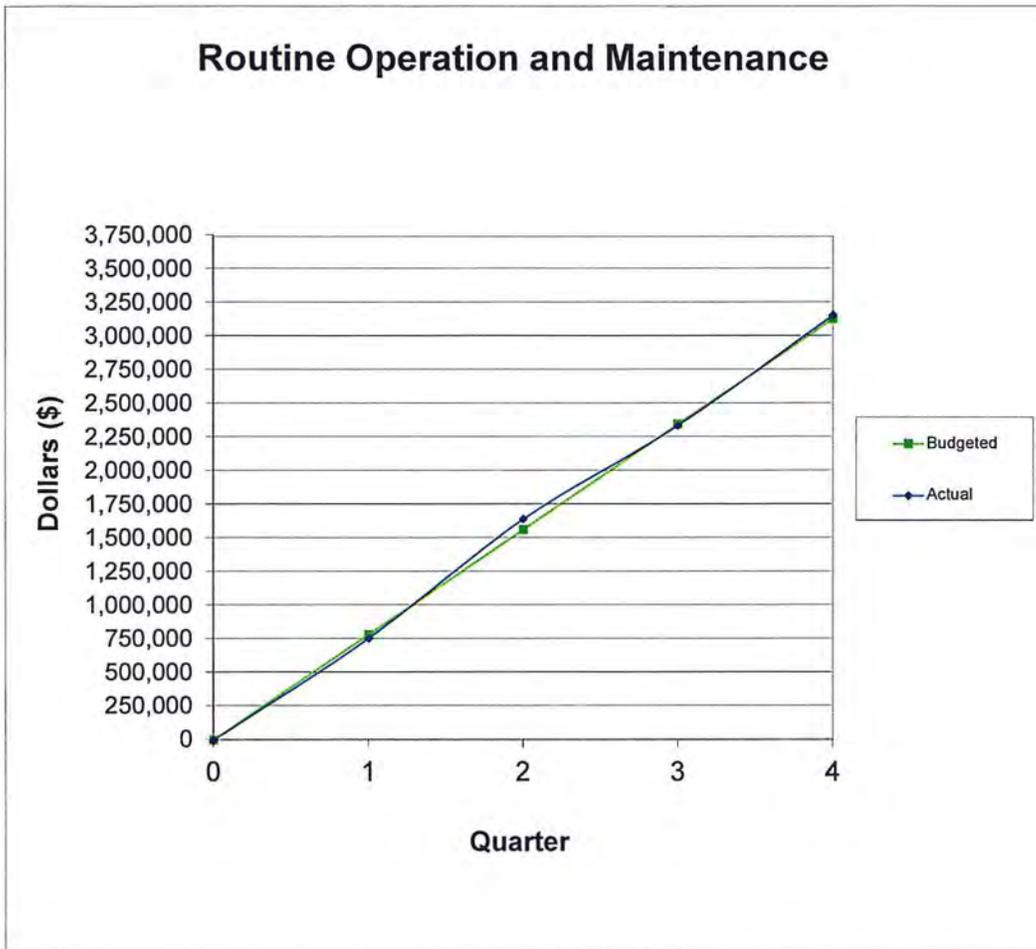
Remaining budget for the uncompleted projects will roll forward to the FY2015/16 budget.

Other Agency Involvement/Impact

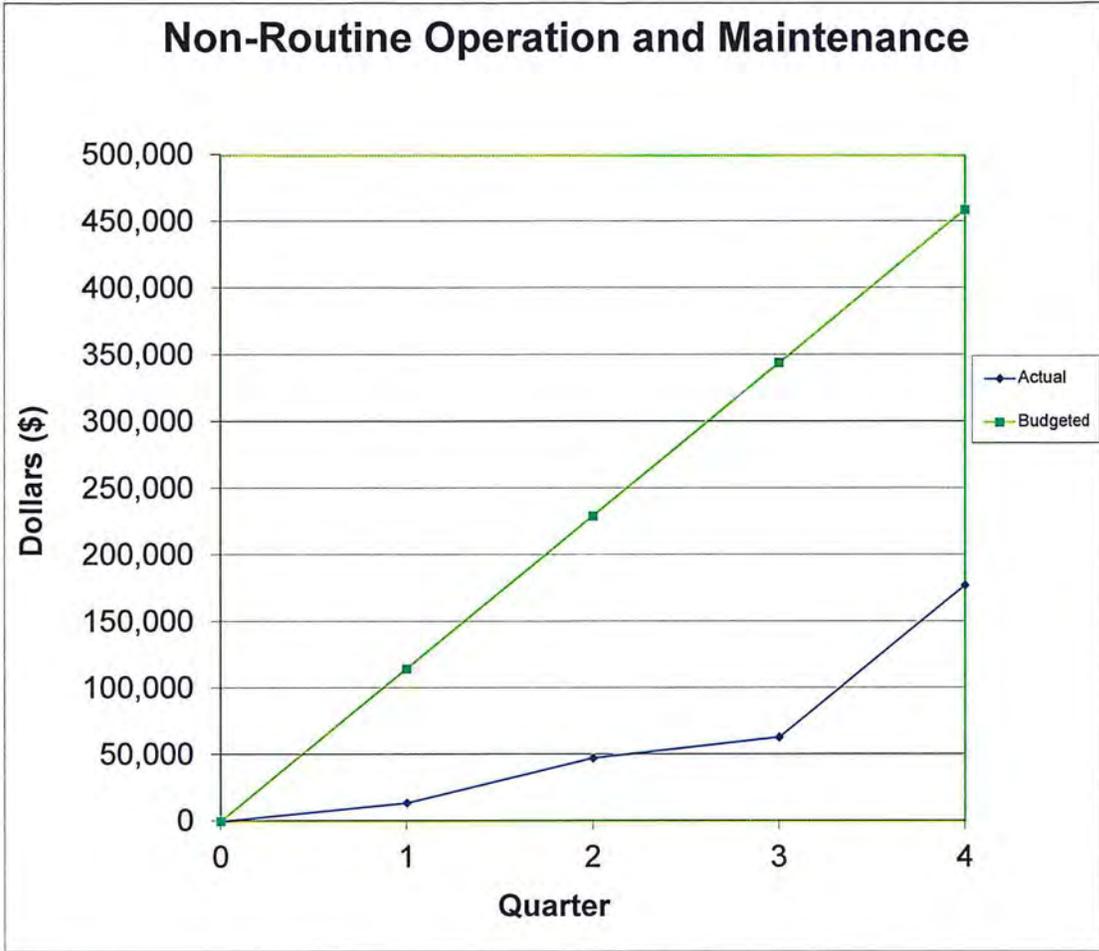
The agencies involved are: City of Arroyo Grande, City of Grover Beach, City of Pismo Beach, Oceano Community Services District, and County Service Area 12. Subcontractors of CSA 12 include Port San Luis Harbor District and Avila Beach Community Services District.

Financial Consideration

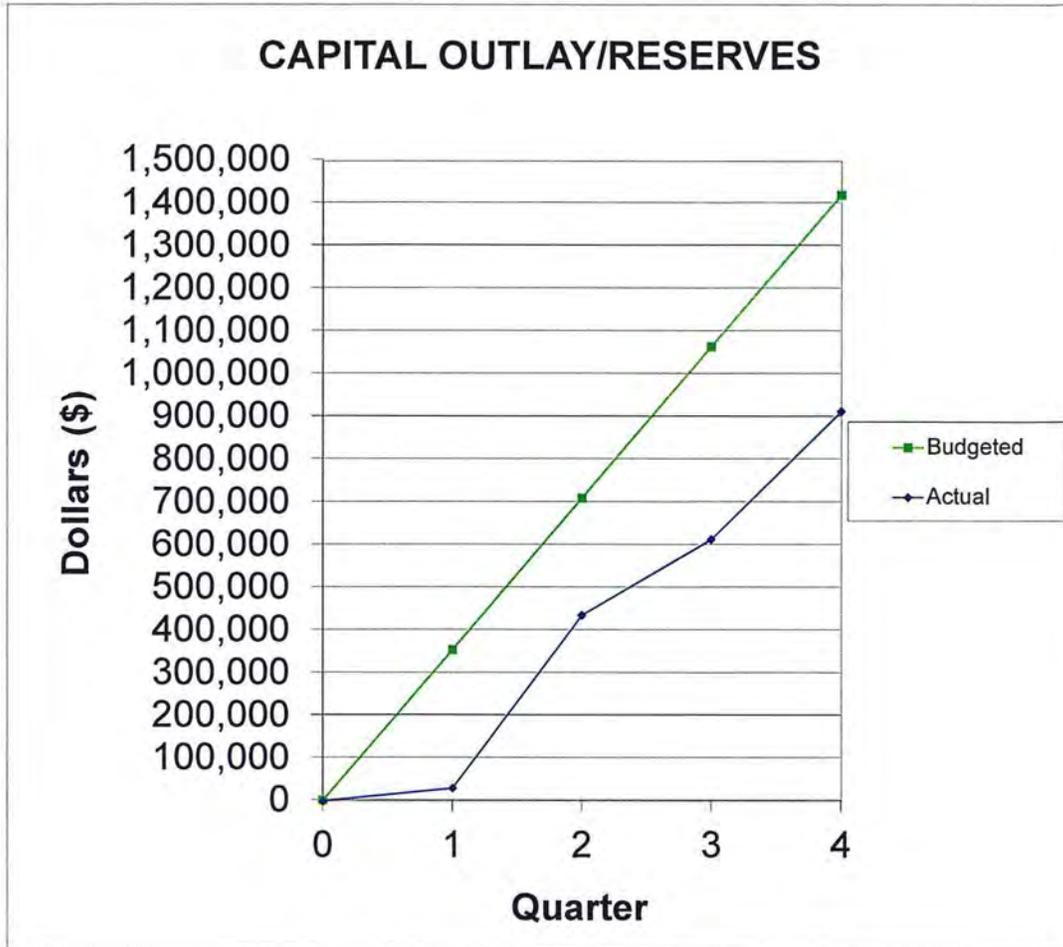
All agencies are current on their payments. The revised billing for FY2014/15 will be reflected on the bills due January 1, 2016.



O&M Routine Category	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	% Under/(Over) Total Budget
Labor and Overhead	1,929,904	458,866	559,196	404,043	488,509	1,910,614	1%
Chemicals - Water Treatment Plant	293,505	89,980	92,745	86,680	51,403	320,808	(9%)
Utilities - Water Treatment Plant	201,607	73,479	66,241	48,510	51,797	240,027	(19%)
Vendors - Water Treatment Plant	261,526	65,889	100,654	101,469	81,176	349,188	(34%)
Terminal	44,255	18,564	15,042	8,672	21,561	63,838	(44%)
Main Dam	90,383	18,606	15,314	11,582	40,173	85,675	5%
Other	312,102	35,209	36,292	34,467	86,503	192,471	38%
Totals O&M		760,592	885,484	695,423	821,122	3,162,620	
Total Budget	3,133,282	783,320	783,320	783,320	783,320	3,133,282	
Variance (over)/under Cumulative		22,729	(79,434)	8,463	(74,796)	(29,339)	
% Variance (over)/under Cumulative		3%	(5%)	0%	(3%)	(1%)	



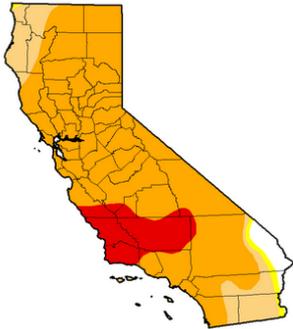
Non Routine Category	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	% Under/(Over) Total Budget
Labor and Overhead	63,793	12,053	9,442	6,788	18,333	46,616	27%
Lopez Water/Water Rights /HCP	174,968	59	22,892	5,740	93,228	121,919	30%
Environmental Monitoring	-	(0)	105	445	-	550	Not bgted
DBP Rule	20,340	1,800	1,400	2,800	2,700	8,700	57%
Entitlement	199,890	-	-	-	-	-	0%
WQ Efforts - Non Schedule	-	-	-	-	-	-	Not bgted
WQ Efforts - Special Projects	-	-	-	-	-	-	-
Other	584	-	-	-	-	-	Not bgted
Total Non Routine		13,912	33,839	15,773	114,261	177,786	
Total Budget	459,575	114,894	114,894	114,894	114,894	459,575	
Variance (over)/under Cumulative		100,981	182,036	281,157	79,827	281,790	
% Variance (over)/under Cumulative		88%	79%	82%	23%	61%	



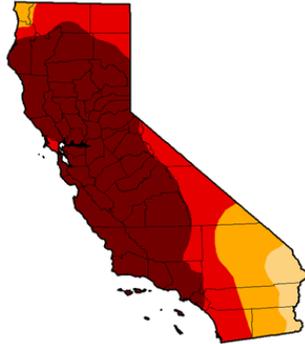
Capital Outlay Project	Total Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total	% Under/(Over) Total Budget
Perimeter Fencing	200,566	6,683	63,448	91,443	1,643	163,217	19%
Lopez Turnouts SCADA System	285,486	13,245	13,128	13,386	11,188	50,947	82%
WTP Membrane Filtration Module Addition	-	192				192	Not budgeted
WTP 6th Membrane Filtration Module Addition	822,619	9,623	329,736	22,842	268,471	630,672	23%
Computer Replacement Project	75,000		287	50,181	18,083	68,551	9%
Other Capital Projects	36,123					-	0%
PY adjustment						-	
Total Capital Outlay		29,743	406,599	177,852	299,385	913,579	
Total Budget	1,419,794	354,948.50	354,948.50	354,949	354,949	1,419,794	
Variance (over)/under Cumulative		325,206	273,555	450,652	(144,196)	506,215	
% Variance (over)/under Cumulative		92%	39%	42%	(14%)	36%	

U.S. DROUGHT MONITOR

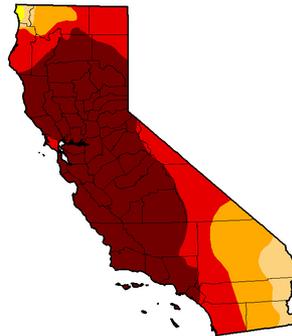
November 2013



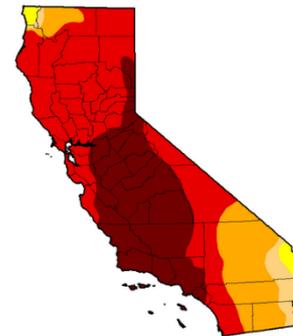
September 2014



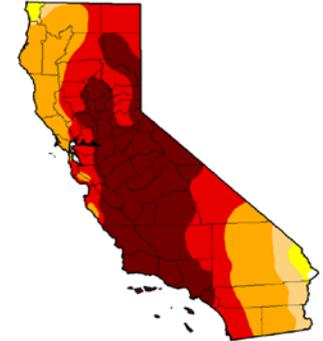
November 2014



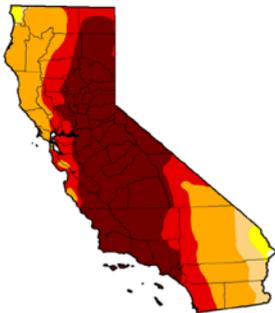
January 2015



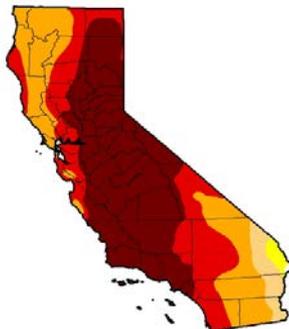
February 2015



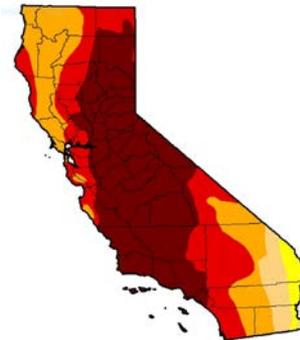
May 2015



July 2015



September 2015



Intensity:

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought

- D3 - Extreme Drought
- D4 - Exceptional Drought

Permission to reproduce the map

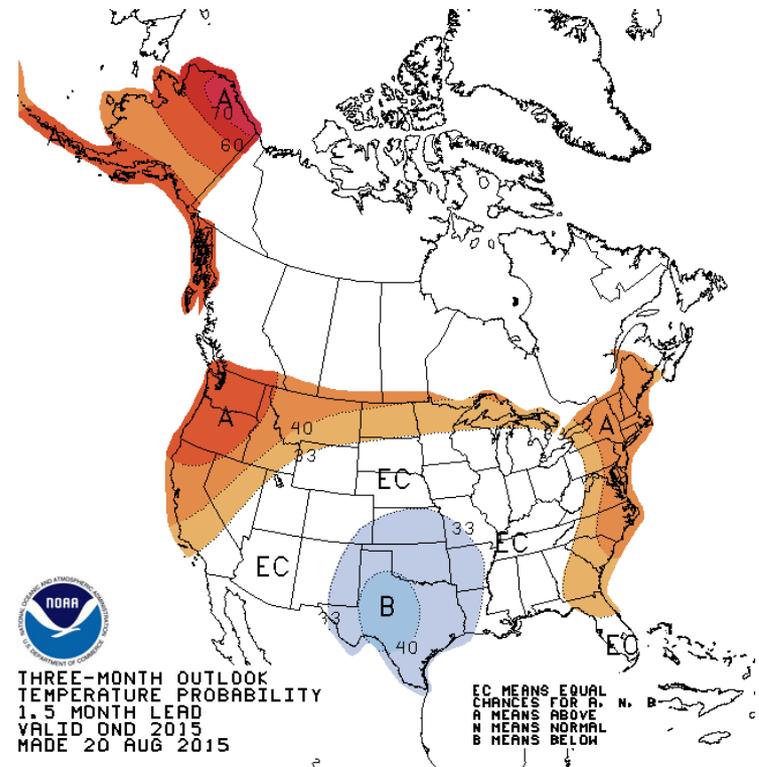
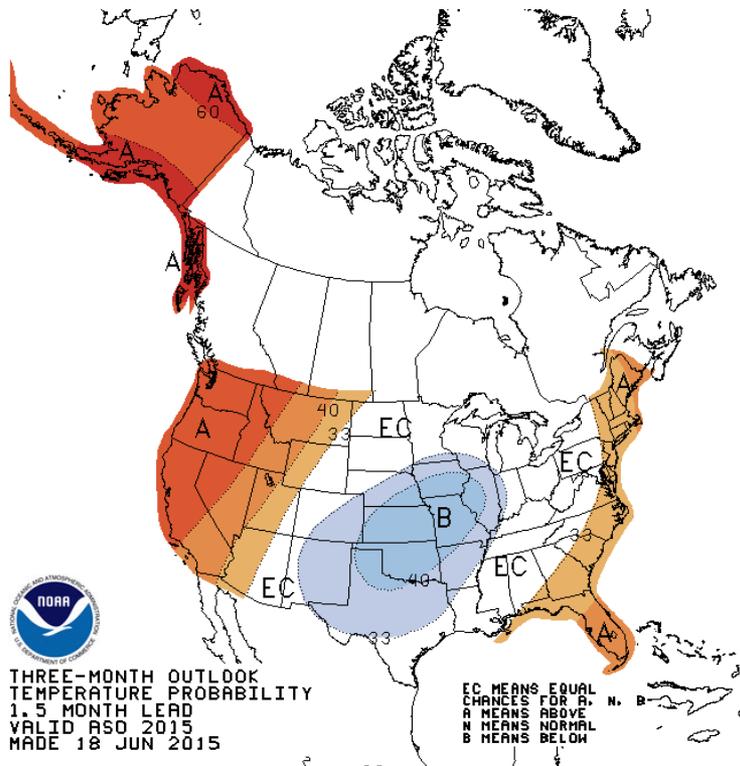
If you reproduce the U.S. Drought Monitor map, please use this wording:

The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC-UNL.

NOAA TEMPERATURE FORECAST

Aug., Sept., Oct.

Oct., Nov., Dec.



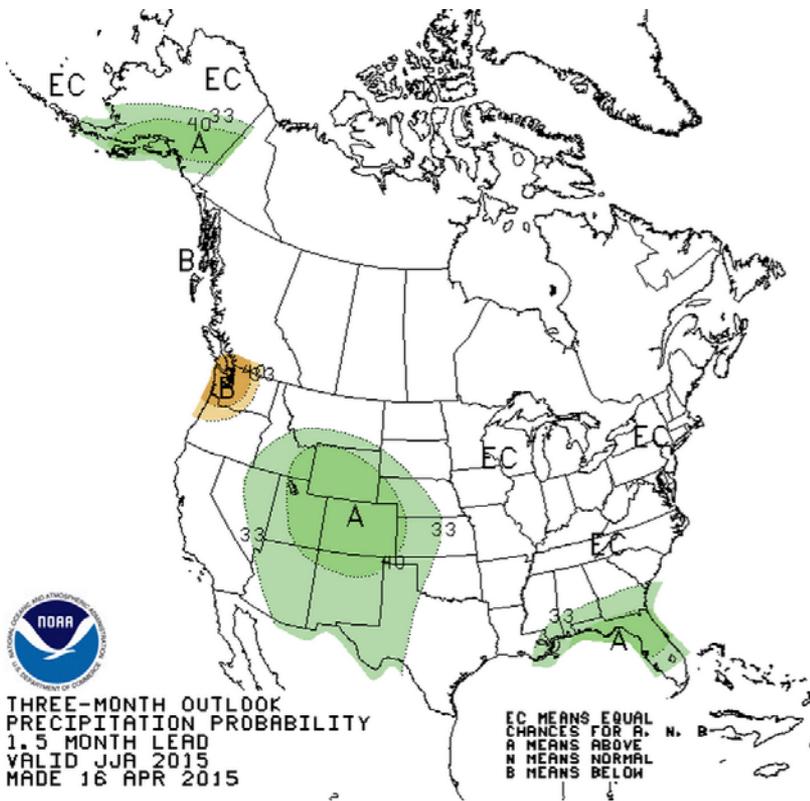
July Meeting

September Meeting

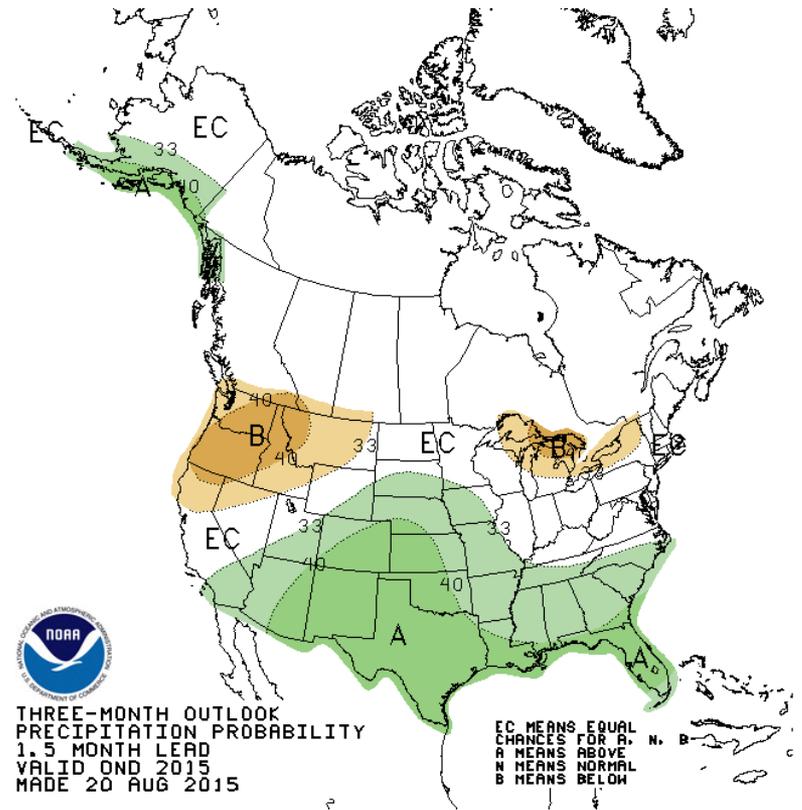
NOAA PRECIPITATION FORECAST

Aug., Sept. Oct.

Oct., Nov., Dec.



July Meeting



Sept. Meeting



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

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TO: Zone 3 Advisory Committee

FROM: Katie Drexhage, Environmental Resource Specialist

DATE: September 10, 2015

SUBJECT: Lopez Water Project Habitat Conservation Plan (HCP) Status Updates

Hydrologic Modeling

The ECORP team continues to make significant progress on the Lopez Water Project HCP Hydrogeologic Services work effort. A baseline modeling run representing existing conditions has been completed and sub-consultant Cleath-Harris has received annual water pumping data for a range of crops. The information was used to increase calibration of the simulation model and used for the Water Availability Analysis.

Two alternative downstream release scenarios were reviewed during a webinar in late August. The scenarios included an option with a steady release rate throughout the year, and an option that included different release rates during the summer and winter. Both scenarios include increased Habitat Flows which would be triggered when the sandbar is breached. The Habitat Flows would encourage steelhead migration and emigration as well as possible scouring of sediments throughout the creek, revealing gravels more conducive for spawning. These scenarios are being reviewed by H.T. Harvey to ensure they will result in increased habitat for federally listed species, and the District is verifying with field personnel whether or not the scenarios are feasible for the Lopez Water Treatment Plant to implement.

Lopez Water Rights Permit & WAA

ECORP reviewed the existing Lopez Lake water rights permit, State Water Resources Control Board (SWRCB) Report of Inspection dated August 18, 1987, the pending water rights application, and existing water operations. Additionally, ECORP met with the SWRCB on August 11, 2015. The discussions of the SWRCB staff meeting focused on options for the District to move forward on the pending water rights application to secure rights to direct diversion from Arroyo Grande Creek and the approach to developing the Water Availability Analysis to support the application. A petition for extension of time on the existing permit should be completed. Either continuing to process the pending water rights application or filing a change petition on the existing permit are options to secure water entitlements to match operation of the Lopez Water Project.

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G:\Enviromental\002 Current Project Folders\Zone 3 - Lopez HCP\01 Preliminary Engineering\Staff Reports and meeting notes, agendas\Staff Reports\Advisory Committee Staff Reports\2015.09.10 Adv Comm



SAN LUIS OBISPO COUNTY
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MEMORANDUM

Date: September 17, 2015
To: Zone 3 Advisory Committee
From: Jeff Lee, Capital Projects Manager
Re: Capital Projects Update

Project Updates:

- 6th Rack Addition
 - Installation contract has been awarded to Cushman Corporation through Purchasing
 - Installation in October/November
 - Coordination with plant staff
- Water Treatment Plant Intake Repair
 - Project to be completed during necessary 6th Rack Addition plant shut-down
- Turnout SCADA Project
 - Panel fabrication is complete and have been delivered to Cannon for bench testing and initial programming
 - Field installation is underway with final commissioning in October
 - Agencies will be contacted towards the end of September to coordinate read-only system access to view turnout information
 - Cannon is under contract to install the panels after fabrication
 - Installation anticipated to be completed upon panel delivery
- Equipment Replacement Program
 - VFD and other Plant System Audits
 - Pall Corporation is performing an audit on full rack system
 - Power Monitoring Equipment and PLC Replacement projects are pending coordination with 6th Rack Addition installation

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Zone 3 Lopez Water Project
September 17, 2015
**Agenda Item VIII. A - Zone 3 Technical Advisory Committee's
Extended Drought Emergency Water Supply Options Evaluation**

September 17, 2015

MEMORANDUM

TO: Flood Control Zone 3 Advisory Committee
FROM: Flood Control Zone 3 Technical Advisory Committee
SUBJECT: Extended Drought Emergency Water Supply Options Evaluation

Recommendation

The Zone 3 Technical Advisory Committee (TAC) has been investigating potential water supply options for an extended drought and recommends that the Zone 3 Advisory Committee (Advisory Committee) submit a letter to the San Luis Obispo County Flood Control and Water Conservation District (District) Board of Supervisors (BOS) requesting a study session to further evaluate emergency water supply options for San Luis Obispo County. A draft letter to the BOS is attached for your review and consideration.

Discussion

For nearly 50 years, Lopez Lake has been an integral component of the south county water resources portfolio and for the first time in its history, deliveries to the Zone 3 agencies have been reduced. Additionally, the Zone 3 agencies' other water supply sources have been severely impacted as well. Groundwater levels are declining. Since 2009, when evidence of seawater intrusion was detected in the Santa Maria Groundwater Basin, the Zone 3 agencies that rely upon the basin have been forced to limit their pumping to approximately 30% of their groundwater entitlements to protect this critical

water supply. Additionally, in 2014 and 2015 State Water Project Allocations have been at unprecedented levels. Therefore, it is imperative that emergency sources of water are identified and secured to ensure that the Zone 3 and other south county agencies can continue to supply safe, reliable drinking water.

To help the Zone 3 agencies prepare for potential extended drought conditions, the Zone 3 TAC formed a drought preparedness subcommittee to investigate potential emergency water supply options. The subcommittee developed a list of potential emergency supply options, which are shown in Table 1.

Table 1. Potential Emergency Water Supply Options

Cloud Seeding	Investigate opportunities to utilize cloud seeding to enhance rainfall within the Lopez Watershed. This could involve cooperative agreement with Santa Barbara County.
SWP Maximization	Maximize importation of District State Water Project (SWP) supplies, including subcontractor and “Excess Entitlement” supplies.
Unsubscribed Nacimiento	Investigate transfer/exchange opportunities to obtain unsubscribed Nacimiento water for the Zone 3 agencies (i.e. exchange agreements with the City of San Luis Obispo and the Chorro Valley pipeline SWP subcontractors).
Water Market Purchases	Investigate opportunities to obtain additional imported water and deliver it to the Zone 3 agencies through the SWP infrastructure (e.g. Exchange agreements with San Joaquin/Sacramento Valley farmers, Water broker consultation, Groundwater Banking Exchange Agreements, etc.).
Morro Bay Desal	Investigate opportunities to obtain SWP water from Morro Bay by providing incentives for Morro Bay to fully utilize its desalination plant capacity.
Land Fallowing	Evaluate potential agreements with local agriculture representatives to offer financial incentives to fallow land within the Arroyo Grande and Cienega Valleys and make that water available for municipal use.
Lopez Reservoir Minimum Pool	Investigate feasibility of extracting water from Lopez Reservoir below the 4,000 AF minimum pool level. This may require utilization of emergency pumps to deliver the water to the Lopez Water Treatment Plant.
Enhanced Conservation	Evaluate opportunities for enhanced water conservation by the Zone 3 agencies beyond the Governor’s Mandatory Water Conservation Order (e.g. water rationing, no outdoor watering, agriculture water restrictions, etc.) to preserve additional water.
Diablo Desal	Utilize excess capacity from the Diablo Power Plant’s Desalination Facility to supply water to the Zone 3 agencies through a connection to the Lopez Pipeline.
Nacimiento/CMC Intertie	Complete design of pipeline that would connect the Nacimiento Pipeline to the California Mens Colony (CMC) Water Treatment Plant.

	Investigate opportunities for Zone 3 agencies to purchase Nacimiento Water and utilize exchange agreements and existing infrastructure to deliver additional water to Zone 3 through the Coastal Branch pipeline.
Emergency IPR	Investigate opportunities to develop an Indirect Potable Reuse (IPR) Groundwater Recharge System, under emergency permits, to provide a supplemental supply for the Zone 3 Agencies.
Emergency Desal	Investigate opportunities to develop a desalination facility, under emergency permits, to provide a supplemental supply for the Zone 3 Agencies.
Price Canyon Produced Water	Investigation into opportunities to recover and utilize produced water from ongoing oil operations in Price Canyon.
Upper Lopez Wells	Investigate potential water storage in aquifers upstream of Lopez Reservoir and evaluate opportunities to obtain this water supply.

The potential supply options were evaluated by the Zone 3 TAC using an agreed upon set of evaluation criteria, which included: supply benefit (quantity available); timeframe to implement; infrastructure requirements; feasibility; long term sustainability; and cost effectiveness. To assist in providing an objective evaluation, a scoring system was developed for each of the evaluation criteria. The scoring system is shown in Table 2.

Table 2. Evaluation Criteria Scoring

Scoring	Supply Benefit (Quantity Available)	Time Frame to Implement	Infrastructure Requirements	Feasibility	Long Term Sustainability	Cost Effectiveness
1	X<1,000 AFY	X>2 Yr	Significant	Very Difficult	Temporary (One-time only)	>\$2,000 AF
2	1,000<X<3,000 AFY	1<X<2 Yr	Moderate	Challenging	2-5 Year Availability	\$500<X<\$2,000 AF
3	X>3,000 AFY	X<1 Yr	Minimal/None	Easily Implemented	Indefinite Duration	<\$500/AF

The individual Zone 3 TAC members evaluated the emergency supply options utilizing the evaluation criteria and scoring system. The results of the individual scoring were then averaged together to provide a preliminary ranking for the potential emergency water supply options and are shown in Table 3 below. Not all of the specific evaluation criteria information was available for each of the supply options, however, the Zone 3 TAC members were instructed to select the appropriate scoring using their best professional judgement. Additional information on some of the potential emergency supply options has become available since the Zone 3 TAC Members completed the scoring (e.g. further

development of the Diablo Desal supply option). This additional information, if available, could have influenced the relative scoring of the potential emergency water supply options. The scoring and ranking is not intended to be a comprehensive evaluation, but was designed to provide an initial evaluation of potential supply options for further discussion.

The Zone 3 TAC is requesting that the Zone 3 Advisory Committee review the draft letter and the emergency water supply options evaluation and submit a letter to the BOS request a study session to further investigate potential actions that could be taken to ensure sufficient water supply in an extended drought. A draft letter to the BOS is included as an attachment to this Staff Report.

Table 3. Initial Emergency Water Supply Option Scoring and Ranking¹

Emergency Water Supply Option	Average of Supply Benefit (Quantity Available)	Average of Time Frame to Implement	Average of Infrastructure Requirements	Average of Feasibility	Average of Long Term Sustainability	Average of Cost Effectiveness	Average of Total Score
Enhanced Conservation	1.83	2.83	3.00	2.67	2.33	3.00	15.57
Land Fallowing	1.60	2.80	3.00	2.60	1.60	2.20	13.83
Cloud Seeding	1.40	2.00	3.00	2.40	1.60	2.60	13.33
SWP Maximization	2.20	2.17	2.67	2.17	2.00	1.83	12.67
Nacimiento/CMC Intertie	2.17	1.50	1.50	2.00	2.67	1.67	11.50
Emergency Desal	2.80	1.40	1.20	2.00	2.80	1.20	11.40
Lopez Reservoir Minimum Pool	1.60	2.40	2.00	2.20	1.20	2.00	11.40
Water Market Purchases	1.75	2.00	3.00	2.00	1.50	1.33	11.25
Emergency IPR	2.00	1.20	1.40	2.20	3.00	1.40	11.20
Diablo Desal	1.75	1.50	1.75	1.75	3.00	1.50	11.20
Upper Lopez Wells	1.25	1.75	2.00	1.75	2.25	2.00	11.00
Unsubscribed Nacimiento	2.00	1.83	1.67	1.83	2.17	1.33	10.83
Morro Bay Desal	1.40	2.20	2.40	1.60	1.60	1.40	10.50
Price Canyon Produced Water	1.80	1.00	1.20	1.40	3.00	1.40	10.00

¹ The scoring and ranking is not intended to be a comprehensive evaluation, but was designed to provide an initial evaluation of potential supply options for further discussion.

Zone 3 Lopez Water Project
September 17, 2015
**Agenda Item VIII. A - Zone 3 Technical Advisory Committee's
Draft Board of Supervisors Letter
Supplemental Water to Ensure Health and Safety**

San Luis Obispo County Flood Control & Water Conservation District
Board of Supervisors

Subject: Supplemental water to ensure health and safety

For nearly 50 years, Lopez Lake has been an integral component of the south county water resources portfolio and for the first time in its history, deliveries to the Zone 3 agencies have been reduced. Additionally, the Zone 3 agencies' other water supply sources have been severely impacted as well. The Zone 3 Advisory Committee recommends, and believes it is imperative, that the Board of Supervisors holds a study session to investigate and evaluate emergency water supply options that could be used to provide the south county residents with supplemental water to ensure that health and safety needs can be met as the drought persists.

Along with reductions in available Lopez water, groundwater levels are also declining. Since 2009, when evidence of seawater intrusion was detected in the Santa Maria Groundwater Basin, the Zone 3 agencies that rely upon the basin have been forced to limit their pumping to approximately 30% of their groundwater entitlements to protect this critical water supply. Additionally, in 2014 and 2015 State Water Project Allocations have been at unprecedented levels. Therefore, it is imperative that emergency sources of water are identified and secured to ensure that the Zone 3 and other south county agencies can continue to supply safe, reliable drinking water.

We appreciate the County's efforts to continue investigation of potential desalination options for San Luis Obispo County and look forward to additional information about

the potential Diablo Desal project. The Zone 3 Technical Advisory and Advisory Committees have also been investigating and evaluating emergency water supply options that could be implemented to assist agencies in the continuing drought. Through this effort, we have developed a preliminary list of potential options and utilized a systematic screening and ranking process to evaluate them. We look forward to sharing and discussing the results of these evaluations with the Board.

Emergencies call for action. They should also call us to question our preparedness. For well over a decade, the Zone 3 communities have been responding to and evaluating environmental water needs, and funding the preparation of a Habitat Conservation Plan for species dependent on water from Lopez Reservoir. Extensive work by the County has also covered flood control needs along Arroyo Grande creek although delays continue with state and federal permitting agencies. These lengthy and resource intensive issues have redirected work efforts and funding from maintaining secure and reliable water supplies for our communities. Time is of the essence in identifying emergency supplies and improving overall regional water supply reliability.

Clean and affordable water is needed for families, businesses, and agriculture and the role of counties throughout California is growing as the state legislature establishes new visions for water resources management, and as local communities need leadership and regional collaboration. We understand that local community leaders are responsible to meet the needs of their respective communities. Nevertheless, the County of San Luis Obispo has long promoted collaboration, and as the single agency with the greatest options, we believe that a Board workshop will be important to identify options and to provide staff with direction so that all agencies can coordinate and collaborate while developing solutions and actions. We hope you agree and will work to schedule time on your agenda in the near future.

Sincerely,

Zone 3 Advisory Committee



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

Wade Horton, Director

County Government Center, Room 206 • San Luis Obispo CA 93408 • (805) 781-5252

Fax (805) 781-1229

email address: pwd@co.slo.ca.us



TO: Zone 3 Advisory Committee

FROM: Mark Hutchinson, Deputy Director

DATE: September 17, 2015

SUBJECT: Cost Implications of the LRRP and Water Accounting Change

Summary

At your July 16, 2015 meeting the Advisory Committee requested information on the cost implications of the implementation of the Low Reservoir Response Plan (LRRP) and the Lopez/State Water Accounting Change. This memorandum describes how Lopez and State Water costs are derived and allocated to the participants, and how the allocations are affected by the LRRP and Water Accounting Change.

In summary, the LRRP will result in no additional or changed costs to any agency because although Surplus Water has been generated, no water is being bought or sold between agencies. Therefore, no costs need to be reallocated. State Water costs to agencies participating in the Water Accounting Change will increase, as those agencies will assume the variable charges associated with treating and conveying additional State Water. To date, these charges (approximately \$200/acre foot), have been carried by the District in order to convey State Water to Lopez Reservoir. Variable energy charges associated with treating Lopez Water will remain unchanged, as adjustments to those charges is not included in the contract waiver agreements. "Wheeling costs", that is, variable costs associated with moving water through the Lopez system, will remain unchanged as those costs are the same regardless of the source of the water. And finally, lost opportunity costs associated with the State Water Multi-year Program will not be charged because the District had previously committed no water to the program for 2014.

Allocation of Lopez Costs

The source and allocation of costs associated with the Lopez Water System are described in two articles of the Water Supply Contracts, as shown in Table 1 below. It is important to note that there are several factors which can modify project costs (e.g., surplus water revenues, principal reduction contributions, etc.) which although are important are not germane to the discussion here. These factors are described in detail in Article 14 of the Water Supply Contracts.

Table 1: Lopez Cost Categories (9 months)				
Dollar amounts illustrated using 2015-2016 budget estimates and actual variable energy costs from April 1, 2014 through December 31, 2014 (water accounting change period)				
Contract Section	Category	Amount	% of Total Costs	Type
14(B)(1)	O&M	\$3,023,782	51%	Fixed + Variable
14(B)(2)	Debt Service	\$2,744,093	46%	Fixed
14(B)(3)	Variable Energy	\$195,952	3%	Variable
4(C)(1)	Surplus Water	varies	varies	Variable
		\$5,963,826		

Note: Wheeling costs are derived from O&M. Variable energy costs are those resulting from moving water through the treatment plant.

Allocation of State Water Costs

The source and allocation of costs associated with State Water are described in four different Agreements between the District and each participant: the Water Supply Agreements; the Water Treatment and Local Facilities Agreements; Drought Buffer Agreements; and the Zone 3 Wheeling Agreements, as shown in Table 2 below.

Table 2: State Water Cost Categories				
Dollar amounts illustrated based on typical costs from 2013 - 2014				
Contract Section	Category	Cost/AF	% of Total Costs	Type
14(a)(1)	DWR Delta Water	57		Fixed
14(a)(2)(i) & (ii)	DWR Transportation	565		Fixed
14(a)(2)(iii)	DWR Variable O&M	140		Variable
14(a)(2)(iv)	DWR Off Aqueduct Power	15		Variable
14(a)(3)	DWR Bond Surcharge	78		Fixed
14(a)(4)	FCD Administrative	67		Fixed
8.(a)	CCWA Bonds	125		Fixed
8.(b)	CCWA Fixed O&M	95		Fixed
8.(c)	CCWA Variable O&M	35		Variable
	Subtotal	\$1,282		
11	Drought Buffer	105	varies	Fixed +
15.b.	Lopez Wheeling	varies	varies	Variable

Cost Implications of Water Accounting Change

State Water

To date, variable charges derived from conveying State Water to Lopez Reservoir have been carried by the District. Hanging the water accounting of Lopez Water to State Water will result in the District recouping these variable charges from the participating agencies. As shown in Table 2 above, these charges are approximately \$200 / acre foot.

Lopez Variable Energy

Section 14(B)(3) of the Lopez Water Supply Contracts describe energy costs associated with Units A and B (that portion of the Lopez Project that includes the dam, terminal reservoir, treatment plant, and all piping from the dam to the first bifurcation structure in Arroyo Grande) as a variable cost, to be allocated on a per acre foot basis. Although the Water Accounting Change could have included a reallocation of energy costs based on the amount of Lopez water taken (see Table 3 below), the Program was conceived as a “no impact to non-participants” effort. Therefore, reallocation of variable energy costs was not included in the “Consent to One-Time Extension” forms executed by all of the affected agencies and the cost adjustments shown in Table 3 below will NOT occur.

Table 3: Non Reallocated Variable Energy Costs							
Water amounts and costs in the “before” side include only Entitlement water (no surplus) because surplus water costs are charged in a different category. All calculations are for the nine months between 4/01/14 and 4/31/14, which corresponds to the period of the Water Accounting Change							
Before Water Accounting Change				After Water Accounting Change			
Agency	Amount	%	Variable Eng	Amount	%	Variable Eng	Diff
Arroyo Grande	2041	51.5%	\$100,892	2041	67.8%	\$132,870	\$31,977
OCSD	303	7.6%	\$14,978	0	0.0%	\$0	-\$14,978
Pismo	892	22.5%	\$44,094	290	9.6%	\$18,879	-\$25,215
Grover Beach	628	15.8%	\$31,044	628	20.9%	\$40,883	\$9,839
Avila Beach CSD	49	1.2%	\$2,422	0	0.0%	\$0	-\$2,422
CSA12 (w/o Avila)	51	1.3%	\$2,521	51	1.7%	\$3,320	\$799
Totals	3964	100.0%	\$195,952	3010	100.0%	\$195,952	

Water Wheeling

Costs associated with operating and maintaining the Lopez distribution pipeline, which carries both Lopez and State Water, are variable based on the amount of water moved and the distance it moves down the pipeline. The pipeline, running from the Dam to Port San Luis, is divided into nine reaches, or Units (see attachment). The costs of operating and maintaining each Unit are accounted for separately. Costs for each Unit are divided by the total amount of water moved

through each Unit, resulting in a cost/acre foot/Unit charge which is then is allocated to each participating agency based on the amount of water that agency moved through each Unit. Because the cost/acre foot/Unit is the same irrespective of the source of the water, no redistribution of variable wheeling charges is needed.

Lost Opportunity Costs

Lost opportunity costs are unrealized income derived from the State Water Multi-year Program. In 2013 and 2014 the State facilitated a program whereby State Water contractors could sell stored State Water to other contractors. In concert with local State Water subcontractors, the District sold a portion of its stored State Water in 2013, but held back a portion for use in the event subsequent State Water deliveries were reduced and the water was needed to bolster deliveries, with the proviso that if this water was needed by any subcontractor, that subcontractor would pay both the variable charges and the amount the District would have realized if the water had been sold (approximately \$273/acre foot). As a result, income from the Multi-Year Program was reduced. However, due to low State Water delivery amounts (5%) the District contributed no water to the Multi-Year Program in 2014, therefore, there is no lost opportunity cost to recover.

Cost Implications of the LRRP

Surplus Water is generated when the total of water removed from the reservoir is less than the annual safe yield (8,730 acre feet). Surplus water is calculated by adding any unused entitlement (water not delivered to municipalities) to any unreleased downstream water. Per the Water Supply Contracts, all surplus was is “pooled” and then offered for sale to each participating agency, at percentages equal to each agency’s entitlements. Revenue from the sale of surplus water is allocated back to the agencies, at their entitlement percentage. However, the LRRP provides for three temporary changes to the declaration and use of Surplus Water:

1. Savings resulting from reductions in downstream releases will not be counted as surplus water, and
2. Any surplus water generated by an individual agency will only be available for use by that agency, and
3. Each agency may “carry over” any of its unused water from the previous year (subject to evaporation losses)

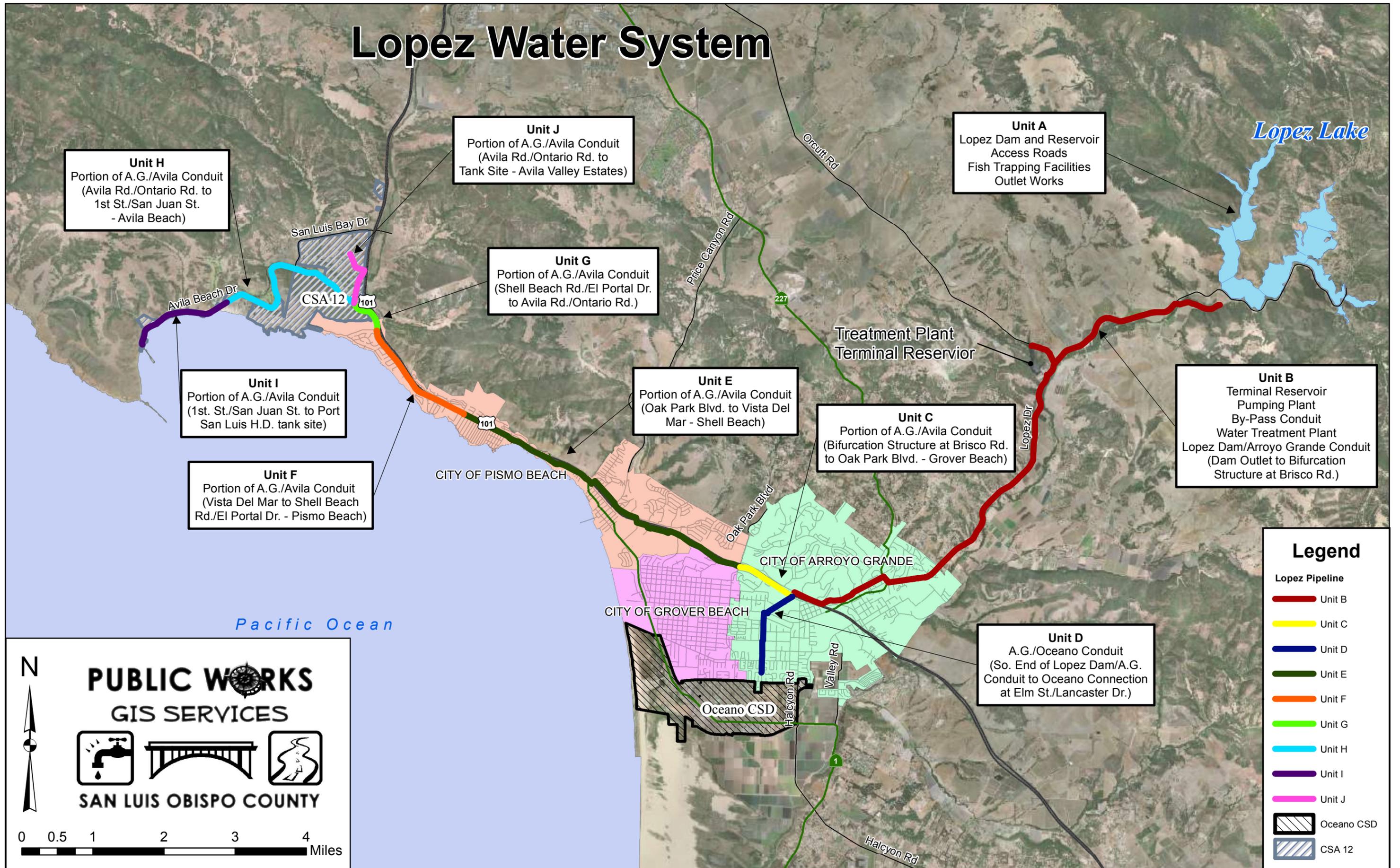
The end result of these changes is that although Surplus Water has been generated, no water is being moved between agencies. Therefore, no costs need to be reallocated among the agencies. The normal fixed and variable charges as described in Article 14 of the Water Supply Contracts will apply.

Attachments:

1. Lopez Water System Map
2. Lopez Water Supply Contract Article 14
3. Lopez Water Supply Contract Article 4. (C) – Surplus Water Rates
4. Water Supply Agreement (State Water) Article 14
5. Water Treatment and Local Facilities Agreement Section 8
6. Drought Buffer Agreement Article 11
7. Zone 3 State Water Wheeling Agreement Paragraph 15b

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Lopez Water System



Legend

Lopez Pipeline

- Unit B
- Unit C
- Unit D
- Unit E
- Unit F
- Unit G
- Unit H
- Unit I
- Unit J

Geographic Features

- Oceano CSD
- CSA 12

PUBLIC WORKS GIS SERVICES

SAN LUIS OBISPO COUNTY

0 0.5 1 2 3 4 Miles

Article 14. Rate and Method of Payment. Commencing with the first Water Year during which Project water is made available to the Agency hereunder, the Agency shall pay to the District in advance and on a semiannual basis, its Contract Payments, calculated and paid in accordance with the further provisions of this Article, for the Project water made available under this Contract for such Water Year, plus a variable charge, to be determined as set forth in paragraph (D) of this Article, to be calculated on a quarterly basis and paid in arrears.

(A) *Allocation of Total Project Costs and Debt Service.* On or before April 1 of each Calendar Year, the District shall calculate, or cause to be calculated, Total Project Costs for the Fiscal Year commencing on the immediately following July 1. The District shall deduct from the calculated Total Project Costs for such Fiscal Year: (1) the general *ad valorem* property taxes to be received by the District during the Fiscal Year in question; provided that any *ad valorem* taxes levied and paid to provide debt service on the District's General Obligation Bonds outstanding at any time shall be restricted to use for the payment of debt service on such General Obligation Bonds and shall not be included in the deducted amount represented by the foregoing clause; and (2) a sum equal to Recreational Use Revenues received by the District during the Fiscal Year about to be concluded. The result shall comprise the Total Contract Payments due, collectively, from the Agency hereunder and from the Other Agencies under their respective Water Supply Contracts.

In determining the Debt Service portion of Total Project Costs during any Fiscal Year to be supported by the Agency, the District shall make the following calculations:

- $[(G.O. \text{ Debt Service}) + (\text{Installment Debt Service})] - (\text{District Revenues}) = \text{Allocable Debt Service ("ADS")}$
- $[(\text{Proportionate Share}) \times \text{ADS}] = \text{Annual Agency Obligations ("AAO")}$
- $\text{AAO} - (\text{G.O. Tax Collections}) = \text{Agency Debt Service}$

For purposes of the above calculations, the term "*G.O. Debt Service*" above refers to the debt service on the District's General Obligation Bonds; the term "*Installment Debt Service*" refers to the installment payments due with respect to the Tax-Exempt Obligations; the term "*Proportionate Share*" refers to the Agency's Proportionate Share hereunder; the term "*District Revenues*" refers to the amounts available to the District under the second sentence of this paragraph (A) of Article 14; and the term "*G.O. Tax Collections*" refers to amounts collected to support the General Obligation Bonds within the boundaries of the Agency during the Fiscal Year in question, based upon then-current levies; *provided, however*, that in the case of County Service Area No. 12, such boundaries shall be deemed to include that area comprising Avila Beach Community Services District, as well as the area comprising such County Service Area No. 12. In no event shall Agency Debt Service, as calculated above, be a figure less than zero. The foregoing calculations shall be performed by the District each Fiscal Year and shall be made available to the Agency with respect to each Other Agency, as well.

No more frequently than annually, the District shall retain a certified public accountant, or firm thereof, with the approval of the Zone 3 Advisory Board, which shall be responsible for reviewing and confirming the Agency Debt Service figures resulting from the foregoing calculations, and reporting the same to the Agency, the District and each Other Agency.

(B) *Agency Contract Payments.* Unless the Agency shall, in accordance with paragraph (C) below, be entitled to an offsetting credit, the Agency shall be obligated to pay to the District:

(1) on or before July 1 and the immediately following January 1 of each Fiscal Year, a sum equal to one-half of its Percentage Share of charges for Operation and Maintenance and Capital Reserves for such Fiscal Year;

(2) on or before July 1 of each Fiscal Year, a sum equal to Agency Debt Service, as calculated under paragraph (A) above; and

(3) on or before the fifteenth day following the end of each Calendar Quarter during a Fiscal Year, the variable charge calculated in accordance with paragraph (D) below for the Calendar Quarter ending on the last day of the Calendar Quarter most recently concluded.

(C) *Agency Credits against Contract Payments.* The following shall constitute credits against the obligations of the Agency to pay Contract Payments to the District:

(1) (a) If, prior to the date upon which the District causes the Tax-Exempt Obligations to be sold, the Agency shall contribute, in cash, a sum as and for its Proportionate Share of the total amount of costs and expenses projected by the District as the basis for the Seismic Remediation Project, or any portion of its Proportionate Share, so that the aggregate principal component of the Tax-Exempt Obligations is reduced by such sum, the Agency's Proportionate Share of Debt Service, and therefore, of Total Project Costs, shall be reduced accordingly; and

(b) If the Agency shall, following the date of delivery of the Tax-Exempt Obligations, successfully implement a financing plan within its jurisdiction to fund all or a portion of Debt Service during the term of the Tax-Exempt Obligations through the levy of *ad valorem* property taxes, special assessments or special taxes, then the Agency shall be entitled to a credit from amounts paid under such levy as though such amounts were paid directly by the Agency hereunder, subject to the prior approval of each rating agency then rating the Tax-Exempt

Obligations and any bond insurer then providing insurance therefor; provided, however, that the District shall be made a third-party beneficiary of any pledge of such alternate source of revenues, with the power to enforce collection thereof, in the event the Agency should fail to do so; and

(c) The Agency shall be entitled to a credit equal to a Percentage Share of the net revenues the District shall have received from the sale of Surplus Water and from the delivery of any water wheeled for Wheeling Customers, as defined in and pursuant to the provisions of Article 31, during the Fiscal Year in question; in determining the amount of such wheeling credits against the obligations of the Agency hereunder, the District shall apportion its net revenues from the foregoing sources, taking into account the particular Unit or Units through which delivery of Surplus Water or wheeled water was made, and shall compare the Agency's Percentage Share for such Unit or Units with the aggregate Percentage Share for all Other Agencies and the Agency for such Unit or Units.

(2) On or before December 1 of each year, the District shall deliver to the Agency a statement as to the actual Operation and Maintenance Costs and Capital Reserve charges incurred or imposed during the Fiscal Year most recently concluded, and shall set forth in such statement its determination as to whether the amounts theretofore paid by the Agency as its Percentage Share of estimated charges for Operation and Maintenance Costs and for Capital Reserves were in excess of or less than its Percentage Share of such costs and charges for the Fiscal Year most recently concluded. If the Agency shall have paid less than its Percentage Share of actual Operation and Maintenance Costs and charges for Capital Reserves for such Fiscal Year, the Agency shall remit the difference to the District within (180) days of the date upon which it receives such a statement; if the Agency shall have paid more than its Percentage Share of such costs and charges

for such Fiscal Year, the District shall rebate the difference to the Agency promptly following its delivery of the closing statement, and, in any event, within thirty (30) days thereafter.

(D) *Quarterly Variable Charges.* The sum of quarterly variable charges to the Agency and the Other Agencies shall be an amount which is estimated to be sufficient to compensate the District for actual Project pumping energy charges incurred during the respective Calendar Quarter. The variable charge shall be determined for each Calendar Quarter during which Project water is made available to the Agency under this Contract by (1) dividing the District's actual cost of pumping energy during that Calendar Quarter by the total acre-feet of Project water delivered by the District during such Calendar Quarter to the Agency and all Other Agencies pursuant to this Contract and the other Water Supply Contracts, and (2) multiplying this acre-foot charge by the number of acre-feet of Project water delivered by the District to the Agency during such Calendar Quarter. The District shall notify the Agency in writing of such variable charge by a date no later than the fifteenth day following the end of each Calendar Quarter, for the variable charges attributable to the Calendar Quarter most recently concluded.

(E) *Use by District of Total Contract Payments.* During the term of this Contract and of the other Water Supply Contracts, the District shall proceed with due diligence to collect Total Contract Payments as and when due, and shall apply amounts collected in the following order of priority:

- (1) to the payment of Operation and Maintenance Costs;
- (2) to the payment of Debt Service with respect to the Tax-Exempt Obligations; and
- (3) to the replenishment or funding of Capital Reserves for the Project, in accordance with the provisions set forth in Article 10 hereof.

(C) Surplus Water Rates. Project water remaining after the distribution of Project water as described in paragraphs (A) and (B) above shall comprise "Surplus Water" hereunder. Surplus Water shall be sold in accordance with the provisions of this paragraph.

(1) Surplus Water shall first be offered by the District to the Agency and the Other

Agencies in accordance with their Proportionate Shares, with a price for such Surplus Water to be established based on the Operation and Maintenance Cost of the District incurred in delivering the Surplus Water actually purchased by the Agency or the Other Agencies. If the Agency or any Other Agency shall commit in writing to purchase

Surplus Water from the District under this subparagraph, it shall be obligated to pay for such Surplus Water, whether or not in fact ordered from the District or accepted by the Agency, so long as such Surplus Water was in fact available for the period in question. Neither the Agency nor any Other Agency shall resell Surplus Water at any time to third parties, without the prior written consent of all Other Agencies.

(2) The District may offer to sell and deliver any Surplus Water not purchased by the Agency or the Other Agencies hereunder to any other prospective purchaser without right of renewal, in a manner and at prices which will return to the District the largest net revenue practicable, but in no event at prices less than those at which such Surplus Water is offered to the Agency, unless the Agency is first allowed another opportunity to purchase such Surplus Water at the lower price, and in each case, attempting to recapture the Operation and Maintenance Cost, the variable costs, if any, and Debt Service attributable to the volume of Surplus Water actually purchased by such third parties, at the highest price the market will then bear.

up to an amount equal to, but not exceeding the amount provided for in Article 6 of this agreement.

(e) Advance Notice of Delivery Reduction.

The District shall give the Contractor written notice, as far in advance as District reasonably may, of any reduction in deliveries to Contractor under subdivision (b) or subdivision (c) of this Article.

Article 11. Curtailment of Delivery for Maintenance Purposes.

The State of California or the District may temporarily discontinue or reduce the amount of Project Water to be furnished to the Contractor during such time as the State or District are maintaining, repairing, replacing, investigating or inspecting, any of the facilities necessary for the furnishing of water to the Contractor. Insofar as it is feasible, the District shall give the Contractor notice in advance of any such temporary discontinuance or reduction, except in the case of emergency, in which case no notice need be given. In the event of such discontinuance or reduction, the District will upon resumption of service, deliver, as nearly as may be feasible, and to the extent water is furnished to it by the State of California, the quantity of Project Water which would have been furnished to the Contractor in the absence of such discontinuance or reduction.

Article 12. Responsibilities for Delivery and Distribution of Water.

Neither the District nor its officers, agents or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of Project Water supplied to the Contractor after such water has passed into the Contractor's delivery structures, nor for claim of damages of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond said delivery structure; and the Contractor shall defend, indemnify and hold harmless the District and its officers, agents and employees from and against any such damages or claims of damages.

Article 13. Quality of Project Water Delivered.

Contractor acknowledges and agrees that inasmuch as District will neither operate nor control the sources, delivery facilities, or the water treatment facilities for the Project Water, the District shall not be responsible for the quality of the Project Water furnished to Contractor pursuant to this agreement.

Article 14. Payment for Water Service.

(a) Contractor's Annual Obligation.

In addition to the other payments to District by Contractor provided for herein, the Contractor shall pay to District each year during the term of this agreement a sum which shall consist of the total of the following, and which is referred to herein as Contractor's Annual Obligation:

(1) Delta Water Charge Reimbursement.

The Contractor shall reimburse District for a portion of the District's annual Delta Water Charge, as defined in the Master Contract. Contractor's reimbursement amount shall be the product of the Delta Water rate for the respective year times the amount of the Contractor's Water Service Amount specified in Article 6.

(2) Transportation Charge.

(i) Capital Cost Component Reimbursement.

The Contractor shall reimburse District for a portion of the District's annual Transportation Capital Charge, as defined in the Master Contract, for each repayment reach in which the Contractor has been provided capacity by the District, as determined by the District. The Contractor's percentage reimbursement shares of the District's Transportation Capital Charge, by repayment reach, are as follows:

<u>Repayment Reach</u>	<u>Contractor' Reimbursement Share (%)</u>
1 through 33A	15.45%
34	51.89%
35	0.00%

(ii) Transportation Minimum Operation Maintenance, Power and Replacement Component (Minimum OMP&R) Reimbursement.

The Contractor shall reimburse District for a portion of the District's annual Transportation Minimum OMP&R Charge (Minimum OMP&R), as defined in the Master Contract, for each repayment reach in which the Contractor has been provided capacity, as determined by the District. The Contractor's percentage reimbursement shares of the District's Minimum OMP&R Charge, by repayment reach, are as follows:

Subject to change in the event that the City of SLO or the Carrucos Water organizations do not participate.

Repayment Reach Contractor's Reimbursement Share (%)

1 through 33A	15.45%	<i>Subject to change in the event that the City of SLO or the Cayucos Water Agencies do not participate</i>
34	51.99%	
35	0.00%	

(iii) Variable Operation, Maintenance, Power and Replacement Charge (Variable OMP&R) Reimbursement.

The Contractor shall reimburse District for a portion of the District's Variable OMP&R charge, as defined in the Master Contract, which shall be the product of the acre-feet of Project Water scheduled to be delivered during the respective year to the Contractor from or through said reach multiplied by the District's estimate of the charge per acre-foot to be made by the State to the District for said year for the Variable OMP&R component of the Transportation Charge applicable to transporting water through said reach.

(iv) Off-Aqueduct Power Facilities Reimbursement.

The Contractor shall reimburse District for its portion of the annual Off-Aqueduct Power Facilities charge to be paid by the District to the State, as defined in the Master Contract. Contractor's reimbursement share shall bear the same proportion to the District's annual Off-Aqueduct Power Facilities charge as the estimated electrical energy (kilowatt-hours) required to pump through project transportation facilities the Contractor's Water Allocation for that year, [as submitted pursuant to Article 8(c)(1) and as may be modified by the District pursuant to Article 8(c)(2)] bears to the total estimated electrical energy (kilowatt-hours) required to pump all such amounts for all Contractors through project transportation facilities for that year, all as determined by the District.

(3) Revenue Bond Surcharge Reimbursement.

The Contractor shall pay to the District its proportionate share as calculated by the District, of the annual Revenue Bond Surcharge to be paid by the District to the State.

(4) Administrative Cost Reimbursement.

The Contractor shall reimburse District for a portion of the District's administrative costs

associated with delivery of State Project Water under this agreement. The Contractor's share of the administrative costs shall be based upon the percentage of the Transportation Capital Cost component that the Contractor pays. This percentage multiplied by the total administrative cost shall be the Contractor's share of the administrative costs.

(b) Time of Payment.

Commencing with the year 1992, the Contractor shall pay to the District, either within 10 days after receipt by it of an annual statement from the District setting forth the Contractor's annual obligation or on January 1 of each year, whichever is later, sixty percent (60%) of its annual obligation. The Contractor shall pay the remainder of such annual obligation on or before July 1 of that year.

(c) Adjustments in Contractor's Annual Obligation.

At the end of each year the Contractor's annual obligation shall be recalculated by substituting as soon as possible the actual charges made by the State Department of Water Resources to the District for the variable operation, maintenance, power, and replacement components of said Delta Water Charge and Transportation Charge and the Off-Aqueduct Power Facilities charge for the District's estimates of these charges and the actual quantities of water delivered for any scheduled quantities used in calculating the annual obligation pursuant to the provisions of subdivision (a) of this Article. Any adjustment in the Contractor's payments required to reflect this recalculation shall be made in the Contractor's first payment to District due after said recalculation. Interest rates used in the computation of these adjustments shall be the same as those used by the State Department of Water Resources in the adjustments made for the District's obligation for that year.

(d) Additional Deliveries.

In the event that the Contractor requests the delivery during any year of Project Water in addition to the quantities set forth in Article 6 hereof and to the extent that other Contractors have requested less than their total annual water allocations, District may provide such requested additional Project Water to the Contractor. For such additional Project Water, the Contractor shall pay in advance of the delivery of such additional Project Water an amount to be determined as follows:

(1) For any such additional Project Water delivered to the Contractor, the Contractor shall pay for each acre-foot the applicable unit charges for the Variable Operation, Maintenance, Power and Replacement component of the Transportation Charge, the Off-Aqueduct Facilities charge attributable to such water, and one-half of the Delta Water rate times the amount of additional Project Water.

Section 6. Shortage in Water Supply.

Neither the District, CCWA, CCWA members, associate members or water contractors nor any of their officers, agents, or employees shall be liable for any damage, direct or indirect, arising from the shortages in the amount of water to be made available to the Contractor under the Water Supply Agreement caused by non-availability of water to the District under the State Water Supply Contract or caused by drought, operation of area of origin statutes, operation of the Master Water Treatment Agreement, including but not limited to Section 7 thereof relating to curtailment of Treatment Plant operations for maintenance, or any other cause beyond its control.

Section 7. Annual Budget and Billing Statement.

The Board of Directors of the District will adopt an annual budget for the applicable Year for credits, costs and expenses relating to the Treatment Plant and Local Facilities, including Fixed Treatment Plant Costs, Variable O&M Costs, Fixed O&M Costs and Local Facilities Costs and shall promptly give notice to the Contractor of its projected portion thereof.

Section 8. Allocation of Costs and Expenses.

(a) Allocation of Fixed Treatment Plant Costs Among Contractors. The District shall allocate to the Water Purchasers Fixed Treatment Plant Costs in an amount equal to Fixed Treatment Plant Costs payable by the District for each Year pursuant to Sections 13(a) and (e) and 8(a) of the Master Water Treatment Agreement. The total amount of Fixed Treatment Plant Costs allocated to the Contractor shall be an amount equal to the Contractor Share of Fixed Treatment Plant Costs for each Year.

(b) Allocation of Fixed O&M Costs. The District shall allocate to the Water Purchasers Fixed O&M Costs in an amount equal to Fixed O&M Costs payable by the District for each Year pursuant to Section 13(b) and (f) of the Master Water Treatment Agreement. The total amount of Fixed O&M Costs allocated to the Contractor shall be an amount equal to the Contractor Share of Fixed O&M Costs for each Year.

(c) Allocation of Variable O&M Costs. The District shall allocate to the Water Purchasers Variable O&M Costs in an amount equal to Variable O&M Costs payable by the District pursuant to Section 13(c) and (g) of the Master Water Treatment Agreement in each Year. The total amount of Variable O&M Costs allocated to the Contractor for each Year shall be computed by the District and shall be based on the ratio of the amount of water treated by CCWA pursuant to the terms of the Master Water Treatment Agreement on behalf of the Contractor for each Year to the amount

of water treated by CCWA pursuant to the terms of the Master Water Treatment Agreement on behalf of all Water Purchasers for each Year.

(d) Allocation of Local Facility Costs. The District shall allocate to the Water Purchasers Local Facility Costs for each Year equal to Local Facility Costs payable by the District pursuant to Section 13(a) and (e) of the Master Water Treatment Agreement for each Year. The total amount of Local Facility Costs allocated to the Contractor for each year shall be the Local Facility Share of Local Facility Costs for each Year.

Section 9. Adjustments of Costs and Expenses.

The District shall each year determine adjustments to be paid by the Contractor which shall account for the differences, if any, between projections of costs used by the District in determining the amounts of said costs and expenses for all preceding Years and actual costs paid by the District under the Master Water Treatment Agreement during such Years.

Section 10. Time and Method of Payment.

(a) Initial Payment - Fixed Treatment Plant Costs and Local Facility Costs. Payments by the Contractor of the Contractor Share of Fixed Treatment Plant Costs and the Local Facility Share of Local Facility Costs shall commence upon the effectiveness of this Agreement in accordance with Section 15 hereof and shall occur on May 15 of each Year thereafter, except as otherwise provided in connection with the issuance of CCWA Bonds.

(b) Initial Payment - Fixed O&M Costs. Payments by the Contractor of the Contractor Share of Fixed O&M Costs shall commence on the May 15 preceding the estimated Year of the Initial Operation Date.

(c) Initial Payment - Variable O&M Costs. Payments by the Contractor of Variable O&M Costs allocable to the Contractor shall commence on the March 15, June 15, September 15 or December 15 which is closest to, but is at least three months immediately preceding the date which the District estimates will be the Initial Operation Date.

(d) Statement of Charges. The District shall within 30 days of the receipt from CCWA of a written statement of the charges to be paid by the District and credits to be received by the District under the Master Water Treatment Agreement (but in no event later than May 15 of each Year), furnish the Contractor with a written statement of the estimated Fixed Treatment Plant Costs, Fixed O&M Costs and Local Facility Costs allocable to the Contractor for the next succeeding Fiscal Year, taking into

Article 10. Limitations on Delivery of Drought Buffer Water

Contractor's Drought Buffer Water shall be delivered to Contractor under this agreement only in those years that there are water shortages as defined in Article 10 of the Water Supply Agreement. The availability of Contractor's Drought Buffer Water shall not increase any of the delivery limitations defined in Article 8 of the Water Supply Agreement.

Article 11. Payment for Water Service.

(a) The Contractor shall pay to District each year the appropriate/proportionate share of each of the following cost components. The aggregate of these costs will be the Contractor's Annual Drought Buffer Obligation

(1) Delta Water Charge Reimbursement will be computed by multiplying the Delta Water rate for that year times the Contractor's Drought Buffer Water Amount

(2) Transportation Charges will be the sum of the following components:

(i) Capital Cost Component reimbursement will be computed by multiplying the District's annual cost per acre foot for the District's Total Drought Buffer Water times the Contractor's Drought Buffer Water Amount.

(ii) Transportation Minimum Operation Maintenance, Power & Replacement Component (Minimum OMP & R) reimbursement will be computed by multiplying the District's annual cost per acre foot for the District's Total Drought Buffer Water for Minimum OMP & R times the Contractor's Drought Buffer Water Amount.

(iii) Variable Operation Maintenance Power & Replacement Charge (Variable OMP & R) will be computed by multiplying the District's annual Variable OMP & R cost per acre foot of delivered water times the amount of Contractor's Drought Buffer Water delivered to the Contractor.

(iv) Off-Aqueduct Power Facilities Reimbursement will be computed by multiplying the District's annual Off Aqueduct Power Facilities cost per acre foot of delivered water times the amount of Contractor's Drought Buffer Water delivered to the Contractor.

(3) Revenue Bond Surcharge reimbursement will be computed by multiplying the District's annual cost per acre foot for the District's Total Drought Buffer Water times the Contractor's Drought Buffer Water Amount.

(4) Other Charges such as may be charged per the Master Contract, Water Supply Agreement, and Water Treatment Agreement from time to time.

(b) Time of Payment.

Commencing with the first year after completion of this agreement, the Contractor shall pay to the District, either within 10 days after receipt by it of an annual statement from the District setting forth the Contractor's Annual Drought Buffer Obligation or on January 1 of each year, whichever is later, sixty percent (60%) of its Annual Drought Buffer Obligation. The Contractor shall pay the remainder of such Annual Drought Buffer Obligation on or before July 1 of that year.

15. Charges for Conveyance of Contractor's Water

a. Basic Principles

Contractors will be charged an annual operating charge for State Project Water that is actually conveyed through the Lopez Conveyance System. The charge is intended to recover the full actual cost for conveying the Contractor's Water. A projected charge will be calculated and billed by the District, and paid by the Contractor during each year of the conveyance of Contractor's Water hereunder. Actual costs will be calculated at year end by the District, and Contractor's next year's bill will be adjusted by the District accordingly.

All proceeds received by the District under this contract will be applied by the District to the annual operating costs, attributable to the units of the Zone 3 Lopez Project used to convey and deliver the Contractor's Water.

b. Annual Operating Charges

The District will estimate the annual costs for the operation, maintenance, replacement and administration of each Unit including, but not limited to, any minor and significant repairs. This estimate shall be the projected annual operating cost for each Unit. The District will compute the quantity of water anticipated to be conveyed through each Unit by adding the appropriate Lopez entitlements and the Contractor's Water requested for delivery per Section 9(b) of this contract and other State Water Contractors requests. This is the water quantity anticipated to be delivered through each Unit.

The projected annual operating cost per acre foot will be computed for each Unit by dividing the annual operating cost by the total quantity of water anticipated to be conveyed through each unit. The amount of Contractor's Water requested for delivery per Section 9(b) will then be multiplied by this projected annual operating cost per acre foot to determine the preliminary annual operating charge for each Unit used to convey Contractor's water. The individual costs for each Unit will then be totaled to determine the Contractor's total preliminary annual operating charge.

c. Additional Costs

Any costs that are incurred by the District that are directly attributable to the conveyance of Contractor's Water through the Zone 3 Conduit System shall be paid for by the Contractor in addition to the annual operating charge.



SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

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TO: Zone 3 Advisory Committee

FROM: Mark Hutchinson, Deputy Director

DATE: September 17, 2015

SUBJECT: How the IDRS Works with the LRRP

Summary

At your July 16, 2015 meeting the Advisory Committee requested information on how the Interim Downstream Release Schedule (IDRS) works with the Low Reservoir Response Plan (LRRP). This memorandum describes these documents and how they work together to manage Lopez water resources.

In summary, both the IDRS and LRRP work together to manage the reservoir in a way that provides the maximum benefit to both municipal and agricultural water needs without resulting in harm to sensitive species. The IDRS guides winter time downstream release rates with the intent to increase storage and provide more water for both municipal and downstream uses. During times when reservoir levels fall, the LRRP “takes over” and reduces both municipal deliveries and downstream releases. As reservoir levels approach minimum pool, the LRRP matches downstream releases to reservoir inflows (up to the IDRS minimums), thereby mimicking natural stream flow conditions.

IDRS

On April 24 2007, in response to a recommendation from the Advisory Committee and prior adoption of the Plan by all of the Zone 3 entities, the Board of Supervisors adopted a resolution implementing the IDRS for the Lopez Reservoir. The purpose of the IDRS is to provide a plan for managing downstream releases from Lopez Dam prior to the approval of the project's Habitat Conservation Plan (HCP). The LRRP is included as Part V of the IDRS, as a methodology to implement a set of actions to be taken to mitigate the impacts of low reservoir levels.

It is important to note that the IDRS is a local program not endorsed or approved by any State or Federal agency. Because of the presence of listed species in the creek (steelhead, red-legged frog, tidewater goby) State and Federal Agencies must follow the statutes and regulations contained in the Federal Endangered Species Act, the California Endangered Species Act, and the California Fish and Game Code when approving or endorsing any stream release plan. As an interim plan, the IDRS does not follow the typical regulatory approach but is meant as a tool to

prevent “take¹” of any listed species pending development and approval of the more formal conservation plans.

In its initial phase the IDRS consists of the installation of new stream gages to accurately monitor the effects on stream flow of different release rates, and a program to determine how flows could be reduced in the winter without impacting steelhead or red legged frog in a substantial way. As result of the phase I efforts, winter, spring and fall downstream releases have been reduced to below 3 cubic feet per second (cfs), from a pre IDRS 4 cfs, resulting in a modest increase in winter storage. Prior to the full onset of the drought, summer releases were maintained at between 3 and 7.5 cfs to ensure both adequate stream flow for habitat as well as agricultural diversions.

Phase I efforts also showed that during storm events the upper portion of Lopez Creek (from below the dam to Biddle Park) gains very little flow. As a result, reductions in winter releases of below 2.3 cfs were not attempted.

LRRP

At the same time as the IDRS seeks to establish minimum winter downstream releases the LRRP provides a methodology to use in the event the reservoir drops below established levels. To the extent that the LRRP calls for winter release levels below those developed by the IDRS, it is reasonable to conclude that the LRRP rates will control. This is because the LRRP calls for release amounts to match inflows as the reservoir approaches minimum pool.

Conclusion

The IDRS is intended to prevent “take” as a result of the actions of the District. Reducing releases to match inflows is a result of natural conditions rather than a result of the actions of the District. At the point where downstream releases match inflows, the creek downstream of the reservoir will see flows that are entirely consistent with natural conditions, whatever those conditions may be. Therefore, the IDRS and LRRP work together to manage the reservoir in a way that provides the maximum benefit to both municipal and agricultural water needs without resulting in harm to sensitive species.

Attachments:

- Interim Downstream Release Schedule
- Low Reservoir Response Plan

¹ "Take", as defined in the Federal Endangered Species Act means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Harm" is defined in Fish and Wildlife regulations as: "To perform an act that kills or injures wildlife; may include significant habitat modification or degradation when it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering." "Harass", as defined in the Federal Endangered Species Act, means ""To intentionally or negligently, through act or omission, create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, and sheltering,"



**SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
ZONE 3
*LOPEZ PROJECT***

Interim Downstream Release Schedule

July 20, 2006

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San Luis Obispo County Flood Control
and
Water Conservation District Zone 3 (Lopez Project)

Interim Downstream Release Schedule

July 20, 2006

- I. Executive Summary
- II. Purpose
- III. Goals and Objectives
- IV. Approach
- V. Low Reservoir Response Plan
- VI. Monitoring
- VII. In-Stream Improvements
- VIII. Costs
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I. Executive Summary

The purpose of this Interim Downstream Release Schedule (IDRS) is to provide a plan for managing downstream releases from Lopez Dam prior to the approval of the project's Habitat Conservation Plan (HCP). Included in the IDRS is a Low Reservoir Response Plan (LRRP) consisting of a methodology to assess near-term reservoir levels and a set of actions that could be taken to mitigate the impacts of low reservoir levels.

The Lopez Project currently delivers an annual total of 8,934 acre feet of water for municipal, environmental, and agricultural uses. This amount exceeds the traditional safe annual yield of the reservoir by 204 acre feet/year. Analysis of stream flows suggests that reducing downstream releases during the wet season (January 1 through March 31) has the potential to increase storage in the reservoir by amounts that exceed 204 acre feet, without resulting in impacts to agricultural or environmental resources. However, to ensure that no impacts to federally listed species occurs, it is necessary to add two additional stream flow monitoring stations, improve the equipment used at the two existing stations, and establish additional visual monitoring points on the creek. In addition, the ability to affect increases in storage over the longer term may be enhanced by implementing in-stream fish passage barrier improvements, consistent with those envisioned by the draft Habitat Conservation Plan. Annual costs associated with increasing storage range from \$410 to a low of \$72 per acre foot, depending on the degree of effort needed to effectively monitor the stream and the actual amount of increased storage that is achieved.

Analysis of current release rates shows that, if these rates had been in place during the driest period on record since completion of the Lopez Dam, the project would be capable of meeting all current expectations (municipal, environmental, agricultural) without falling below 23,000 acre feet in storage, or approximately 46% of the capacity of the reservoir. However, a conservative approach to reservoir management is prudent due to the critical nature of the project in providing for municipal water supplies, as well as the variable nature of long term climate changes. Consequently, a Low Reservoir Response Plan (LRRP) has been developed in order to pre-plan a set of potential actions that could be taken if the reservoir were to fall below 20,000 acre feet in storage (two years of deliveries above minimum pool). Implementation of the LRRP would involve incremental reductions in both downstream releases and municipal deliveries. The degree of reductions would be dependent on the length of the drought event, reservoir levels, and long term climate predictions.

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II. Purpose

The purpose of this Interim Downstream Release Schedule (IDRS) is to provide a plan for managing downstream releases from Lopez Dam prior to the approval of the project's Habitat Conservation Plan (HCP). Although the HCP contains a preferred alternative that includes a detailed downstream release schedule, certain elements of that schedule may result in incidental take of steelhead or other listed species during prolonged dry periods that result in low reservoir levels. Therefore, the HCP preferred alternative will not be proposed for implementation unless and until the necessary approvals have been granted pursuant to the federal Endangered Species Act. This Interim Downstream Release Schedule describes Zone 3's plan and approach to ensuring that interim releases into Arroyo Grande Creek continue without impacting environmental, agricultural or municipal water supplies.

III. Goals and Objectives

The Lopez Project, organized as Zone 3 of the San Luis Obispo County Flood Control and Water Conservation District, was constructed in the late 1960's to provide a reliable water supply for urban users in southern San Luis Obispo County. Municipal water contract deliveries total 4,530 acre feet per year (AFY). The project also makes downstream releases to Arroyo Grande Creek to ensure adequate recharge of riparian aquifers to support agricultural wells. Agricultural releases have historically averaged 2,335 AFY, although at the time the dam was constructed downstream releases were anticipated at 4,200 AFY. Flood Control Zone 3 also currently releases 4 million gallons per day (6.19 cfs) into Arroyo Grande Creek from the outlet works at Lopez Dam pursuant to informal agreements with state and federal resource agencies pending approval of the project's HCP. These annual downstream releases total 4,344 AFY. It should be noted that agricultural and habitat releases are conjunctive; therefore, during most months the habitat release is sufficient to supply agricultural needs.

Municipal contract obligations plus downstream releases total 8,934 AFY. However, the safe yield of the reservoir is established at 8,730 AFY. Current uses exceed the safe yield by 204 AFY. Given that the project has experienced dryer than normal periods lasting up to seven consecutive years, there is a concern that continuation of releases that exceed the safe yield may result in an inability for the project to meet its current and historic obligations, should a prolonged dry period develop.

Three key concepts support an approach that increases storage in the reservoir in order to meet annual demands:

1. The Lopez Project provides a significant percentage of the municipal water supply for Zone 3 entities; to the degree that reductions in deliveries at this time could result in a substantial hardship to a number of residents.

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While efforts to enhance the amount of supply and the efficient use of current supplies are ongoing, those efforts have not yet matured to the point where reductions in deliveries from the Lopez Project could be absorbed into the communities' water budget.

2. The current "level" release rate of 4 million gallons per day (6.19cfs) into Arroyo Grande Creek was established to ensure that no "take" of steelhead would occur *under dry season conditions*. Closer monitoring of stream flows should provide opportunities to reduce releases to the stream without incurring impacts to sensitive species during periods when agricultural pumping is reduced and inflows to the creek from adjacent streamside aquifers is the greatest.
3. Continued operation of the system above safe yield could, in extreme situations, result in conditions where downstream releases could not be made without resulting in significant impacts to water users. Absent alternative municipal water sources, Zone 3 would be placed in an untenable situation. Further, avoidance of any condition that would result in severe impacts to sensitive species, municipal users, or agricultural interests prior to completion of the HCP process is key to successful completion of the HCP.

Therefore, the objectives of the IDRS are to operate the dam in a manner that:

1. Allows the project to continue to meet its contractual responsibilities
2. Maximizes the potential for interim "surplus" water generation
3. Results in no discernable impacts to steelhead.
4. Meets agricultural needs
5. Generates data and information that can be used to supplement the HCP and/or assist in implementing the HCP once it's approved.

IV. Approach

This Interim Downstream Release Schedule approaches the task of matching project deliveries to safe yield by reducing the total annual downstream release. This will be accomplished by enhancing the ability to monitor stream flow at various points along the stream and reducing reservoir releases during and/or immediately following periods of heavy precipitation in the wet season. Should efforts to increase reservoir storage during winter months be successful, consideration will be given to reducing releases during spring and fall months.

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Phase I focuses on reducing releases during the wettest period of the year to take advantage of both reduced agricultural pumping and inflows from both surface and subsurface sources.

Based on the level of success achieved by phase I efforts, reductions in fall and spring releases, consistent with the release calculations established in the HCP, may be implemented. "Success", with respect to phase I efforts, is based on:

1. A demonstrated ability to accurately predict stream response to release reductions,
2. Confidence that changes in the release rate can be made without incurring stream flow changes that negatively impact sensitive species, and
3. Increases in storage achieved in phase I result in a favorable cost/benefit ratio.

Based on direct observations of stream flow during the 2004/2005 wet season, and during the initial 2005/2006 wet season, it is evident that wet season flow volumes in Arroyo Grande Creek increase as the stream flows from Lopez Dam to the ocean at Oceano. From an initial flow of 6cfs at the outlet works, observed wet season stream flow typically exceeds 20cfs at the 22nd Street Bridge in Oceano, just upstream from the stream's ocean outlet. During storm events, flows at 22nd Street can increase by several magnitudes owing to the flow contributions from developed areas as well as from tributary streams. Given that flows at 22nd Street are influenced more by the watershed's response to winter rains than by releases from Lopez Dam, some degree of reductions in release from the dam could be made without resulting in more than minimal impacts on stream flow throughout the majority of the system.

According to the "Arroyo Grande Creek Permeability Study San Luis Obispo County, CA" prepared by Questa Engineering Corporation in April of 2001, the "critical" segment of the creek (from a flow maintenance perspective) is the reach from the dam to below Biddle Park near the Talley Bridge, a distance of approximately 2.5 miles. There are no significant tributary channels that feed into Arroyo Grande Creek in this segment, the watershed rocks adjacent to this reach are predominately poor to non-water bearing units, and groundwater inflow from the margins of the valley is limited. Flow and water depth in this reach of the creek are influenced primarily by releases from the dam except during heavy winter rains when agricultural water use is reduced and the small tributary watershed below the dam contributes to stream flow. Below this reach during the wet season the creek gains flow from tributaries and groundwater inflow, and the impacts of agricultural pumping are reduced or eliminated due to the effects of rainfall.

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Phase I efforts will match the timing of reductions in reservoir releases to wet season storm events, using the 2.5 miles of stream below the dam as the key measurement segment. The volume of reductions will be based on the response of the initial stream segment to reduced releases. Ramping rates will be consistent with those established by the draft HCP, that is, changes in release rates will not exceed 1cfs/day.

The following table illustrates the current volumes of wet season downstream release compared to a range of modified release rates, averaged over the 90-day period from January 1 to April 1:

TABLE 1

Modified Release Rate Calculations 90-day Wet Season								
Rate/ % Reduction:	Current	17%	19%	33%	47%	50%	67%	83%
CFS:	6.00	5.00	4.86	4.00	3.20	3.00	2.00	1.00
Acre Feet/Day:	11.90	9.92	9.63	7.93	6.35	5.95	3.97	1.98
90 Day Total (AF):	1,071.07	892.56	867.07	714.05	571.07	535.54	357.02	178.51
Total Additional Storage:	0.00	178.51	204.00	357.02	500.00	535.53	714.05	892.56

As shown in table 1, the 204 average annual AFY increase in storage necessary to match reservoir demands to the safe yield could be accomplished by reducing wet season releases to an average of 4.86cfs, 19% below current levels, for a period of 90 days. Similarly, a 500 AFY reduction would require a 47% reduction in releases during the wet season, to 3.2cfs.

Implementation/Operation

Initial release reductions would begin in January after winter rains have saturated the valley and stream flow measurements show the stream to be gaining flow from the dam to the ocean. At that point a release reduction of 0.5cfs would be made, with any consequent effects on stream flow noted. Absent any substantial negative stream effects after 24 hours, additional reductions in 0.5cfs increments would be made, following the same measurement protocol (one step in each 24 hour period). If flow reductions reach 4.8cfs without negative stream effects, the release rate will be "held" for a period of at least five days, with ongoing stream monitoring, to ensure that the program remains in compliance with its stated objectives. Further release reductions would be similarly stepped down, dependent on monitoring results as well as on observed and predicted weather

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patterns. It is not anticipated that release rates would fall below 3cfs in the first winter period, regardless of monitoring results. For comparison purposes, Exhibit 1 illustrates the IDRS release rates together with the current and HCP proposed rates.

Barring unusual weather patterns, at the end of the wet season (April 1) release rates would be stepped up in 1cfs/day increments to 6cfs. Analysis of data would continue through the summer season and necessary adjustments to the next winter's release rates would be made. Also, based on the results of the monitoring, decisions regarding the potential for spring/fall reductions consistent with the HCP preferred alternative would be made.

V. Low Reservoir Response Plan

This Low Reservoir Response Plan (LRRP) describes a set of actions that would be taken if the total volume of storage in the Lopez Reservoir were to fall below 20,000AF, as measured on April 1st of any given year. Because of the number of variables that could precipitate a low reservoir level, this LRRP does not establish specific release rates that would be adopted in the event of a low reservoir condition, rather, this LRRP provides a methodology that would be used to develop an appropriate release rate. Exhibit 2 is a flowchart that illustrates the implementation of the LRRP.

Since its construction in the late 1960's the most significant consecutive years of low reservoir inflow was in the 1987-1992 period (See Exhibit 3, Historical Lopez Reservoir Storage). Six consecutive below average inflow years reduced the reservoir storage to 16,500 acre-feet (measured on September 30), which is about 30 percent of the total storage capacity. During that same period, the annual average deliveries to municipal use was 5,426AFY, an average of 896 AFY above contract amounts, for a nine year total of 32,555 AF. Also during that same period, downstream releases were an average of 2,871 AFY, 1,473 AFY below current release levels, for a nine year total of 17,227 AF (Table 2).

When current municipal contract amounts (4530 AFY) and current downstream release amounts were "plugged in" to the data developed from 1987 to 1992, the results indicate that reservoir levels would have been higher than historic levels, and would have never fallen below 20,000 AF (Table 3). This analysis indicates that the potential to experience a critically low reservoir is low; never-the-less, given the importance of the reservoir to meeting environmental, agricultural, and municipal needs, it is considered appropriate to adopt a plan of action to respond to low reservoir levels.

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TABLE 2

Recorded Reservoir Data, 1987-1992							
Year	Inflow	Evap.	Rainfall	Municipal	Release	Change Storage	Total Storage
1987	4965	2664	911	5544	2517	-4849	48463
1988	3779	2994	845	5265	2514	-6149	37465
1989	4176	2959	1057	6065	2812	-6603	30860
1990	3155	2533	478	5863	3673	-8436	22425
1991	6290	2016	798	4934	2761	-2623	19802
1992	6577	1846	823	4884	2950	-2280	17521

TABLE 3

Estimated Reservoir Data, 1987-1992, Using Current Release Rates							
Year	Inflow	Evap.	Rainfall	Municipal	Release	Change Storage	Total Storage
1	4965	2664	911	4530	4404	-4880	48463
2	3779	2994	845	4530	4404	-6000	42463
3	4176	2959	1057	4530	4404	-5815	36648
4	3155	2533	478	4530	4404	-6257	30391
5	6290	2016	798	4530	4404	-3442	26949
6	6577	1846	823	4530	4404	-3180	23769

20,000 AF was selected as the appropriate level to implement the LRRP because, at current release and municipal delivery rates, it provides a two year cushion above minimum pool, assuming worst case recorded rainfall and inflow (as experienced in the 1990 water year). Table 4 illustrates the "worst case" scenario, resetting the reservoir level at 20,000 AF and using the 1990 data and current municipal and downstream releases.

TABLE 4

Worst Case Reservoir Drawdown							
Year	Inflow	Evap.	Rainfall	Municipal	Release	Change Storage	Total Storage
0							20000
1	3155	2533	478	4530	4404	-6257	13743
2	3155	2533	478	4530	4404	-6257	7486
3	3155	2533	478	4530	4404	-6257	1229

Note that minimum pool (4,000AF) is reached sometime after year 2, assuming no change in release and municipal delivery rates. Table 5 shows the results of

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reducing municipal deliveries by 10%, reducing habitat releases by 500AFY, and eliminating agricultural supplements above habitat releases:

TABLE 5

Sample Modified Reservoir Drawdown Scenario							
Municipal 10% Reduction, Habitat 500AFY Reduction, No Agricultural Supplement Above Habitat Release							
Year	Inflow	Evap.	Rainfall	Municipal	Release	Change Storage	Total Storage
0							20000
1	3155	2533	478	4077	3844	-5244	14756
2	3155	2533	478	4077	3844	-5244	9512
3	3155	2533	478	4077	3844	-5244	4268

In the example shown in Table 5, minimum pool is reached after year 3. Using data collected since the construction of the reservoir, decisions about potential changes in release and municipal delivery rates when (and if) the reservoir falls to 20,000 AF on April 1 would be made using the methodology shown in Tables 4 and 5, following the steps shown in Exhibit 2. As shown in Exhibit 2, modifications to release rates and municipal deliveries would be made in concert with actions by each of the Zone 3 contractors to employ conservation steps and access alternative supplies, as detailed in each agency's Urban Water Management Plan.

VI. Monitoring

The ability to accurately monitor the stream flow response in Arroyo Grande Creek to increases and decreases in release rates at Lopez Dam during different climate and weather conditions is critical to the success of the IDRS. Current monitoring efforts consist of stream gages on Arroyo Grande Creek at Arroyo Grande (the Arroyo Grande gage) and at the Cecchetti Road crossing of Arroyo Grande Creek (the Cecchetti gage), along with the release rate flow monitors at the dam outlet works.

Modifications of the current stream monitoring system consist of:

- The addition of automated¹ stream gages on Arroyo Grande Creek at the Rodriguez Bridge (the first road crossing of the creek below Lopez dam) and at 22nd Street in Oceano (the last road crossing of the creek before it discharges into the ocean).
- Automation of the existing gages at Arroyo Grande and Cecchetti Road.

¹ "Automated" means that the information can be read remotely in real time, readings are taken and reported at not less than 1 hour intervals, and all information is electronically recorded and retrievable.

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- Additional automation of release rate information at the dam outlet works.

Modifications to existing gages and the installation of the new gage at Rodriguez Bridge are programmed for the summer/fall of 2006, with installation of the new gage at 22nd Street scheduled for the summer of 2007, as shown in Table 6 below. The installation of remote reading capability at the dam outlet works is dependent on technical and cost considerations (which are as yet unknown), given that this information is already be remotely read and recorded at the treatment plant.

TABLE 6

Stream Monitoring Program Improvements Priority & Cost Estimate March 2006					
Priority	Gage Name Proposed Changes	Item Cost	Site Costs	Cumulative Costs	Annual Costs
1	Modify Arroyo Grande Gage Add alert multi-module Installation costs	2,211 1,000	3,211	3,211	
2	Modify Cecchetti Gage Change to H-350XL Data Collector H-264 Alert Serial Interface Installation costs	2,350 1,105 1,000	4,455	7,666	
3	New Gage at Rodriguez Bridge H-3611 Radar Gage Equipment Sensor Housing H-500XL data logger H-264 Alert Transmitter 10-watt solar panel Model 7154-2 Antenna Model 720 Lightning Protect Device Installation costs	3,260 350 1,395 1,105 350 140 95 5,000	11,695	19,361	Year 1: 19,361
4	New Gage at 22nd Street Bridge H-3611 Radar Gage Equipment Sensor Housing H-500XL data logger H-264 Alert Transmitter 10-watt solar panel Model 7154-2 Antenna Model 720 Lightning Protect Device Installation costs	3,260 350 1,395 1,105 350 140 95 5,000	11,695	31,056	Year 2: 11,695
5	Transmit Discharge Rate to SLO Installation costs	1,000			Year 3: 1,000
TOTAL COSTS:				\$32,056.00	

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Automation of all gages, that is,

1. Installing equipment to provide that the information can be read remotely in real time
2. Readings are taken and reported at not less than 1 hour intervals, and
3. All information is electronically recorded and retrievable,

will ensure that changes in stream flow will be noted as they occur and that the results of changes in release rates can be analyzed and correlated in order to guide subsequent decision making.

Additionally, at least during the first season of implementation of the IDRS, visual monitoring points (including staff gages) will be established at the following locations:

- The "gravel pits" just below the dam (Arroyo Grande Creek)
- Biddle Park (Arroyo Grande Creek)
- Mill Road Bridge (Tar Springs Creek)
- Fair Oaks Avenue (Arroyo Grande Creek)
- Valley Road (Los Berros Creek)
- 22nd Street (Arroyo Grande Creek – year 1)

Visual observations will be recorded within 8 hours after changes in release rates are made, with subsequent observations made at 24 and 48 hour intervals after each "set point" is reached. Additional visual observations would be made dependent on weather conditions.

The system of stream gages and visual monitoring locations has been developed in order to provide a complete picture of the response of Arroyo Grande Creek, as follows:

1. **Gravel Pits** The visual monitoring point at the gravel pits will show flow levels in the initial reach of Arroyo Grande Creek, and ensure that strandings or trapping of fish in the gravel pits does not occur.
2. **Rodriguez Bridge** The new gage at the Rodriguez Bridge will reflect flow conditions in the reach of the Creek extending downstream to the Talley Bridge (per the Permeability Study).

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3. **Biddle Park** The visual monitoring point at Biddle Park will verify the findings of the permeability study relative to the Rodriguez-Talley reach of Arroyo Grande Creek.
4. **Cecchetti Road** The existing gage at Cecchetti Road will show the condition of the creek at a point where it has already had substantial interaction with the streamside aquifer, providing inflow information for the reach above the gage.
5. **Mill Road Bridge** The visual monitoring point on Tar Springs Creek at the Mill Road Bridge will provide inflow information from tar Springs Creek.
6. **Arroyo Grande** The existing gage at Arroyo Grande will provide combined flow information for Arroyo Grande Creek , Tar Springs Creek, and the streamside aquifers above the City. It will also allow correlation of flow information with historical measurements at this location.
7. **Fair Oaks Avenue** The visual monitoring point at the Fair Oaks Avenue bridge will provide information about urban flows out of the City of Arroyo Grande plus show flows entering the flood control channel reach.
8. **Valley Road** The visual monitoring point at the Valley Road bridge will provide information about flows in Los Berros Creek before they enter Arroyo Grande Creek.
9. **22nd Street** A visual monitoring point in the first year with a gage installed in year two, flow monitoring at 22nd Street will provide information about the total discharge of Arroyo Grande Creek (Flow over the bar also includes contributions from Meadow Creek and the historic Los Berros Channel. Visual monitoring points may be added at these locations if conditions warrant.

All information gathered from gages and visual monitoring will be correlated in a single database, which will be made available to agencies and the public upon request.

VII. In-Stream Improvements

In-stream improvements conducted under this IDRS will be focused solely on improving fish passage past various partial barriers that currently exist in Arroyo Grande Creek. General habitat improvements as described in the HCP will be deferred until the HCP is approved. Because the goals of this IDRS include both an increase in storage in the reservoir and no impacts to steelhead, passage improvements that allow steelhead and other species to move naturally up and down the stream under lower stream flow conditions will be prioritized and implemented as budgets and regulatory requirements allow. The following list of

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known barriers (From the Arroyo Grande Creek Watershed Management Plan, March 2005, CA Dept of Fish and Game & Central Coast Salmon Enhancement) will be the basis for the prioritization and implementation of improvements. This list is presented in no particular prioritization order:

1. **Two Concrete Dams** Identified in the Stream Inventory Report by the CCC. The dams seem to be nonfunctional as the creek flow has undermined the dams. A structure was identified in a 1972 Stream Survey from CDFG, which had the location at about ¼ mile downstream of the Fair Oaks Crossing. The CCC survey had placed the location of this structure at mile 2.88 from the confluence with the ocean and just over ½ mile downstream of the Fair Oaks Crossing.
2. **Arroyo Grande Stream Gage** Identified in numerous reports as probably the most significant barrier downstream of Lopez Dam in the watershed. It is identified in the California Fish Passage Assessment Database as I.D.# 8409. During the CCC stream survey, the structure was measured to be 34.2' wide x 17.5' thick x 4.7' high. It is located at stream mile 4.98 from the confluence with the ocean. There is a low-flow notch in the structure but it may add to the intensity of the barriers by not only being a height barrier but also a velocity barrier. This structure poses a complete barrier for juvenile steelhead as they have been seen jumping at the base of the structure. Adults should be able to pass the structure during migration periods, when there is more water coming over the spillway and back-flooding of the pool downstream of the gage. The pool below the gage is over 5 feet deep and will aid in the migratory effort to pass the gage.
3. **Rip-Rap Dam** Identified in the Stream Inventory Report by the CCC. This dam is located about 2000 feet upstream of the stream gage at mile 5.35 from the confluence with the ocean. The structure is 14' wide x 2' thick x 1' high.
4. **Concrete Dam** Identified in the Stream Inventory Report by the CCC. This dam is located at stream mile 5.82 from the confluence. The structure is 23' wide x 4' thick x 4.5' high. There is no low flow notch so the water sheets across the top. There is a significant plunge pool below the dam but unless there is enough flow, negotiating the sheet flow could limit fish. It is a barrier to juveniles migrating upstream.
5. **Cecchetti Road Culvert** This crossing is identified in numerous reports. It is identified in the California Fish Passage Assessment Database as I.D.# 142. The structure was designed as an Arizona type crossing with a 5-foot Corrugated Metal Pipe (CMP) culvert. It is designed to overtop the crossing during high flows and has swept cars into the creek. This structure might pose a velocity barrier during heightened flows and passage might be an issue on the upstream side where sediment has

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been deposited. A thin steep channel is cut as the creek approaches the culvert.

6. **"S" Rip-Rap Dam** Identified in the Stream Inventory Report by the CCC. The dam is located at stream mile 9.31 from the confluence with the ocean. The structure is a dam shaped in a form of an "S". It is 17' wide x 13' thick x 1' high.
7. **Abandoned Dam/Diversion Footings** Identified in numerous reports and also identified in the California Fish Passage Assessment Database as I.D.# 141 and located at stream mile 11.22 from the confluence with the ocean. This structure appears to be an old flash-board dam footing. Wood slats could be placed spanning the channel to impound water for irrigation or municipal use. The structure has not been used in many years and is one structure with three steps. The flow over the structure is sheet in form and does not allow for a plunge or scour pool to form. The structure is 48' wide x 10' thick x 2.2' high with two tiers. The middle section is filled with gravel and this structure is a very important grade control structure now. Modification rather than removal might be the best option to aid in fish passage for both adults and juveniles.
8. **Concrete Grade Control Weir** Identified by CCSE staff, this structure is located at a water-monitoring site and is located at stream mile 13.29, the Rodriguez Road crossing. It may be a partial barrier to juvenile fish but there is good flow since it is in proximity to Lopez Dam. There is a deep plunge pool, so with good acceleration, passage could be achieved. There is some sheet flow across the structure but it is semi-concentrated over half the structure. The structure is 20' wide x 5' thick x 2' high. Removal for uninterrupted passage is not an option as it encases the primary water supply line from Lopez Dam.

VIII. Costs

Funding for new gage installation, stream monitoring, and data management and analysis will be provided by Zone 3. The capital costs of the modification of existing gages and installation of two new gages is projected to cost \$19,361 in year 1, \$11,695 in year two and \$1,000 in year 3, as shown in Table 6. Operation of the dam (i.e., manipulating flows) is contained within existing operational costs. Monitoring costs, consisting of reading remotely transmitted data, visiting visual observation points, and recording data and observations is expected to range between \$10,000 - \$15,000 for the 90-day period between January 1 and April 1. Costs related to passage barrier removal projects are estimated at \$25,000 annually, beginning in year 3. Assuming the IDRS increased storage by between 100 and 500 acre feet each year, long-term acre foot costs range from a high of \$410 to a low of \$72, as shown in Table 7 (Exhibit 4 provides additional cost calculations]. These costs do not include staff costs

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related to developing the IDRS, reporting to Zone 3, or reporting the results of IDRS monitoring to resources agencies (if required). These additional costs are accounted for in the HCP budget.

TABLE 7

Per Acre Foot Cost Comparisons (With Ranges, 2006 Dollars))			
	Year 1	Year 2	Year 3 - - -
Passage Barrier Removal Cost			25,000
Monitoring Effort Capital Cost	19,361	11,695	1,000
Operational (Low)	10,000	10,000	10,000
Operational (High)	15,000	15,000	15,000
Additional Storage - Range	100 - 500 AFY	100 - 500 AFY	100 - 500 AFY
Cost/Acre Foot - Range	\$59 - \$344	\$44 - \$267	\$72 - \$410

IX. Schedule

Table 8 identifies the key IDRS milestones. The overall goal is to have all actions necessary to implement the IDRS in time to take advantage of the 2007 wet season (January – March).

TABLE 8

IDRS KEY MILESTONES	
Milestone	Date
TAC Approves IDRS:	May 2006
Advisory Committee Approves IDRS:	May 2006
Zone 3 Agencies Approve Contract Amendments:	September 2006
Board of Supervisors Approves IDRS:	September 2006
Year 1 Gage Work Completed:	November 2006
Year 1 IDRS Implementation:	January 2007
Year 2 Gage Work Completed:	September 2007
Year 2 IDRS Implementation:	January 2008

X. Environmental Requirements

Actions and projects that have the potential to impact sensitive wildlife species or that effect waterways in California may require approvals from several different regulatory agencies pursuant to several different State and Federal environmental statutes, as described below.

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CEQA

In general, the California Environmental Quality Act (CEQA) applies to all discretionary actions taken by a public agency. However, the State CEQA Guidelines, section 15261 provides an exemption for ongoing projects as follows:

(a) If a project being carried out by a public agency was approved prior to November 23, 1970, the project shall be exempt from CEQA unless either of the following conditions exists:

(1) A substantial portion of public funds allocated for the project have not been spent, and it is still feasible to modify the project to mitigate potentially adverse environmental effects, or to choose feasible alternatives to the project, including the alternative of 'no project' or halting the project

(2) A public agency proposes to modify the project in such a way that the project might have a new significant effect on the environment.

Based on the California Appellate Court's decision regarding the operation of dams in similar situations, implementation of the IDRS qualifies as a "normal, intrinsic part of the ongoing operation of the reservoir project which does not constitute any modification thereof."² Consequently, it is exempt from environmental review under CEQA as described in section 15261.

Endangered Species Act

Although the Lopez Project has prepared an HCP and is currently working with the National Marine Fisheries Service and the US Fish and Wildlife Service to perfect that document, no permits to "take"³, "harm"⁴, or "harass"⁵ any federally listed species have been granted. Further, prior to approval of the HCP, no such authorization can be granted by either federal agency. Therefore, it is incumbent

² Nacimiento Regional Water Management Advisory Com. v. Monterey County Water Resources Agency (1993) 15 Cal.App.4th 200 , 19 Cal.Rptr.2d 1

³ "Take", as defined in the Federal Endangered Species Act means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

⁴ "Harm" is defined in Fish and Wildlife regulations as: "To perform an act that kills or injures wildlife; may include significant habitat modification or degradation when it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering."

⁵ "Harass", as defined in the Federal Endangered Species Act, means "To intentionally or negligently, through act or omission, create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns such as breeding, feeding, and sheltering."

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on Zone 3 to ensure that implementation of this IDRS does not result in “take” in any form.

California Fish and Game Code

Implementation of the IDRS does not constitute “substantial modification of a river, stream, or lake”; therefore, authorization from the California Department of Fish and game pursuant to section 1602 of the California Fish and Game Code is not required.

Fish Passage Improvement Projects

Depending on the details of a particular project, implementation of fish passage improvement projects may require authorization by several state and federal resource agencies, as indicated in Table 9 below:

TABLE 9

Passage Improvement Project Regulatory Requirements	
Regulatory Requirement	Agency
CA Environmental Quality Act (CEQA)	County of San Luis Obispo
National Environmental Policy Act (NEPA)	US Army Corps of Engineers
Section 404 Clean Water Act	US Army Corps of Engineers
Section 401 Clean Water Act	Regional Water Quality Control Board
Endangered Species Act (Steelhead)	National Marine Fisheries Service
Endangered Species Act (Other Species)	US Fish and Wildlife Service
Section 1600 CA Fish and Game Code	California Department of Fish and Game
California Coastal Act	County of San Luis Obispo
California Coastal Act (Original Jurisdiction)	California Coastal Commission

Exhibit 5 illustrates the typical regulatory permit process for passage improvement projects.

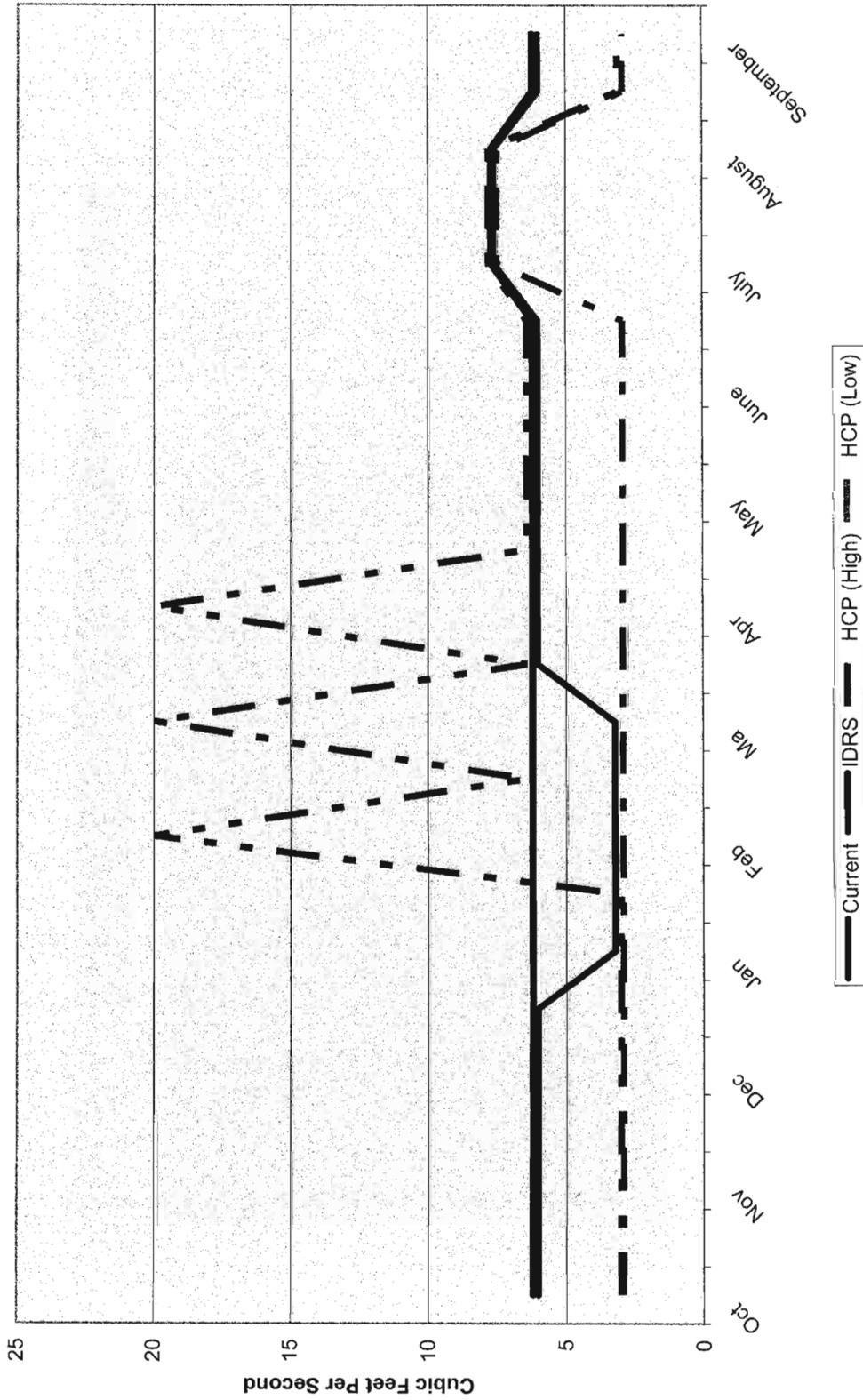
XI. Exhibits

1. Lopez Project: Comparative Release Rates
2. LRRP Flowchart
3. Historical Lopez Reservoir Storage
4. Per Acre Foot Cost Comparisons
5. Typical Regulatory Permit Process for Passage Improvement Projects

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Exhibit 1

Lopez Project: Comparative Release Rates



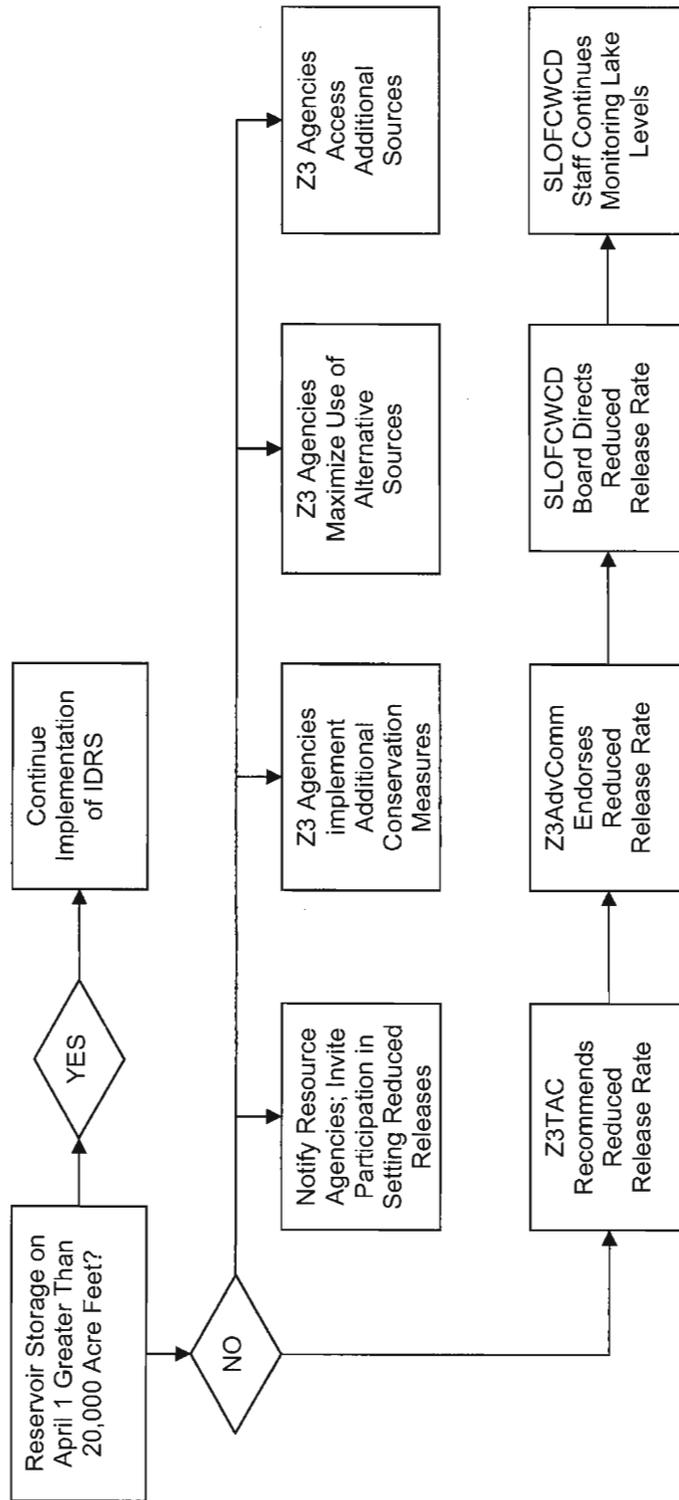
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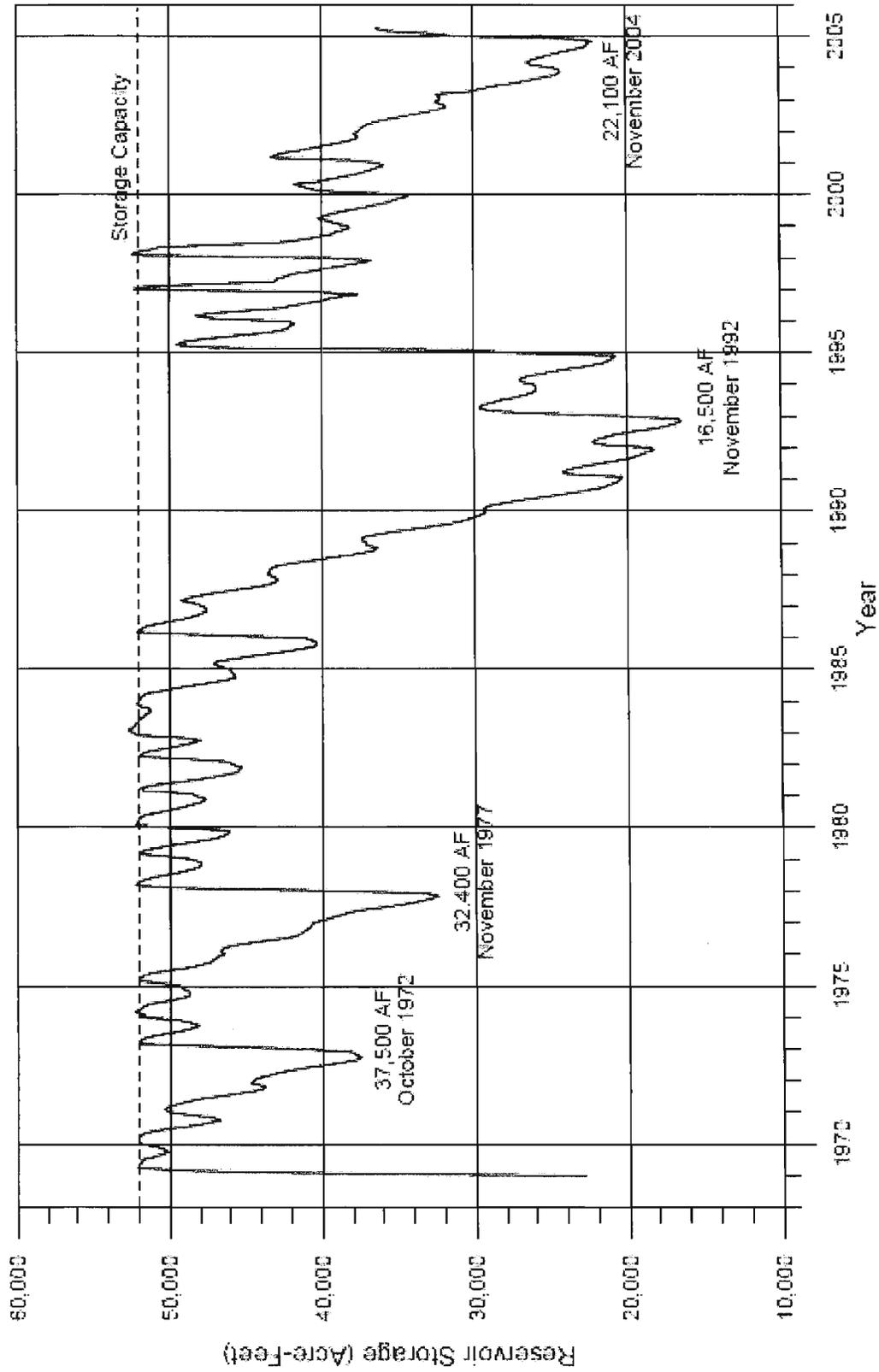
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Exhibit 2
Low Reservoir Response Plan (LRRP)
Key Decision Flowchart



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**Exhibit 3
Historical Lopez Reservoir Storage**



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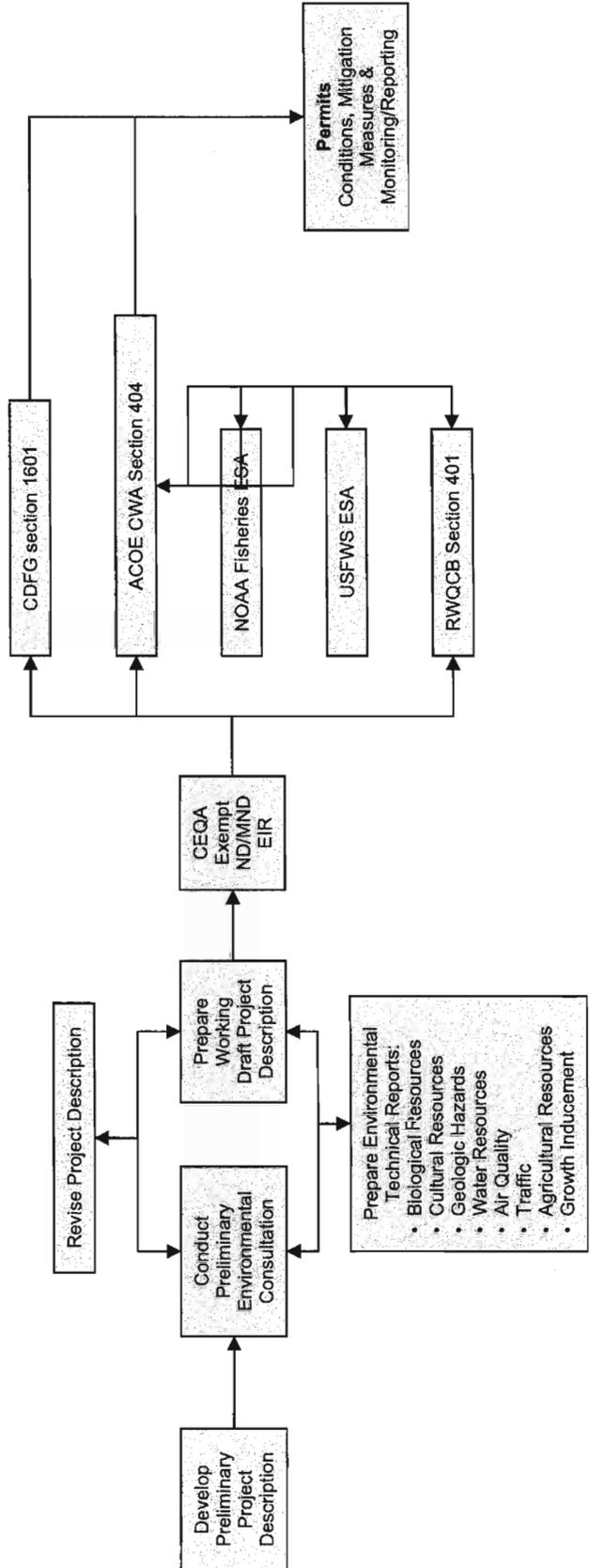
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Exhibit 4
Per Acre Foot Cost Comparisons (With Ranges, 2006 Dollars))

	Year 1	Year 2	Year 3 - - -
Passage Barrier Removal Cost	0	0	25,000
Monitoring Effort Capital Cost	19,361	11,695	1,000
Operational (Low)	10,000	10,000	10,000
Operational (High)	15,000	15,000	15,000
Example Storage Volumes:			
Additional Storage (Low)	100	100	100
Additional Storage (Mod)	204	204	204
Additional Storage (High)	500	500	500
Annual Costs Per Acre Foot:			
Low Ops/Low Storage	\$293.61	\$216.95	\$360.00
Low Ops/Moderate Storage	\$143.93	\$106.35	\$176.47
Low Ops/High Storage	\$58.72	\$43.39	\$72.00
High Ops/Low Storage	\$343.61	\$266.95	\$410.00
High Ops/Moderate Storage	\$168.44	\$130.86	\$200.98
High Ops/High Storage	\$68.72	\$53.39	\$82.00

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**Exhibit 5
Typical Stream Passage Improvement Project Permit Flowchart**



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Zone 3 IDRS

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Low Reservoir Response Plan

for the

**San Luis Obispo County Flood Control and Water Conservation District
Zone 3**

December 16, 2014

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1 INTRODUCTION, PURPOSE AND PLAN ADOPTION

The Low Reservoir Response Plan (LRRP) describes a set of actions that the San Luis Obispo County Flood Control and Water Conservation District (District) Zone 3 will implement when the amount of water in storage within the Lopez Reservoir drops below 20,000 Acre-Feet (AF) provided that the District's Board of Supervisors has declared an emergency related to Zone 3. The purpose of the LRRP is to limit downstream releases and municipal diversions from Lopez Reservoir during periods of low reservoir storage (i.e. less than 20,000 AF) to preserve water within the reservoir, above the minimum pool level, for a minimum of 3 to 4 years under continuing drought conditions. The criteria for reducing municipal diversions and downstream releases are summarized in Section 3.

Droughts have unpredictable impacts on water supplies. The duration of droughts and the actual amount of rainfall and run-off during droughts can differ significantly. As a result, the LRRP has been developed to provide an initial set of prescribed actions combined with an adaptive management approach. The purpose of the LRRP is to act as the guiding document during drought emergencies, as outlined in the Interim Downstream Release Schedule (IDRS). The initial prescribed actions establish baseline actions, and several adaptive management scenarios are included so that actual hydrological conditions can be evaluated during a drought. In summary, ongoing evaluation of actual hydrological conditions is needed during a drought, and through the adaptive management approach, prescribed actions can be modified, if needed, so that the 3-4 year target can be achieved.

The District's Board of Supervisors (BOS) is responsible for final adoption of the LRRP. Prior to adoption by the Board of Supervisors, the following steps are necessary:

1. Development of the draft LRRP guided by the Zone 3 Technical Advisory Committee (TAC).
2. Review of the draft LRRP with Zone 3 agricultural stakeholders.
3. Consideration of policy direction that may be provided by any of the governing boards of the Zone 3 agencies as the draft LRRP is being developed.
4. Review and approval by the Zone 3 Advisory Committee (AC).
5. Formal approval by the governing boards of the Zone 3 member agencies, by resolution, with appropriate findings to address the following:
 - a. The California Environmental Quality Act (CEQA).
 - b. Emergency provisions that are unique and necessary to the LRRP, but which may differ from contract provisions that control Zone 3 operations and deliveries during normal operating conditions.
6. Final approval by the BOS.
7. Enacting the LRRP as described in this document and outlined in Appendix A.

2 BACKGROUND

Since completion of its construction in 1969, the Lopez reservoir has experienced extended periods of low reservoir inflow that have led to decreased storage levels within the lake. Analysis of historical storage data from Lopez Reservoir identified that the lowest storage water level (16,455 AF) within the reservoir

occurred in November of 1992. Figure 1 shows monthly storage levels within Lopez Reservoir since April 1969. Since 1992, there have been significant changes in dam operations, (e.g. Interim Downstream Release Schedule (IDRS) implementation) that affect the amount of water that is released and diverted from the reservoir on an annual basis. Modified operations and historic drought conditions have highlighted the need for evaluation of LRRP reduction scenarios.

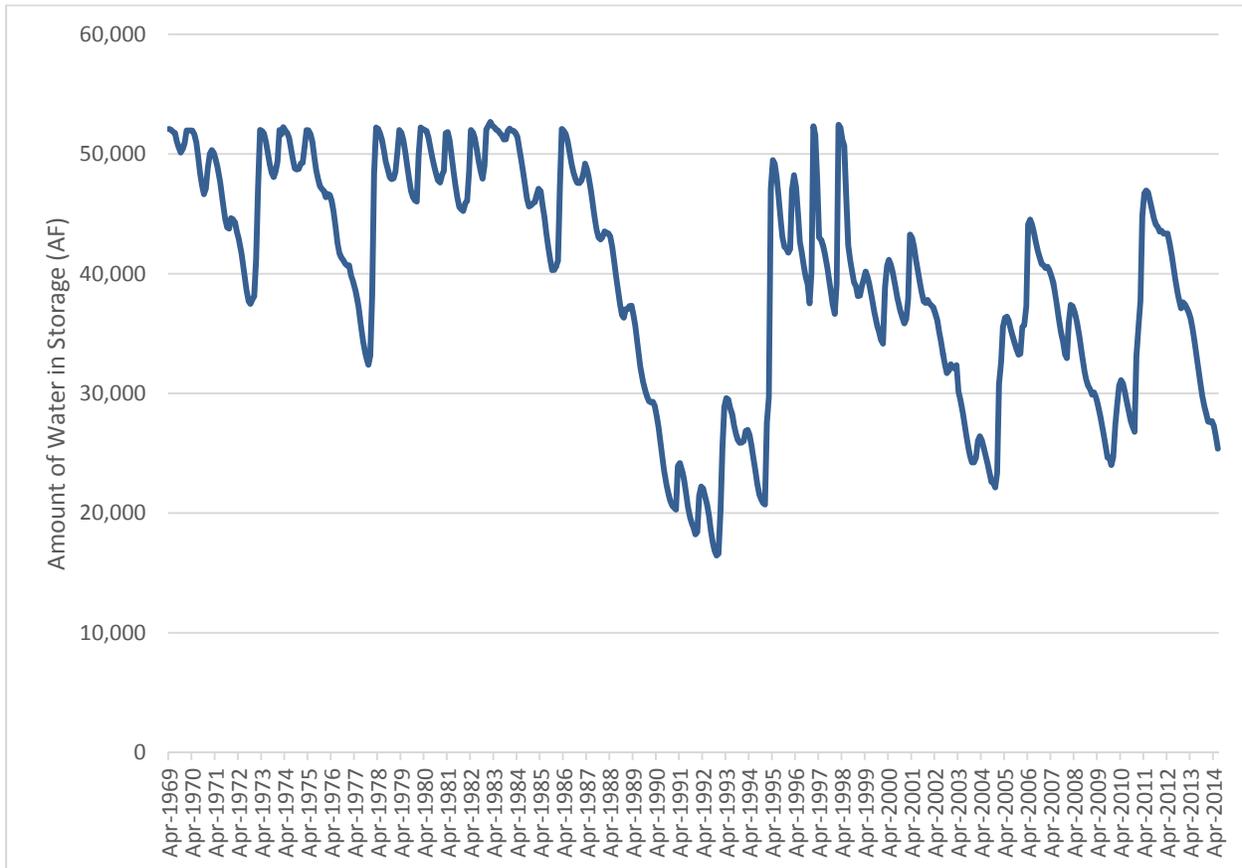


Figure 1. Lopez Reservoir Storage

3 LRRP ELEMENTS

3.1 ENACTING THE LRRP AND INITIAL PRESCRIBED ACTIONS

The LRRP is automatically enacted if the total volume of water in the Lopez Reservoir falls below 20,000 AF and the BOS has declared an emergency related to Zone 3. The initial prescribed actions, once the LRRP is enacted, are as follows:

- Reductions in entitlement water deliveries as set forth in Table 1; and
- Reductions in downstream releases as set forth in Table 2, with actual releases timed to best meet the needs of agricultural stakeholders and to address environmental requirements; and
- No new allocations of Surplus Water from unreleased downstream releases; and

- Extension of time that agencies can take delivery of existing unused water; throughout the duration that the Drought Emergency is in effect, subject to evaporation losses if the water is not used in the year originally allocated.

3.2 ADAPTIVE MANAGEMENT

To provide the District, the Zone 3 agencies and agricultural stakeholders with sufficient flexibility to adapt to changing drought conditions and to address the environmental requirements, the LRRP includes an adaptive management component that allows the initial prescribed actions to be modified and adapted to the specific drought conditions. The steps for modifying the initial prescribed actions are outlined below and are show in Appendix A.

1. The TAC will review several factors including the time of year that the LRRP is enacted, when the reservoir level drops to lower triggers, and Hydrologic Conditions including but not limited to: predicted climatic conditions; anticipated reservoir inflow; and the availability of the Zone 3 agencies' other water supplies.
2. If determined to be necessary, the TAC will make a recommendation to the AC on a strategy for modifying the initial prescribed actions, hereafter referred to as an Adaptive Management Strategy.
3. Upon review of the TAC's recommendation, the AC will vote to approve, deny, modify or continue consideration of the Adaptive Management Strategy for a period not to exceed 30 days, at which time the AC will act to approve, deny or modify. If approved by the AC, the Adaptive Management Strategy will be implemented 14 days following its approval. If the Adaptive Management Strategy is approved, denied, or modified by the AC, AC members, Zone 3 member agencies, and other 3rd parties in interest may appeal to the BOS, within 14 days. If no appeal is made to the BOS, the AC action will be final.
4. If appealed to the BOS, the BOS action shall be final.

3.3 REDUCTION & RECOVERY TRIGGERS

To provide the District, Zone 3 agencies and the agricultural stakeholders with an initial framework for water supply planning, Reduction & Recovery Triggers, tied to the amount of water within the reservoir, were developed for the LRRP. Under the initial prescribed actions the Reduction & Recovery Triggers were set for the following storage levels: 20,000; 15,000; 10,000; 5,000; and 4,000 AF. As the amount of water in the reservoir drops below or rises above these triggers, the TAC will review the hydrologic condition and if necessary, utilize adaptive management to modify municipal diversions and downstream releases to meet the objectives of the LRRP.

Example scenarios provided in Appendix B show how the reservoir would respond to the implementation of the initial prescribed actions and an alternate reduction strategy under various historical hydrological patterns.

3.4 MUNICIPAL DIVERSION REDUCTIONS

Upon enactment of the LRRP, the initial prescribed actions dictate that municipal diversions are to be reduced according to the reduction strategy described in Table 1, which includes Reduction Triggers, reduction percentages and resulting municipal diversions. This municipal diversion reduction strategy may be modified through adaptive management, following the protocol outlined in Section 3.2.

Table 1. Initial Prescribed Municipal Diversion Reduction Strategy

Amount of Water In Storage (AF)	Municipal Diversion Reduction	Municipal Diversion (AFY) ¹
20,000	0%	4,530
15,000	10%	4,077
10,000	20%	3,624
5,000	35% ²	2,941
4,000	100%	0

3.5 DOWNSTREAM RELEASE REDUCTIONS

Upon enactment of the LRRP, the initial prescribed actions dictate that downstream releases are to be reduced according to the reduction strategy described in Table 2, which includes Reduction Triggers, reduction percentages and resulting downstream releases. The Initial Prescribed Downstream Release Reduction Strategy was developed through a collaborative process that included input from the District and agriculture and municipal stakeholders. The resulting downstream releases represent the maximum amount of water that can be released. The District will control the timing of the reduced releases to meet the needs of the agricultural stakeholders and to address environmental requirements. This downstream release reduction strategy may be modified through adaptive management, following the protocol outlined in Section 3.2.

¹ The actual amount of water diverted may vary as agencies extend the delivery of their Lopez Entitlement, as described in Section 3.6.

² The 35% reduction provides sufficient water to supply 55 gallons per capita per day (GPCD) for the estimated population of the Zone 3 agencies (47,696 in 2010 per the 2010 Zone 3 UWMP). 55 GPCD is the target residential indoor water usage standard used in California Department of Water Resource’s 2010 UWMP Method 4 Guidelines.

Table 2. Initial Prescribed Downstream Release Reduction Strategy

Amount of Water In Storage (AF)	Downstream Release Reduction	Downstream Releases (AFY) ³
20,000	9.5%	3,800
15,000	9.5%	3,800
10,000	75.6%	1,026
5,000	92.9%	300
4,000	100.0%	0

3.5.1 HCP Reduction Strategy

An alternate downstream reduction strategy that could be implemented through adaptive management includes the Habitat Conservation Plan (HCP) Reduction Strategy. Under the HCP Reduction Strategy, downstream releases would be reduced according criteria outlined in the proposed HCP Water Release Program for consecutive low inflow years. Under this strategy, downstream releases would be either 3 cfs or equal to the average inflow over the previous 14-day period, whichever is less.

3.6 EXTENDED DELIVERY PROVISIONS

Once the LRRP is enacted, and in order to promote conservation and a reduction in the demand on Zone 3 water, Zone 3 member agencies will be provided the ability to extend the time that they may have water delivered, while the BOS drought emergency is in effect. The following is how water allocations to Zone 3 member agencies will be determined at the beginning of each water year while the LRRP is in effect. It is important to note that during a water year, increases and decreases in allocations are possible as a result of adaptive management strategies.

1. At the end of each Water Year (WY) (March 31st), the amount of unused Lopez water from the previous WY will be calculated and documented for each member agency for later use.
2. On April 1st, the quantity of Entitlement Water for the new WY will be documented for each agency in accordance with the LRRP determinations. Unused water from the prior WY is subject to evaporation losses, which are further described in Section 3.6.1.

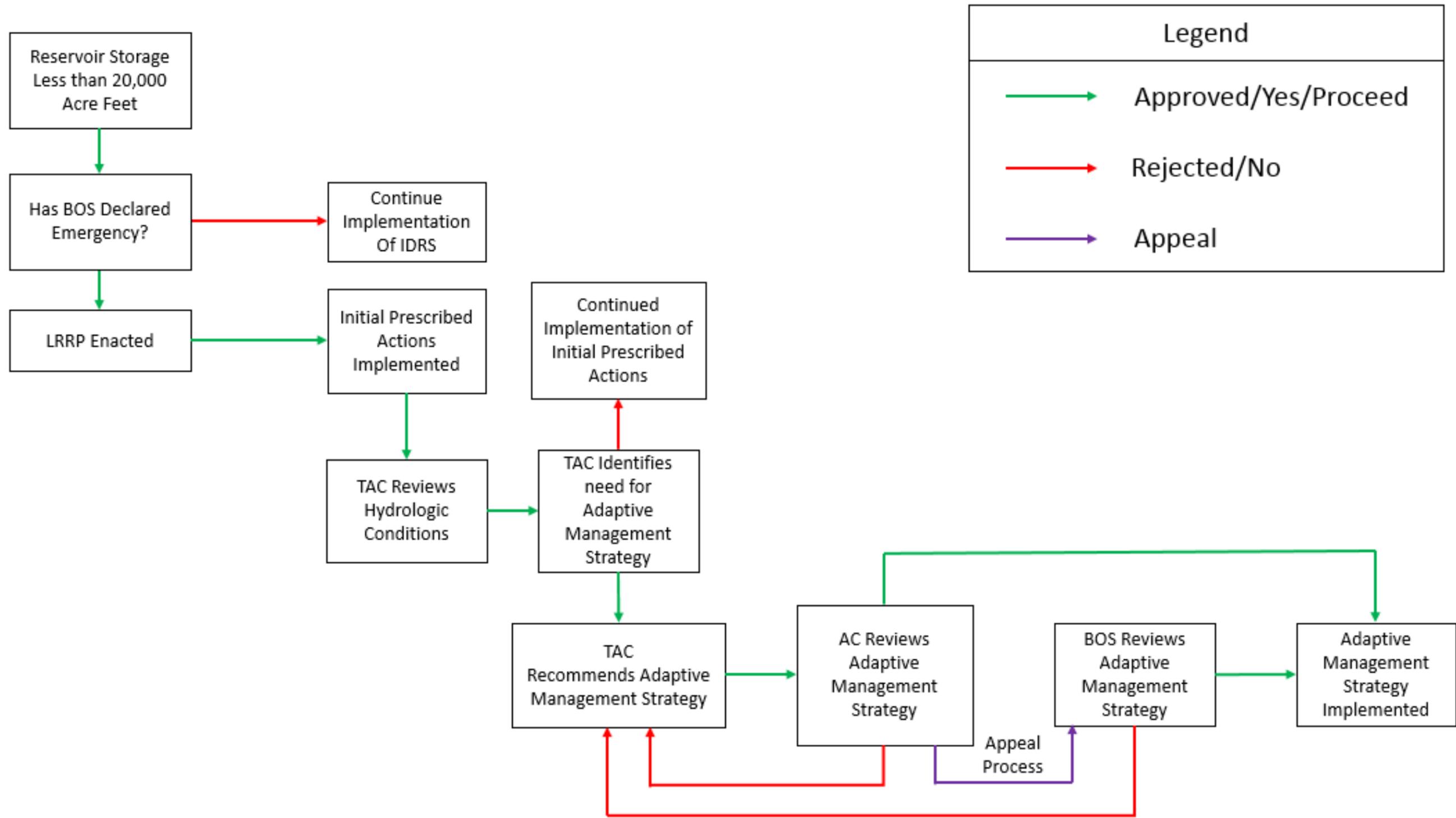
³ These downstream releases represent the maximum amount of water that can be released. Actual releases may be less if releases can be reduced while still meeting the needs of the agricultural stakeholders and addressing the environmental requirements.

3.6.1 Evaporation Losses

While unused water from the prior WY is retained within the Lopez Reservoir, it is subject to evaporation losses. Evaporation losses are to be calculated quarterly and applied to the total amount of unused prior WY water retained by each agency at the end of the quarter. Evaporation losses will be calculated by comparing the surface area of the reservoir with the unused water against what the surface area would be if there were no unused water retained in the reservoir. Evaporation estimates from the District's weather station would then be applied to the difference in surface area to calculate the increased evaporation losses due to the storage of the unused water. The unused water evaporation losses will be subtracted from each agency's unused water at a rate proportional to the amount of unused water retained by each individual agency.

APPENDIX A. LRRP ENACTMENT & ADAPTIVE MANAGEMENT FLOW CHART

LRRP Enactment & Adaptive Management Flow Chart



APPENDIX B. REDUCTION STRATEGY EVALUATION

**Scenario A-1-Water
 Year 1989/90 Inflow &
 Rainfall**

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	3,440	465	2,240	0%	4,530	3,800	-6,666	13,334
2	3,440	465	1,691	10%	4,077	3,800	-5,664	7,671
3	3,440	465	1,260	20%	3,624	1,026	-2,006	5,665
4	3,440	465	1,077	20%	3,624	1,026	-1,823	3,842

¹ Value assumed to be same as Water Year 1989/90 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

**Scenario A-2-Water
 Year 1989/90 Inflow &
 Rainfall**

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	3,440	465	2,240	0%	4,530	2,060	-4,926	15,074
2	3,440	465	1,808	0%	4,530	2,060	-4,493	10,582
3	3,440	465	1,494	10%	4,077	2,060	-3,726	6,856
4	3,440	465	1,188	20%	3,624	2,060	-2,968	3,888

¹ Value assumed to be same as Water Year 1989/90 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

Scenario B-1- Water Year 2013/14

Inflow & Rainfall

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	1,519	337	2,240	0%	4,530	3,800	-8,714	11,286
2	1,519	337	1,546	10%	4,077	3,800	-7,567	3,719
3	1,519	337	870	100%	0	0	986	4,705
4	1,519	337	980	35%	2,941	300	-2,364	2,340

¹ Value assumed to be same as Water Year 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

Scenario B-2- Water Year 2013/14

Inflow & Rainfall

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	1,519	337	2,240	0%	4,530	1,253	-6,167	13,833
2	1,519	337	1,725	10%	4,077	1,253	-5,199	8,633
3	1,519	337	1,341	20%	3,624	1,253	-4,362	4,272
4	1,519	337	933	35%	2,941	1,253	-3,271	1,001

¹ Value assumed to be same as Water Year 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

**Scenario C-1- Average of Water Years
 2012/13-2013/14 Inflow & Rainfall**

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	2,176	806	2,240	0%	4,530	3,800	-7,588	12,412
2	2,176	806	1,627	10%	4,077	3,800	-6,522	5,890
3	2,176	806	1,099	20%	3,624	1,026	-2,767	3,123
4	2,176	806	798	100%	0	0	2,184	5,307

¹ Value assumed to be same as 2 year average from Water Year 2012/13 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

**Scenario C-2- Average of Water Years
 2012/13-2013/14 Inflow & Rainfall**

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	2,176	806	2,240	0%	4,530	1,435	-5,223	14,777
2	2,176	806	1,788	10%	4,077	1,435	-4,318	10,458
3	2,176	806	1,484	10%	4,077	1,435	-4,014	6,444
4	2,176	806	1,151	20%	3,624	1,435	-3,228	3,216

¹ Value assumed to be same as 2 year average from Water Year 2012/13 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

**Scenario D-1- Average of Water Years
 2011/12-2013/14 Inflow & Rainfall**

Initial Prescribed Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	4,305	827	2,240	0%	4,530	3,800	-5,438	14,562
2	4,305	827	1,774	10%	4,077	3,800	-4,519	10,044
3	4,305	827	1,453	10%	4,077	3,800	-4,197	5,847
4	4,305	827	1,095	20%	3,624	1,026	-612	5,235

¹ Value assumed to be same as 3 year average from Water Year 2011/12 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the storage at the end of the water year and municipal reduction assumptions.

⁴ Release volumes are controlled by the Initial Prescribed Downstream Release Reduction Strategy, which was developed through a collaborative effort by the District and agriculture and municipal stakeholders.

**Scenario D-2- Average of
 Water Years 2011/12-
 2013/14 Inflow & Rainfall**

Potential Adaptive Management Scenario-HCP Reduction Strategy

Year	Inflow ¹	Rainfall ¹	Evap. ²	Municipal Reduction ³	Municipal Diversions ³	Downstream Releases ⁴	Change in Storage	Total Storage
0								20,000
1	4,305	827	2,240	0%	4,530	1,681	-3,318	16,682
2	4,305	827	1,878	0%	4,530	1,681	-2,956	13,726
3	4,305	827	1,718	10%	4,077	1,681	-2,343	11,383
4	4,305	827	1,553	10%	4,077	1,681	-2,178	9,205

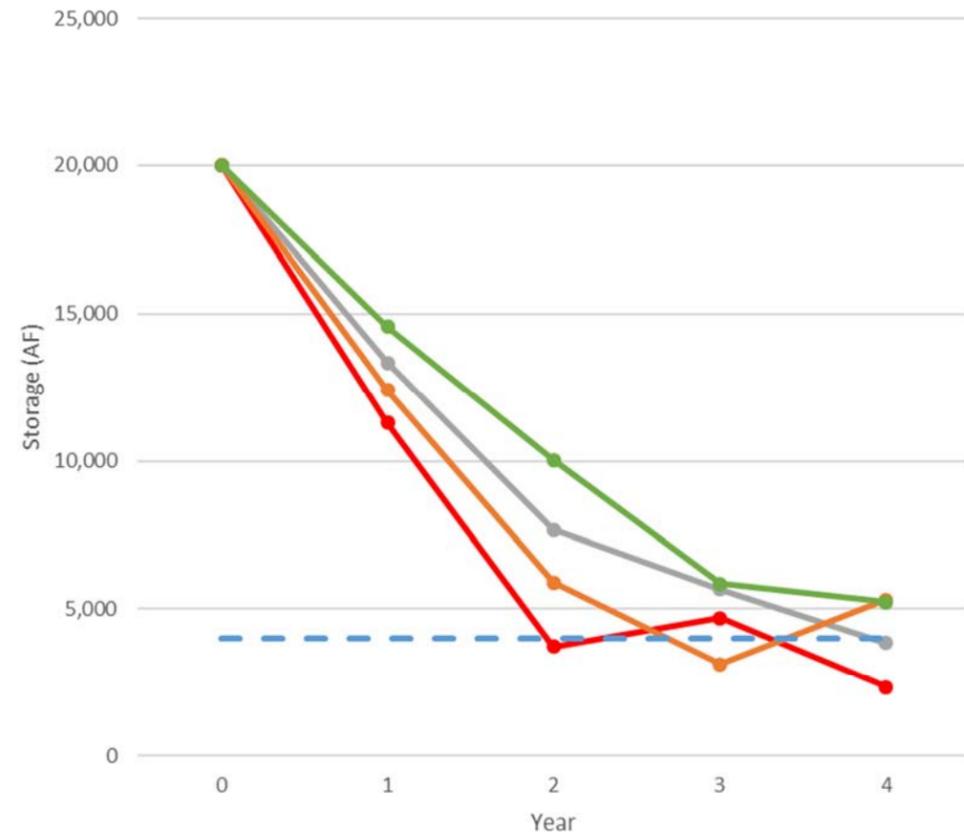
¹ Value assumed to be same as 3 year average from Water Year 2011/12 through 2013/2014 measurement.

² Evaporation assumed to equal the maximum historical value between April 1970 and March 2014 (76.25 in/yr in WY 1971-72) applied to the previous year's total lake surface area. Lake surface area estimated based on a lookup table provided by the County, which uses a 2002 survey to correlate reservoir elevation, storage, and surface area.

³ Municipal diversions are assumed to be the same as the contract amount for the duration of the first year. Years following are dependent upon the amount of water in storage at the end of the water year and municipal reduction assumptions.

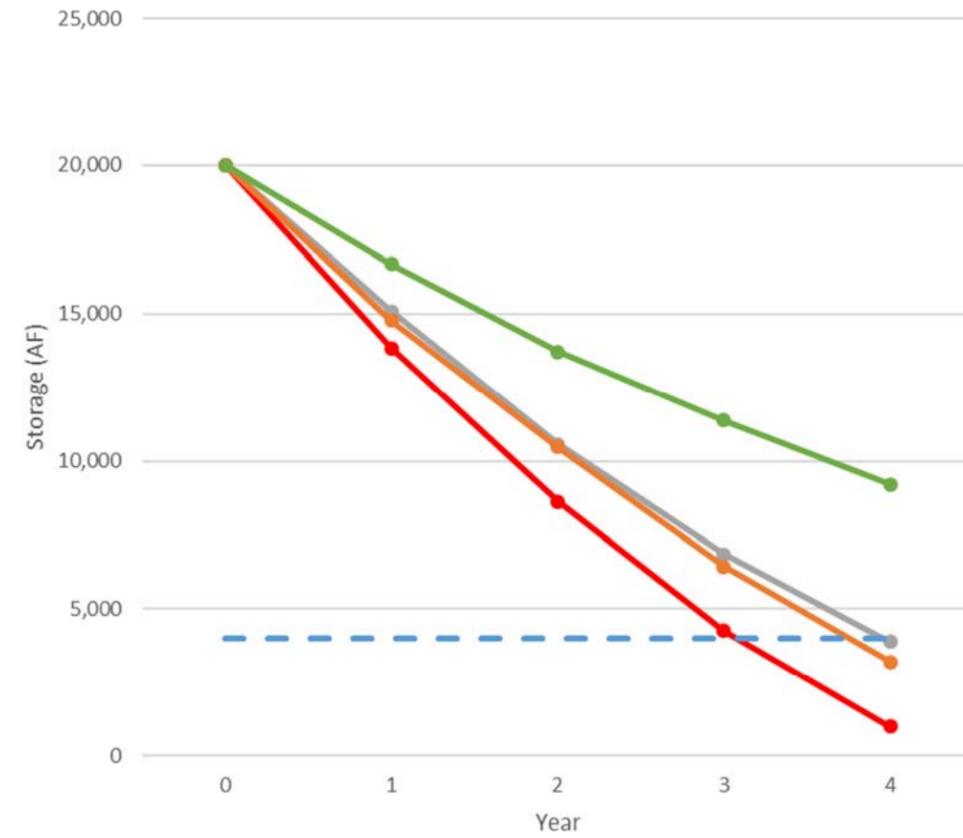
⁴ Release volumes are assumed to be equivalent to a release rate of 3 cfs or 181 AF/Month or equal to the amount of inflow to the reservoir for that month, whichever is less. This scenario is based on the HCP Hydrologic Analyses report recommended release program provision that sets the maximum release at 3 cfs or the average inflow to the reservoir over the previous 14-day period, when the 3-year running average inflow to Lopez Reservoir is less than 26,190 AFY.

Scenario 1- Initial Prescribed Reduction Strategy



- Scenario A-1- Water Year 1989/90 Inflow & Rainfall
- Scenario B-1- Water Year 2013/14 Inflow & Rainfall
- Scenario C-1- Average of Water Years 2012/13-2013/14 Inflow & Rainfall
- Scenario D-1- Average of Water Years 2011/12-2013/14 Inflow & Rainfall
- Minimum Pool

Scenario 2- Potential Adaptive Management Scenario - HCP Reduction Strategy



- Scenario A-2- Water Year 1989/90 Inflow & Rainfall
- Scenario B-2- Water Year 2013/14 Inflow & Rainfall
- Scenario C-2- Average of Water Years 2012/13-2013/14 Inflow & Rainfall
- Scenario D-2- Average of Water Years 2011/12-2013/14 Inflow & Rainfall
- Minimum Pool



SAN LUIS OBISPO COUNTY
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TO: Zone 3 Advisory Committee

FROM: Jill Ogren, Senior Utilities Engineer

VIA: Mark Hutchinson, Deputy Director

DATE: September 17, 2015

SUBJECT: One-Time Retro-Active Water Accounting Change for Water Year 2014-2015; and Declaration of Surplus Water for Zone 3

Recommendations:

It is recommended that the Zone 3 Advisory Committee receive reports on the following items scheduled for the Board of Supervisors acting as the Board of Supervisors for the San Luis Obispo County Flood Control and Water Conservation District on September 22, 2015:

1. Approve a resolution granting a one-time extension of time for Lopez Water Supply Contractors and State Water Contractors to submit proposed amendments to their water delivery schedules and authorizing the Director of Public Works to amend the delivery schedules of the Lopez Water Supply Contractors and State Water Contractors for Water Year 2014-2015 consistent with the submitted written requests for proposed amendments;
2. Declaration of Surplus Water as described in Article 4 Sections (C) and (D) of the Lopez Water Supply Contracts, in an amount of 1626 acre feet; and
3. Update on the status of the Low Reservoir Response Plan (LRRP)

Discussion

Retro-Active Water Accounting Change

At the beginning of the Lopez 2015-16 water year (April) several Zone 3 agencies identified a water management opportunity due to the implementation of the Low Reservoir Response Plan that was adopted by the Board of Supervisors in December of 2014. Under the Low Reservoir Response plan agencies may “carry over” any of their unused Lopez water from the previous year. Consequently, agencies that subscribed to both Zone 3 water and State Water requested a retro-active water accounting change to effectively exchange Lopez water used in 2014 for a like amount of unused State Water. In doing so their quantity of unused Lopez water would increase and thereby increase their amount of “carry over” water available in 2015-16. This exchange is possible because during the spring of 2014, State Water above what was requested was moved

into Lopez Reservoir for the benefit of State Water subcontractors connected to the Lopez system in case State Water Project deliveries were shut down.

In order to affect this retro-active water accounting change all agencies must consent to a one-time modification of the provision in the water supply contracts for both Lopez and State Water (like contracts) requiring that requests for changes to deliveries occur *prior* to delivery. As this is a retro-active request for a change in deliveries, written consent from all agencies is needed. On May 6, 2015 a letter and consent form was sent to all agencies taking Zone 3 water, State Water, or both, requesting written consent to this one-time extension. As of August 24th, written consent from all agencies (Oceano, Pismo, Arroyo Grande, and Grover Beach) as well as all the State Water sub-contractors except for County Service Area 12 (Avila) was received. CSA 12's consent will also go before the Board of Supervisors in a separate Board item on September 22, 2015 for approval.

Three agencies have requested to participate in this water management opportunity – Oceano CSD, City of Pismo Beach, and Avila Beach CSD. Table 1 below shows the results of the retro-active water accounting change while under the LRRP, if the requests are granted. This water accounting change for 2014 will in turn affect the annual declaration of Lopez surplus water required by the contracts.

TABLE 1: Results of Retro -Active Water Accounting Change

Before Retro-Active Water Accounting Change					After Retro-Active Water Accounting Change			
	WY 14-15 Lopez Usage (Acre Feet)		State Water Usage 2014	Carry Over	WY 14-15 Lopez Usage (Acre Feet)		State Water Usage 2014	Carry Over
Agency	Entitlement	Surplus			Entitlement	Surplus		
Pismo Beach	892	458.2	303	0	845.38	0	875.22	504.9
Oceano CSD	303	23.54	37.5	132	0	0	364.04	459
Avila Beach CSD	66.07	0	19.86	37.32	16.8	0	69.13	51.51

Although there is no change in “wet” water in the reservoir, the accounting exchange will clarify ownership of the water (moves the water from a Flood Control District State Water category to individual Zone 3 agency carryover accounts), providing participating agencies more assurance as they plan for continued drought. At the same time, water sales between Zone 3 Agencies is a more straightforward process than a District State water to non-State Water participant sale, should the need arise.

Declaration of Surplus Water

Every year the District declares surplus water according to the water supply contracts for Zone 3 of the District. Because of the proclamation of a local drought emergency on

March 11, 2014 and pursuant to concerns about how Surplus Water is calculated, on August 19, 2014 the Board of Supervisor’s directed that “any changes in calculations come to the Board for a decision and not at the staff level.” Therefore, the 2015 surplus water declaration is being brought forward to the Board on September 22nd.

The Zone 3 water supply contracts define surplus water as “The portion of the Safe Yield for Project water remaining after distributions of water during the said previous Water Year” (Article 4 (D)). The declaration of surplus water does NOT mean that there is an amount of “excess” water in the reservoir; in short, surplus water is water that was saved from the previous year’s municipal entitlements and downstream releases. The water supply contracts specify that surplus water is offered to the Zone 3 agencies in proportion to their participation in the project; this year’s surplus is 1,626 AF, **if the one-time retroactive water accounting change is approved**, as shown in Table 2.

TABLE 2: Zone 3 2015 Surplus Water - 1626 Acre-Feet

Contractor	Entitlement AF	Delivered AF	Surplus Generated (Unused Entitlement)	Surplus Available by Entitlement % (informational only)
Arroyo Grande	2290	2585	0	822
Pismo Beach	892	845	47	320
Grover Beach	800	817	0	287
Oceano CSD	303	0	303	109
CSA 12 (Avila)	245	82	163	88
Sub Totals	4530	4329	513	1626
Downstream Releases	4200	3087	1113	0
Total	8730	7416	1626	1626

(All amounts have been rounded to the nearest whole number)

Low Reservoir Response Plan Update

However, the above declaration of Surplus Water is more of a contractual formality this year as all of the Zone 3 agencies, together with the Board of Supervisors, have adopted the Low Reservoir Response Plan (LRRP). The LRRP provides for three temporary changes to the declaration of “Surplus Water”:

1. Savings resulting from reductions in downstream releases below 4,200 acre feet will not be counted as surplus water, and
2. Any surplus water generated by an individual agency will only be available for use by that agency, and
3. Each agency may “carry over” any of its unused water from the previous year (subject to evaporation losses)

The amount of water available will vary depending on the total amount of water stored in the reservoir. Below 20,000 AF in storage, entitlements are at 100%. However, that

number falls by 10% (applied to the agency's entitlement only) if the reservoir reaches 15,000 acre feet in storage. On May 21, 2015, your Advisory Committee voted to recommend enacting the adaptive management strategy in the LRRP and reduce entitlements by 10%, anticipating the reservoir dropping to the 15,000 acre foot level by the end of the year. Therefore, the water supply for water year 2015-2016 is summarized below and in detail in Attachment 1:

Table 3: Zone 3 2015-2016 Available Water Supply Under the LRRP

Contractor	Entitlement with 10% reduction (A)	Carryover from 14-15 (B)	Water Accounts by Agency Below 15,000 AF (C)
Arroyo Grande	2,061	881	2942
Pismo Beach	803	505	1308
Grover Beach	720	394	1114
Oceano CSD	273	459	732
CSA 12	221	289	510
Totals	4078	2528	6606

(All amounts shown have been rounded to nearest whole number)

Notes: (C) = (A) + (B)

Previous Zone 3 Advisory Committee Actions:

At your March 19, 2015 meeting the Zone 3 Advisory Committee adopted the recommendation that the Board of Supervisors:

- Declare Surplus Water as described in Article 4 Sections (C) and (D) of the Water Supply Contracts, in the amount of 1,231 acre feet, or as adjusted by final year-end water accounting, and **(Vote was 5-1 with the Oceano Community Services District dissenting).**
- Continue to implement the Low Reservoir Response Plan pursuant to the Board's Resolution 2014-377 adopted on December 16, 2014. **(Vote was 6-0 in favor)**

At your May 21, 2015 meeting the Advisory Committee adopted the following recommendation:

- To support efforts by Zone 3 Contractors to re-characterize 2014 water (also known as the one-time retro-active water accounting change) from "Lopez Water" to "State Water" in order to maximize water management opportunities.

The recommended actions being taken to the Board of Supervisors on September 22nd are consistent with the Zone 3 Advisory Committees recommended actions.

Financial Considerations

The water supply contracts for Zone 3 are described as “take-or-pay”, meaning essentially that all of the costs of the system are paid for by the Zone 3 agencies, at percentages based on the amount of entitlement water in their respective contracts, plus their distance down the delivery system. The contracts provide that surplus water be offered at the cost of treatment and delivery (not including capital costs of the system), which is currently in the range of \$50 per acre foot. Under the LRRP there is no surplus water to distribute at a particular cost, only the carry over water generated by that agency and available to that agency so there are no additional costs associated. Staff continues to research cost associated with surplus water. Staff continues to research cost implications associated with the water accounting change, in consultation with Zone 3 Agencies.

Attachments

Attachment 1 – Lopez Water Supplies for 2015/2016 Summary Calculations

P:\Zone 3\Advisory Meetings\September 2015\VIII. D. Surplus Wtr & Recharacterization.docx

ATTACHMENT 1

	A	B	C	D	E	F	H	I	J	K	L	M	N
1	Lopez Water - Supplies for 2015/2016 with Water Re-Characterization (Rev 8.7.2015)												
2	2014 -2015 Water Available				Actual Deliveries April 2014-Mar 2015		Total Deliveries	Surplus by Contract (Superceded by LRRP)		LRRP Water Accounts for Water Year 15-16			
3	Contractor	Entitlement	Surplus	Total Available	Entitlement	Surplus	Total Deliveries WY 2014/15	Surplus Generated Unused Entitlement	Surplus Available Total Surplus by Entitlement %	Carryover	Entitlement	Total at 20,000	Total at 15,000
4	Arroyo Grande	2,290	1,176	3,466	2,290.0	294.9	2,584.9	0.0	821.7	881.2	2,290.0	3,171.2	2,942.2
5	Oceano CSD	303	156	459	0.0	0.0	0.0	303.0	108.7	459.0	303.0	762.0	731.7
6	Grover Beach	800	411	1,211	800.0	17.4	817.4	0.0	287.1	393.6	800.0	1,193.6	1,113.6
7	Pismo Beach (1)	892	458	1,350	845.3	0.0	845.3	46.7	320.1	504.9	892.0	1,396.9	1,307.7
8	CSA 12	245	126	371	81.7	0.0	81.7	163.3	87.9	289.1	245.0	534.1	509.6
9	Sub Totals	4,530	2,327	6,857	4,017.0	312.3	4,329.3	513.0	1,625.5	2,527.7	4,530.0	7,057.7	6,604.7
10	Downstream	4,200			3,087.4		3,087.4	1,112.6	0.0	0.0	0.0	3,800.0	3,800.0
11	Total	8,730			7,104.5	312.3	7,416.7	1,625.5	1,625.5	2,527.7	4,530.0	10,857.7	10,404.7
12													
13	NOTES												
14	1. Includes subcontract for 92 AF from CSA12												
15													
16													
17													
18	CALCULATIONS												
19	Columns A-D from 8.19.2014 surplus and emergency drought relief water												
20	Columns E-H actual water deliveries for water year 14/15 reflecting water re-characterization												
21	Columns I-J surplus water calculations using 8.19.2014 method												
22	Columns K-N = LRRP method used by Board of Supervisors on 12.16.2014												
23	Column K (Carryover) is the difference between column D (total available) and column H (Estimated total deliveries)												
24	Column M (Total available at 20,000) is the sum of the agency's entitlement plus carryover (column K)												
25	Column N (Total available at 15,000) reflects 10% reduction of entitlement per LRRP plus carryover (column K)												