

**REGULAR MEETING  
OF  
CACHUMA OPERATION AND MAINTENANCE BOARD**  
*held at*  
**3301 Laurel Canyon Road  
Santa Barbara, CA 93105**

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**Monday, October 22, 2018**

**1:00 PM**

**AGENDA**

- 1. CALL TO ORDER, ROLL CALL**
- 2. PUBLIC COMMENT** *(Public may address the Board on any subject matter not on the agenda and within the Board's jurisdiction. See "Notice to the Public" below. Please make your comments from the podium once acknowledged by the President of the Board.)*
- 3. CONSENT AGENDA** *(All items on the Consent Agenda are considered to be routine and will be approved or rejected in a single motion. Any item placed on the Consent Agenda may be removed and placed on the Regular Agenda for discussion and possible action upon the request of any Board Member.)*  
Action: Recommend Approval of Consent Agenda by motion and roll call vote of the Board:
  - a. Minutes of September 24, 2018 Regular Board Meeting
  - b. Investment of Funds
    - Financial Reports
    - Investment Reports
  - c. Review of Paid Claims
- 4. VERBAL REPORTS FROM BOARD COMMITTEES**  
Receive verbal information regarding the following committee meetings:
  - Administrative Committee Meeting – October 10, 2018
  - Operations Committee Meeting – October 11, 2018
- 5. FINANCIAL REVIEW – 1<sup>st</sup> QUARTER FISCAL YEAR 2018-19**  
Receive information regarding the Operating Budget for the 1<sup>st</sup> Quarter - Fiscal Year 2018-19
- 6. DRAFT SECOND AMENDMENT TO THE 1996 COMB AMENDED AND RESTATED JOINT EXERCISE OF POWER AGREEMENT**  
Action: Recommend submission to Member Agencies Board of Directors/Council for approval and execution
- 7. ANNEX TO THE SANTA BARBARA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**  
Action: Recommend submission of COMB's Hazard Mitigation Plan Annex to the Santa Barbara County Office of Emergency Services, CalOES and FEMA process for review and approval

8. **SAN ANTONIO CREEK BLOW-OFF REHABILITATION PROJECT**

Action: Recommend approval by motion and roll call vote of the Board

9. **GENERAL MANAGER REPORT**

Receive information from the General Manager on topics pertaining to COMB, including but not limited to the following:

- Meetings
- Administration
- Personnel
- Operations /Engineer Activities
- Fisheries Division Activities

10. **WATER RESOURCES ENGINEER REPORT**

Receive information from the Water Resources Engineer, including but not limited to the following:

- Forecasted Lake Elevations
- Climate Conditions
- Grant Funding Activities
- Infrastructure Improvement Planning

11. **OPERATIONS DIVISION REPORT**

Receive information regarding Operations Division, including but not limited to the following:

- Lake Cachuma Operations
- Operation and Maintenance Activities

12. **FISHERIES DIVISION REPORT**

Receive information regarding Fisheries Division, including but not limited to the following:

- LSYR Steelhead Monitoring Elements
- Tributary Project Updates
- Surcharge Water Accounting
- Reporting/Outreach/Training

13. **UPDATE ON FISH PASSAGE IMPROVEMENT PROJECTS**

Receive information regarding the status of the Fish Passage Improvement Projects

- a. Quiota Creek Crossing 5
- b. Quiota Creek Crossing 9

14. **PROGRESS REPORT ON LAKE CACHUMA OAK TREE PROGRAM**

Receive information regarding the Lake Cachuma Oak Tree Program including but not limited to the following:

- Maintenance and Monitoring

15. **MONTHLY CACHUMA PROJECT REPORTS**

Receive information regarding the Cachuma Project, including but not limited to the following:

- a. Cachuma Water Reports
- b. Cachuma Reservoir Current Conditions
- c. Lake Cachuma Quagga Survey

**16. DIRECTORS' REQUESTS FOR AGENDA ITEMS FOR FUTURE MEETING**

**17. MEETING SCHEDULE**

- **November 26, 2018 at 1:00 PM, COMB Office**
- **Board Packages available on COMB website [www.cachuma-board.org](http://www.cachuma-board.org)**

**18. COMB ADJOURNMENT**

**NOTICE TO PUBLIC**

**Posting of Agenda:** This agenda was posted at COMB's offices, located at 3301 Laurel Canyon Road, Santa Barbara, California, 93105 and on COMB's website, in accordance with Government Code Section 54954.2. The agenda contains a brief general description of each item to be considered by the Governing Board. The Board reserves the right to modify the order in which agenda items are heard. Copies of staff reports or other written documents relating to each item of business are on file at the COMB offices and are available for public inspection during normal business hours. A person with a question concerning any of the agenda items may call COMB's General Manager at (805) 687-4011.

**Written materials:** In accordance with Government Code Section 54957.5, written materials relating to an item on this agenda which are distributed to the Governing Board less than 72 hours (for a regular meeting) or 24 hours (for a special meeting) will be made available for public inspection at the COMB offices during normal business hours. The written materials may also be posted on COMB's website subject to staff's ability to post the documents before the scheduled meeting.

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**Americans with Disabilities Act:** In compliance with the Americans with Disabilities Act, if you need special assistance to review agenda materials or participate in this meeting, please contact the Cachuma Operation and Maintenance Board office at (805) 687-4011 at least 48 hours prior to the meeting to enable the Board to make reasonable arrangements.

**Note:** If you challenge in court any of the Board's decisions related to the listed agenda items you may be limited to raising only those issues you or someone else raised at any public hearing described in this notice or in written correspondence to the Governing Board prior to the public hearing.

**MINUTES OF A REGULAR MEETING  
of the  
CACHUMA OPERATION AND MAINTENANCE BOARD  
held at  
3301 Laurel Canyon Road, Santa Barbara, CA  
Monday, September 24, 2018**

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**1. CALL TO ORDER, ROLL CALL**

The meeting was called to order at 2:00 PM by President Morgan who chaired the meeting.

President Morgan announced that this meeting was proceeding pursuant to the Separation Agreement effective August 31, 2018, which provides that Santa Ynez River Conservation District ID #1 has separated from the COMB JPA and is no longer a member agency of COMB and therefore no director from ID #1 will be participating.

President Morgan also announced the removal of the Closed Session, Item #15 as listed on the agenda, per the advice of counsel.

Those in attendance were:

**Directors Present:**

W. Douglas Morgan, Montecito Water District  
Kristen Sneddon, City of Santa Barbara  
Polly Holcombe, Carpinteria Valley Water District  
Lauren Hanson, Goleta Water District

**Staff Present:**

Janet Gingras, General Manager	Joel Degner, Water Resources Engineer
Edward Lyons, Administrative Manager/CFO	William Carter, General Counsel
David Flora, Water Service Worker III	Dorothy Turner, Administrative Assistant
Tim Robinson, Fisheries Division Manager	

**Others Present:**

Matt Young, SB County Water Agency	Philip Walker, Santa Barbara resident
Kelley Dyer, City of Santa Barbara	

**2. PUBLIC COMMENT**

Mr. Walker spoke about the Montecito Debris Basin meeting he had attended. He further shared information on embankment dams such as Oroville and Lauro. Mr. Walker also commented on the forecast by Dr. Daniel Swain, meteorologist, regarding possible El Nino conditions this winter.

### 3. CONSENT AGENDA

- a. Minutes of August 27, 2018 Regular Board Meeting
- b. Investment of Funds
  - Financial Reports
  - Investment Reports
- c. Review of Paid Claims

Ms. Gingras presented the Consent Agenda as provided in the Board packet, noting the change in form of the presentation of the Investment of Funds. Ms. Gingras fielded questions from the Board. Director Hanson made a motion to approve the Consent Agenda as presented. Director Holcombe seconded the motion; the motion passed with a vote of 6/0/0/0.

**Ayes:** Sneddon, Holcombe, Hanson, Morgan

**Nays:**

**Absent:**

**Abstain:**

### 4. VERBAL REPORTS FROM BOARD COMMITTEES

- ***Operations Committee Meeting – September 17, 2018:*** Director Sneddon presented the Operations Committee meeting items as provided in the agenda, deferring in-depth discussion to the related Board agenda items.

### 5. RESOLUTION NO. 673 – LAKE CACHUMA WATER QUALITY AND SEDIMENT MANAGEMENT STUDY

Ms. Gingras presented Resolution No. 673 – Lake Cachuma Water Quality and Sediment Management Study for discussion and approval. Mr. Degner commented on the Request For Proposals (RFP) review and selection process, as well as possible funding, noting the recommendation from both the technical staff selection committee and the COMB Operations Committee to proceed with the approval of the Woodard and Curran proposal. Following a lengthy discussion, Director Hanson made a motion to approve Resolution No. 673 – Lake Cachuma Water Quality and Sediment Management Study, as presented. Director Sneddon seconded the motion; the motion passed with a unanimous vote of 6/0/0/0.

**Ayes:** Sneddon, Holcombe, Hanson, Morgan

**Nays:**

**Absent:**

**Abstain:**

### 6. GENERAL MANAGER REPORT

- Meetings
- Administration
- Operations / Engineer Activities
- Fisheries Division Activities

Ms. Gingras presented topics as provided in her report, highlighting the meeting between the U.S. Bureau of Reclamation (Reclamation), the Santa Barbara County Water Agency and the Cachuma Project Member Agencies regarding Reclamation's water rates and deficits. She also provided an overview of the

ID #1 separation agreement, its approval status and an update on the draft Second Amendment to the COMB Joint Powers Agreement (JPA). Ms. Gingras further provided updates on activities of each division, as provided in her report. She fielded questions from the Board.

## **7. WATER RESOURCES ENGINEER REPORT**

- Climate Conditions
- Lake Cachuma Evaporation Update
- Grant Funding Activities
- Infrastructure Improvement Planning

Mr. Degner presented topics within in his report, highlighting Lake Cachuma elevation forecasts, climate conditions and the infrastructure improvement projects status. Mr. Degner reported on the progress of the COMB Annex to the Santa Barbara County Hazard Mitigation Plan as part of a process to pursue future hazard mitigation grant funding. Mr. Degner fielded questions from the Board.

## **8. OPERATIONS DIVISION REPORT**

- Lake Cachuma Operations
- Operation and Maintenance Activities

Mr. Flora presented topics within the report on behalf of the Operations Division Manager, Mr. Stewart. Updates were provided on the Arroyo Paredon bridge replacement and the USBR dive inspection at Lauro reservoir. He reported an increase in Dig Alerts and Right-of-Way encroachment requests resulting from Thomas Debris Flow recovery activities.

## **9. FISHERIES DIVISION REPORT**

- LSYR Steelhead Monitoring Elements
- Tributary Project Updates
- Surcharge Water Accounting
- Reporting/Outreach/Training

Mr. Robinson presented topics within his report as provided in the Board packet, highlighting the USBR testing of the Hilton Creek Watering System and emergency backup system. He further commented on the Cachuma Project water rights release. Mr. Robinson fielded questions from the Board.

## **10. UPDATE ON FISH PASSAGE IMPROVEMENT PROJECTS**

- a. Quiota Creek Crossing 5
- b. Quiota Creek Crossing 9

Mr. Robinson presented topics within the staff memorandum as provided in the Board packet, highlighting the successful installation of the fish passage improvement project at Quiota Creek Crossing 5 and the commencement of construction at Quiota Creek Crossing 9, both projects targeted for completion by December 5, 2018. Mr. Robinson provided an update on the financial status of the two active projects. He fielded questions from the Board.

**11. PROGRESS REPORT ON LAKE CACHUMA OAK TREE PROGRAM**

- Maintenance and Monitoring

Mr. Robinson presented topics within his report as provided in the Board packet, reporting that normal Oak Tree maintenance continues and staff has begun the annual harvest of acorns to germinate for future Oak Tree inventory.

**12. MONTHLY CACHUMA PROJECT REPORTS**

- a. Cachuma Water Reports
- b. Cachuma Reservoir Current Conditions
- c. Lake Cachuma Quagga Survey

Ms. Gingras presented the water reports as provided in the Board packet, noting an anomalous negative amount in the Apparent Water Loss Allocation report. Ms. Gingras reported that staff will continue to monitor and report back as necessary. Ms. Gingras fielded questions from the board.

**13. DIRECTORS' DISCUSSION OF REGULAR BOARD MEETING START TIME**

President Morgan presented the topic for Board Member discussion. Director Sneddon made a motion that the directors approve a new standard time for regular Board meetings to be 1:00 PM on the normally scheduled dates. Director Holcombe seconded the motion; the motion passed with a vote of 6/0/0/0.

**Ayes:** Sneddon, Holcombe, Hanson, Morgan

**Nays:**

**Absent:**

**Abstain:**

**14. DIRECTORS' REQUESTS FOR AGENDA ITEMS FOR FUTURE MEETING**

Director Hanson acknowledged and thanked the COMB staff for the earlier delivery of the Board packet.

**15. [CLOSED SESSION]: CONFERENCE WITH LEGAL COUNSEL: EXISTING AND POTENTIAL LITIGATION**

[Government Code Section 54956.9(d)(4)]

The Closed session item was removed from the agenda per advice from General Counsel.

**16. RECONVENE INTO OPEN SESSION**

[Government Code Section 54957.7]

Disclosure of actions taken in closed session, as applicable

[Government Code Section 54957.1]

Meeting remained open.

**17. MEETING SCHEDULE**

- **October 22, 2018 at 1:00 PM, COMB Office**
- **Board Packages available on COMB website [www.cachuma-Board.org](http://www.cachuma-Board.org)**

**18. COMB ADJOURNMENT**

There being no further business, the meeting adjourned at 3:54 PM.

Respectfully submitted,

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Janet Gingras, Secretary of the Board

**APPROVED:**

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W. Douglas Morgan, President of the Board

	<i>Approved</i>
√	<i>Unapproved</i>

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**Cachuma Operation & Maintenance Board**  
**Statement of Net Position**  
As of September 30, 2018  
**UNAUDITED FINANCIALS**

**ASSETS**

**Current Assets**

**Checking/Savings**

**Trust Funds**

1210 · Warren Act Trust Fund	\$ 909,054.72
1220 · Renewal Fund	10,215.61

**Total Trust Funds** \$ 919,270.33

1050 · General Fund 506,862.28

1100 · Revolving Fund 132,665.41

**Total Checking/Savings** 1,558,798.02

**Accounts Receivable**

1301 · Accounts Receivable 137,210.81

1320 · Quarterly Assessments Receivable 110,380.00

1325 · Bank Loan Receivable - EPPF 115,862.55

**Total Accounts Receivable** 363,453.36

**Other Current Assets**

1010 · Petty Cash 500.00

1200 · LAIF 1,793,774.22

1311 · Cachuma Entitlement Receivable 774,663.54

1303 · Bradbury SOD Act Assessments Receivable 195,566.00

1304 · Lauro Dam SOD Assessments Receivable 30,258.63

1400 · Prepaid Insurance 19,555.72

**Total Other Current Assets** 2,814,318.11

**Total Current Assets** 4,736,569.49

**Fixed Assets**

1500 · Vehicles 445,723.91

1505 · Office Furniture & Equipment 443,923.41

1510 · Mobile Offices 97,803.34

1515 · Field Equipment 594,001.22

1525 · Paving 38,351.00

1550 · Accumulated Depreciation (1,462,883.66)

**Total Fixed Assets** 156,919.22

**Other Assets**

1910 · Long Term Bradbury SOD Act Assessments Receivable 4,680,154.07

1920 · Long Term Lauro SOD Act Assessments Receivable 835,169.28

1922 · Deferred Outflow of Resources (GASB 68) 422,161.00

**Total Other Assets** 5,937,484.35

**TOTAL ASSETS** \$ 10,830,973.06

**Cachuma Operation & Maintenance Board**  
**Statement of Net Position**  
As of September 30, 2018  
**UNAUDITED FINANCIALS**

**LIABILITIES & NET POSITION**

**Liabilities**

**Current Liabilities**

**Accounts Payable**

2200 · Accounts Payable \$ 1,085,083.84

**Total Accounts Payable** 1,085,083.84

**Other Current Liabilities**

2550 · Vacation/Sick 150,085.16

2561 · Bradbury Dam SOD Act 195,576.66

2563 · Laura Dam SOD Act 30,258.63

2565 · Accrued Interest SOD Act 62,424.00

2567 · Loan Payable Current EPPF 418,020.44

2590 · Deferred Revenue 919,270.33

**Total Other Current Liabilities** 1,775,635.22

**Total Current Liabilities** 2,860,719.06

**Long Term Liabilities**

2602 · Long Term SOD Act Liability - Bradbury 4,680,144.07

2603 · Long Term SOD Act Liability - Lauro 835,169.28

2604 · OPEB Long Term Liability 1,054,948.00

2605 · Loan Payable Principal - EPPF 818,737.17

2610 · Net Pension Liability (GASB 68) 1,527,915.00

2611 · Deferred Inflow of Resources (GASB 68) 149,427.00

**Total Long Term Liabilities** 9,066,340.52

**Total Liabilities** 11,927,059.58

**Net Position**

3000 · Opening Balance Net Position (1,356,592.05)

3901 · Retained Net Assets 388,491.17

**Net Position** (127,985.64)

**Total Net Position** (1,096,086.52)

**TOTAL LIABILITIES & NET POSITION** \$ 10,830,973.06

**Cachuma Operation & Maintenance Board**  
**Statement of Revenues and Expenditures**  
 Budget vs. Actuals July 2018 - Jun 2019

	Fisheries				Operations				TOTAL			
	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget
<b>Revenue</b>												
<b>3000 REVENUE</b>												
3001 · O&M Budget (Qtrly Assessments)	\$236,627.00	\$946,511.00	-\$709,884.00	25.0%	\$891,449.00	\$3,565,791.00	-\$2,674,342.00	25.0%	\$1,128,076.00	\$4,512,302.00	-\$3,384,226.00	25.0%
3006 · Warren Act	0.00	539,521.00	-539,521.00	0.0%	0.00				0.00	539,521.00	-539,521.00	0.0%
3009 · Pmts - Member Agencies - EPPF	0.00				115,862.55				115,862.55	0.00	115,862.55	100.0%
3035 · Cachuma Project Betterment Fund	0.00	90,000.00	-90,000.00	0.0%	0.00				0.00	90,000.00	-90,000.00	0.0%
3037 · Grant-QC Crossing #5	0.00	893,287.00	-893,287.00	0.0%	0.00				0.00	893,287.00	-893,287.00	0.0%
3039 · Grant-QC Crossing #9	0.00	993,121.00	-993,121.00	0.0%	0.00				0.00	993,121.00	-993,121.00	0.0%
<b>Total 3000 REVENUE</b>	<b>236,627.00</b>	<b>3,462,440.00</b>	<b>-3,225,813.00</b>	<b>6.83%</b>	<b>1,007,311.55</b>	<b>3,565,791.00</b>	<b>-2,558,479.45</b>	<b>28.25%</b>	<b>1,243,938.55</b>	<b>7,028,231.00</b>	<b>-5,784,292.45</b>	<b>17.7%</b>
<b>Total Revenue</b>	<b>236,627.00</b>	<b>3,462,440.00</b>	<b>-3,225,813.00</b>	<b>6.83%</b>	<b>1,007,311.55</b>	<b>3,565,791.00</b>	<b>-2,558,479.45</b>	<b>28.25%</b>	<b>1,243,938.55</b>	<b>7,028,231.00</b>	<b>-5,784,292.45</b>	<b>17.7%</b>
<b>Gross Profit</b>	<b>236,627.00</b>	<b>3,462,440.00</b>	<b>-3,225,813.00</b>	<b>6.83%</b>	<b>1,007,311.55</b>	<b>3,565,791.00</b>	<b>-2,558,479.45</b>	<b>28.25%</b>	<b>1,243,938.55</b>	<b>7,028,231.00</b>	<b>-5,784,292.45</b>	<b>17.7%</b>
<b>Expense</b>												
<b>3100 · LABOR - OPERATIONS</b>	0.00				150,583.68	813,247.00	-662,663.32	18.52%	150,583.68	813,247.00	-662,663.32	18.52%
<b>3200 VEH &amp; EQUIPMENT</b>												
3201 · Vehicle/Equip Mtce	0.00				10,638.27	30,000.00	-19,361.73	35.46%	10,638.27	30,000.00	-19,361.73	35.46%
3202 · Fixed Capital	0.00				0.00	30,000.00	-30,000.00	0.0%	0.00	30,000.00	-30,000.00	0.0%
3203 · Equipment Rental	0.00				0.00	5,000.00	-5,000.00	0.0%	0.00	5,000.00	-5,000.00	0.0%
3204 · Miscellaneous	0.00				139.25	5,000.00	-4,860.75	2.79%	139.25	5,000.00	-4,860.75	2.79%
<b>Total 3200 VEH &amp; EQUIPMENT</b>	<b>0.00</b>				<b>10,777.52</b>	<b>70,000.00</b>	<b>-59,222.48</b>	<b>15.4%</b>	<b>10,777.52</b>	<b>70,000.00</b>	<b>-59,222.48</b>	<b>15.4%</b>
<b>3300 · CONTRACT LABOR</b>												
3301 · Conduit, Meter, Valve & Misc	0.00				1,649.88	20,000.00	-18,350.12	8.25%	1,649.88	20,000.00	-18,350.12	8.25%
3302 · Buildings & Roads	0.00				275.00	20,000.00	-19,725.00	1.38%	275.00	20,000.00	-19,725.00	1.38%
3303 · Reservoirs	0.00				0.00	30,000.00	-30,000.00	0.0%	0.00	30,000.00	-30,000.00	0.0%
3304 · Engineering, Misc Services	0.00				0.00	25,000.00	-25,000.00	0.0%	0.00	25,000.00	-25,000.00	0.0%
<b>Total 3300 · CONTRACT LABOR</b>	<b>0.00</b>				<b>1,924.88</b>	<b>95,000.00</b>	<b>-93,075.12</b>	<b>2.03%</b>	<b>1,924.88</b>	<b>95,000.00</b>	<b>-93,075.12</b>	<b>2.03%</b>
<b>3400 · MATERIALS &amp; SUPPLIES</b>												
3401 · Conduit, Meter, Valve & Misc	0.00				2,848.67	65,000.00	-62,151.33	4.38%	2,848.67	65,000.00	-62,151.33	4.38%
3402 · Buildings & Roads	0.00				686.68	8,000.00	-7,313.32	8.58%	686.68	8,000.00	-7,313.32	8.58%
3403 · Reservoirs	0.00				186.16	5,000.00	-4,813.84	3.72%	186.16	5,000.00	-4,813.84	3.72%
<b>Total 3400 · MATERIALS &amp; SUPPLIES</b>	<b>0.00</b>				<b>3,721.51</b>	<b>78,000.00</b>	<b>-74,278.49</b>	<b>4.77%</b>	<b>3,721.51</b>	<b>78,000.00</b>	<b>-74,278.49</b>	<b>4.77%</b>
<b>3500 · OTHER EXPENSES</b>												
3501 · Utilities	0.00				1,592.31	7,000.00	-5,407.69	22.75%	1,592.31	7,000.00	-5,407.69	22.75%
3502 · Uniforms	0.00				175.00	5,000.00	-4,825.00	3.5%	175.00	5,000.00	-4,825.00	3.5%
3503 · Communications	0.00				4,280.86	18,500.00	-14,219.14	23.14%	4,280.86	18,500.00	-14,219.14	23.14%
3504 · USA & Other Services	0.00				429.20	4,000.00	-3,570.80	10.73%	429.20	4,000.00	-3,570.80	10.73%
3505 · Miscellaneous	0.00				2,364.09	8,000.00	-5,635.91	29.55%	2,364.09	8,000.00	-5,635.91	29.55%
3506 · Training	0.00				117.55	3,000.00	-2,882.45	3.92%	117.55	3,000.00	-2,882.45	3.92%
<b>Total 3500 · OTHER EXPENSES</b>	<b>0.00</b>				<b>8,959.01</b>	<b>45,500.00</b>	<b>-36,540.99</b>	<b>19.69%</b>	<b>8,959.01</b>	<b>45,500.00</b>	<b>-36,540.99</b>	<b>19.69%</b>
<b>4100 · LABOR - FISHERIES</b>	153,237.01	692,409.00	-539,171.99	22.13%	0.00				153,237.01	692,409.00	-539,171.99	22.13%
<b>4200 · VEHICLES &amp; EQUIP - FISHERIES</b>												
4270 · Vehicle/Equip Mtce	5,706.31	15,000.00	-9,293.69	38.04%	0.00				5,706.31	15,000.00	-9,293.69	38.04%
4280 · Fixed Capital	0.00	15,000.00	-15,000.00	0.0%	0.00				0.00	15,000.00	-15,000.00	0.0%
4290 · Miscellaneous	45.87	2,500.00	-2,454.13	1.84%	0.00				45.87	2,500.00	-2,454.13	1.84%
<b>Total 4200 · VEHICLES &amp; EQUIP - FISHERIES</b>	<b>5,752.18</b>	<b>32,500.00</b>	<b>-26,747.82</b>	<b>17.7%</b>	<b>0.00</b>				<b>5,752.18</b>	<b>32,500.00</b>	<b>-26,747.82</b>	<b>17.7%</b>
<b>4220 · CONTRACT LABOR - FISHERIES</b>												
4221 · Meters & Valves	0.00	3,000.00	-3,000.00	0.0%	0.00				0.00	3,000.00	-3,000.00	0.0%
4222 · Fish Projects Maintenance	186.97	25,000.00	-24,813.03	0.75%	0.00				186.97	25,000.00	-24,813.03	0.75%
<b>Total 4220 · CONTRACT LABOR - FISHERIES</b>	<b>186.97</b>	<b>28,000.00</b>	<b>-27,813.03</b>	<b>0.67%</b>	<b>0.00</b>				<b>186.97</b>	<b>28,000.00</b>	<b>-27,813.03</b>	<b>0.67%</b>

**Cachuma Operation & Maintenance Board**  
**Statement of Revenues and Expenditures**  
 Budget vs. Actuals July 2018 - Jun 2019

	Fisheries				Operations				TOTAL			
	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget
<b>4300 · MATERIALS/SUPPLIES - FISHERIES</b>												
4390 · Miscellaneous	3,059.92	7,000.00	-3,940.08	43.71%	0.00				3,059.92	7,000.00	-3,940.08	43.71%
<b>Total 4300 · MATERIALS/SUPPLIES - FISHERIES</b>	<b>3,059.92</b>	<b>7,000.00</b>	<b>-3,940.08</b>	<b>43.71%</b>	<b>0.00</b>				<b>3,059.92</b>	<b>7,000.00</b>	<b>-3,940.08</b>	<b>43.71%</b>
<b>4500 · OTHER EXPENSES - FISHERIES</b>												
4502 · Uniforms	0.00	3,500.00	-3,500.00	0.0%	0.00				0.00	3,500.00	-3,500.00	0.0%
<b>Total 4500 · OTHER EXPENSES - FISHERIES</b>	<b>0.00</b>	<b>3,500.00</b>	<b>-3,500.00</b>	<b>0.0%</b>	<b>0.00</b>				<b>0.00</b>	<b>3,500.00</b>	<b>-3,500.00</b>	<b>0.0%</b>
<b>4999 · GENERAL &amp; ADMINISTRATIVE</b>												
5000 · Director Fees	0.00				1,238.90	12,000.00	-10,761.10	10.32%	1,238.90	12,000.00	-10,761.10	10.32%
5001 · Director Mileage	0.00				70.76	1,000.00	-929.24	7.08%	70.76	1,000.00	-929.24	7.08%
5100 · Legal	0.00				20,412.50	75,000.00	-54,587.50	27.22%	20,412.50	75,000.00	-54,587.50	27.22%
5101 · Audit	0.00				1,636.00	22,750.00	-21,114.00	7.19%	1,636.00	22,750.00	-21,114.00	7.19%
5150 · Unemployment Tax	0.00				0.00	5,000.00	-5,000.00	0.0%	0.00	5,000.00	-5,000.00	0.0%
5200 · Liability Insurance	0.00				38,389.00	50,551.00	-12,162.00	75.94%	38,389.00	50,551.00	-12,162.00	75.94%
5310 · Postage/Office Exp	0.00				957.93	5,000.00	-4,042.07	19.16%	957.93	5,000.00	-4,042.07	19.16%
5311 · Office Equip/Leases	0.00				1,924.44	9,200.00	-7,275.56	20.92%	1,924.44	9,200.00	-7,275.56	20.92%
5312 · Misc Admin Expenses	0.00				2,818.76	11,500.00	-8,681.24	24.51%	2,818.76	11,500.00	-8,681.24	24.51%
5313 · Communications	0.00				1,334.94	8,500.00	-7,165.06	15.71%	1,334.94	8,500.00	-7,165.06	15.71%
5314 · Utilities	0.00				2,885.35	9,737.00	-6,851.65	29.63%	2,885.35	9,737.00	-6,851.65	29.63%
5315 · Membership Dues	0.00				135.85	9,345.00	-9,209.15	1.45%	135.85	9,345.00	-9,209.15	1.45%
5316 · Admin Fixed Assets	0.00				894.38	3,000.00	-2,105.62	29.81%	894.38	3,000.00	-2,105.62	29.81%
5318 · Computer Consultant	0.00				3,459.64	15,000.00	-11,540.36	23.06%	3,459.64	15,000.00	-11,540.36	23.06%
5325 · Emp Training/Subscriptions	0.00				510.90	2,000.00	-1,489.10	25.55%	510.90	2,000.00	-1,489.10	25.55%
5330 · Admin Travel/Conferences	0.00				0.00	2,000.00	-2,000.00	0.0%	0.00	2,000.00	-2,000.00	0.0%
5331 · Public Information	0.00				0.00	3,500.00	-3,500.00	0.0%	0.00	3,500.00	-3,500.00	0.0%
5317 · Admin Contract Labor	0.00				13,865.04	47,680.00	-33,814.96	29.08%	13,865.04	47,680.00	-33,814.96	29.08%
<b>Total 4999 · GENERAL &amp; ADMINISTRATIVE</b>	<b>0.00</b>				<b>90,534.39</b>	<b>292,763.00</b>	<b>-202,228.61</b>	<b>30.92%</b>	<b>90,534.39</b>	<b>292,763.00</b>	<b>-202,228.61</b>	<b>30.92%</b>
5299 · ADMIN LABOR	0.00				139,134.98	549,881.00	-410,746.02	25.3%	139,134.98	549,881.00	-410,746.02	25.3%
<b>5400 · GENERAL &amp; ADMIN - FISHERIES</b>												
5407 · Legal - FD	632.50	20,000.00	-19,367.50	3.16%	0.00				632.50	20,000.00	-19,367.50	3.16%
5410 · Postage / Office Supplies	474.57	4,000.00	-3,525.43	11.86%	0.00				474.57	4,000.00	-3,525.43	11.86%
5411 · Office Equipment / Leases	1,036.21	5,418.00	-4,381.79	19.13%	0.00				1,036.21	5,418.00	-4,381.79	19.13%
5412 · Misc. Admin Expense	1,518.03	7,500.00	-5,981.97	20.24%	0.00				1,518.03	7,500.00	-5,981.97	20.24%
5413 · Communications	824.66	5,805.00	-4,980.34	14.21%	0.00				824.66	5,805.00	-4,980.34	14.21%
5414 · Utilities	1,553.66	5,243.00	-3,689.34	29.63%	0.00				1,553.66	5,243.00	-3,689.34	29.63%
5415 · Membership Dues	73.15	5,955.00	-5,881.85	1.23%	0.00				73.15	5,955.00	-5,881.85	1.23%
5416 · Admin Fixed Assets	481.59	3,000.00	-2,518.41	16.05%	0.00				481.59	3,000.00	-2,518.41	16.05%
5417 · Admin Contract Labor	7,465.81	23,110.08	-15,644.27	32.31%	0.00				7,465.81	23,110.08	-15,644.27	32.31%
5418 · Computer Consultant	1,862.86	7,000.00	-5,137.14	26.61%	0.00				1,862.86	7,000.00	-5,137.14	26.61%
5425 · Employee Education/Subscription	970.10	2,500.00	-1,529.90	38.8%	0.00				970.10	2,500.00	-1,529.90	38.8%
5426 · Director Fees	667.10	6,500.00	-5,832.90	10.26%	0.00				667.10	6,500.00	-5,832.90	10.26%
5427 · Director Mileage	38.11	500.00	-461.89	7.62%	0.00				38.11	500.00	-461.89	7.62%
5430 · Travel	1,240.05	2,500.00	-1,259.95	49.6%	0.00				1,240.05	2,500.00	-1,259.95	49.6%
5431 · Public Information	0.00	1,500.00	-1,500.00	0.0%	0.00				0.00	1,500.00	-1,500.00	0.0%
5441 · Audit	504.00	12,250.00	-11,746.00	4.11%	0.00				504.00	12,250.00	-11,746.00	4.11%
5443 · Liab & Property Ins	20,671.00	24,745.00	-4,074.00	83.54%	0.00				20,671.00	24,745.00	-4,074.00	83.54%
<b>Total 5400 · GENERAL &amp; ADMIN - FISHERIES</b>	<b>40,013.40</b>	<b>137,526.08</b>	<b>-97,512.68</b>	<b>29.1%</b>	<b>0.00</b>				<b>40,013.40</b>	<b>137,526.08</b>	<b>-97,512.68</b>	<b>29.1%</b>
5499 · ADMIN LABOR-FISHERIES	47,331.76	211,508.92	-164,177.16	22.38%	0.00				47,331.76	211,508.92	-164,177.16	22.38%
5510 · Integrated Reg. Water Mgt Plan	0.00				0.00	5,000.00	-5,000.00	0.0%	0.00	5,000.00	-5,000.00	0.0%

**Cachuma Operation & Maintenance Board**  
**Statement of Revenues and Expenditures**  
 Budget vs. Actuals July 2018 - Jun 2019

	Fisheries				Operations				TOTAL			
	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget
<b>6000 · SPECIAL PROJECTS</b>												
6062 · SCADA	0.00				373.75	20,000.00	-19,626.25	1.87%	373.75	20,000.00	-19,626.25	1.87%
6090 · COMB Office Building	0.00				0.00	200,000.00	-200,000.00	0.0%	0.00	200,000.00	-200,000.00	0.0%
6096 · SCC Structure Rehabilitation	0.00				0.00	484,400.00	-484,400.00	0.0%	0.00	484,400.00	-484,400.00	0.0%
6096-2 · SCC Str Rehab Thomas DebrisFlow	0.00				15,690.82				15,690.82	0.00	15,690.82	100.0%
6097 · GIS and Mapping	0.00				900.00	10,000.00	-9,100.00	9.0%	900.00	10,000.00	-9,100.00	9.0%
6105 · ROW Management Program	0.00				0.00	20,000.00	-20,000.00	0.0%	0.00	20,000.00	-20,000.00	0.0%
6118 · Repair Lateral 3 Structure	0.00				0.00	100,000.00	-100,000.00	0.0%	0.00	100,000.00	-100,000.00	0.0%
6120 · Emergency Pumping Fac Project	0.00				21,031.67	230,000.00	-208,968.33	9.14%	21,031.67	230,000.00	-208,968.33	9.14%
6122 · Rehab San Antonio Crk Blow-off	0.00				168.50	60,000.00	-59,831.50	0.28%	168.50	60,000.00	-59,831.50	0.28%
6132 · Sycamore Canyon Slope Stabiliz	0.00				22,108.50	500,000.00	-477,891.50	4.42%	22,108.50	500,000.00	-477,891.50	4.42%
6132-1 · SycCynSlopeStab-CO Funds FY2017	0.00				0.00	-500,000.00	500,000.00	0.0%	0.00	-500,000.00	500,000.00	0.0%
6136 · SCC Isolation Valve Evaluation	0.00				0.00	25,000.00	-25,000.00	0.0%	0.00	25,000.00	-25,000.00	0.0%
6137 · SCC Lower Reach Lateral Structu	0.00				0.00	50,000.00	-50,000.00	0.0%	0.00	50,000.00	-50,000.00	0.0%
6138 · Cachuma Watershed Mgmt Study	0.00				0.00	417,000.00	-417,000.00	0.0%	0.00	417,000.00	-417,000.00	0.0%
<b>Total 6000 · SPECIAL PROJECTS</b>	<b>0.00</b>				<b>60,273.24</b>	<b>1,616,400.00</b>	<b>-1,556,126.76</b>	<b>3.73%</b>	<b>60,273.24</b>	<b>1,616,400.00</b>	<b>-1,556,126.76</b>	<b>3.73%</b>
<b>6200 · FISHERIES ACTIVITIES</b>												
6201 · FMP Implementation	695.04	45,000.00	-44,304.96	1.55%	0.00				695.04	45,000.00	-44,304.96	1.55%
6202 · GIS and Mapping	0.00	10,000.00	-10,000.00	0.0%	0.00				0.00	10,000.00	-10,000.00	0.0%
6203 · Grants Technical Support	0.00	10,000.00	-10,000.00	0.0%	0.00				0.00	10,000.00	-10,000.00	0.0%
6204 · SYR Hydrology Technical Support	0.00	6,000.00	-6,000.00	0.0%	0.00				0.00	6,000.00	-6,000.00	0.0%
6205 · USGS Stream Gauge Program	7,813.18	100,000.00	-92,186.82	7.81%	0.00				7,813.18	100,000.00	-92,186.82	7.81%
6206 · Tri County Fish Team Funding	0.00	5,000.00	-5,000.00	0.0%	0.00				0.00	5,000.00	-5,000.00	0.0%
6207 · Oak Tree Restoration Program	1,169.16	40,000.00	-38,830.84	2.92%	0.00				1,169.16	40,000.00	-38,830.84	2.92%
<b>Total 6200 · FISHERIES ACTIVITIES</b>	<b>9,677.38</b>	<b>216,000.00</b>	<b>-206,322.62</b>	<b>4.48%</b>	<b>0.00</b>				<b>9,677.38</b>	<b>216,000.00</b>	<b>-206,322.62</b>	<b>4.48%</b>
<b>6300 · HABITAT ENHANCEMENT</b>												
6303 · Tributary Projects Support	0.00	20,000.00	-20,000.00	0.0%	0.00				0.00	20,000.00	-20,000.00	0.0%
6315 · Quiota Creek Crossing 8	0.00	30,000.00	-30,000.00	0.0%	0.00				0.00	30,000.00	-30,000.00	0.0%
6316 · Quiota Creek Crossing 5	496,147.36	960,000.00	-463,852.64	51.68%	0.00				496,147.36	960,000.00	-463,852.64	51.68%
6317 · Salsipuedes Fish Ladder Repair	0.00	8,000.00	-8,000.00	0.0%	0.00				0.00	8,000.00	-8,000.00	0.0%
6318 · Quiota Creek Crossing 9	138,095.38	1,115,996.00	-977,900.62	12.37%	0.00				138,095.38	1,115,996.00	-977,900.62	12.37%
<b>Total 6300 · HABITAT ENHANCEMENT</b>	<b>634,242.74</b>	<b>2,133,996.00</b>	<b>-1,499,753.26</b>	<b>29.72%</b>	<b>0.00</b>				<b>634,242.74</b>	<b>2,133,996.00</b>	<b>-1,499,753.26</b>	<b>29.72%</b>
<b>7007 · INTEREST EXPENSE-EPFP</b>	<b>0.00</b>				<b>12,513.61</b>				<b>12,513.61</b>	<b>0.00</b>	<b>12,513.61</b>	<b>100.0%</b>
<b>Total Expense</b>	<b>893,501.36</b>	<b>3,462,440.00</b>	<b>-2,568,938.64</b>	<b>25.81%</b>	<b>478,422.82</b>	<b>3,565,791.00</b>	<b>-3,087,368.18</b>	<b>13.42%</b>	<b>1,371,924.18</b>	<b>7,028,231.00</b>	<b>-5,656,306.82</b>	<b>19.52%</b>
<b>Net Surplus / (Deficit)</b>	<b>-\$656,874.36</b>	<b>\$0.00</b>	<b>-\$656,874.36</b>	<b>100%</b>	<b>\$528,888.73</b>	<b>\$0.00</b>	<b>\$528,888.73</b>	<b>100%</b>	<b>-\$127,985.64</b>	<b>\$0.00</b>	<b>-\$127,985.64</b>	<b>100%</b>

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Janet Gingras

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**SUBJECT:** Investment Report – September 30, 2018

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### **RECOMMENDATION**

The Board of Directors receive and file the Cachuma Operation and Maintenance Board Investment Report as of September 30, 2018.

### **DISCUSSION**

Cash and investment programs are maintained in accordance with California Government Code Section 53600 et seq. and COMB's adopted investment policy. These policies ensure proper control and safeguards are maintained throughout the financial transaction process. Pursuant to State law, the COMB Board adopts a detailed investment policy through a Board resolution on an annual basis.

Reports on COMB's investment portfolio and cash position are developed and presented to the COMB Board on a monthly basis, in conformity with the California Government Code.

#### Unrestricted Cash

Unrestricted cash exceeding current operating needs is invested in LAIF to generate interest income. The average monthly effective yield rate, as of September 2018, is reported at 2.063%.

See Table 1 below for a summary of balances held in unrestricted accounts.

TABLE 1		
Unrestricted Reserve Funds	Date	Principal
Local Agency Investment Fund (LAIF)		
Previous Balance	8/31/2018	1,793,774.22
(+ ) Deposits/Credits		-
(- ) Checks/Withdrawals		-
Statement Balance	9/30/2018	\$ 1,793,774.22

#### Restricted Cash

The Cachuma Project Warren Act Trust Fund (Trust Fund) and Cachuma Project Master Contract Renewal Fund (Renewal Fund) are two separate funds that have been established through contracts with the U.S. Bureau of Reclamation (Reclamation). The Trust Fund and the Renewal Fund require annual and five-year plans which are used to inform the Funds Committee in making decisions on expenditures for betterment of the Cachuma Project.

See Table 2 below for a summary of balances held in restricted accounts.

TABLE 2		
Restricted Reserve Funds	Date	Principal
American Riviera Bank Renewal Account		
Previous Balance	8/31/2018	10,215.61
(+) Deposits/Credits		-
(-) Checks/Withdrawals		-
Statement Balance	9/30/2018	\$ 10,215.61
American Riviera Bank Warren Acct Trust Fund		
Previous Balance	8/31/2018	909,054.72
(+) Deposits/Credits		-
(-) Checks/Withdrawals		-
Statement Balance	9/30/2018	\$ 909,054.72

**STATEMENT**

The above statement of investment activity for the month of September, 2018, complies with legal requirements for investment policy of government agencies, AB 1073. I hereby certify that it constitutes a complete and accurate summary of all American Riviera Bank and LAIF investments of this agency for the period indicated.

  
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 Secretary

## Cachuma Operation &amp; Maintenance Board

## Paid Claims

As of September 30, 2018

Date	Num	Name	Memo	Amount
<b>1050 - General Fund</b>				
09/04/2018	26271	VOID	VOID	0.00
09/04/2018	26272	County of S.B.-P.W. Trans	Quiota Creek Crossing 9 - Balance of Encroachment Permit fees	-20,303.00
09/07/2018	26273	Business Card	Training & Materials (Ops)	-117.55
09/07/2018	26274	Coastal Copy, LP	Copier Maintenance Agreement July 2018 - Taskalfa 3051ci & 6052ci	-387.09
09/07/2018	26275	Cox Communications Santa Barbara	Business Internet - August 2018	-140.00
09/07/2018	26276	Wells Fargo Vendor Fin Serv	Copier Lease Payments - Taskalfa 3051ci & 6052ci	-411.08
09/12/2018	26277	Accountemps	Temp Office Admin Labor W/E 8/10, 8/17, 8/24, 8/31/18	-7,287.98
09/12/2018	26278	ACWA-Joint Powers Insurance Authority	Workers Compensation Program 4/1/18 - 6/30/18	-7,887.23
09/12/2018	26279	AECOM Technical Services, Inc.	Quiota Creek Crossing 9 - Fabrication Oversight	-6,131.84
09/12/2018	26280	Association of Ca Water Agencies/JPIA	September Health Benefits Coverage	-30,681.11
09/12/2018	26281	AT&T	Long Distance Charges 7/27/18-8/27/18	-668.74
09/12/2018	26282	Bureau of Reclamation	Bradbury & Lauro SOD Act Annual Obligation	-309,052.36
09/12/2018	26283	Carpinteria Valley Lumber Company	Reservoir Supplies (Ops)	-100.42
09/12/2018	26284	City of Santa-Barbara	Trash / Recycling 7/30/18-8/29/18	-249.88
09/12/2018	26285	Coastal Copy, LP	Copier Maintenance Agreement August 2018 - TASKalfa 3051ci & 6052ci	-305.54
09/12/2018	26286	County of Santa--Barbara	Mulch (Ops)	-108.16
09/12/2018	26287	Cox Communications Santa Barbara	Business Internet September 2018	-140.00
09/12/2018	26288	Crocker Refrigeration Heating & Air	Air Conditioning Unit Repair	-120.00
09/12/2018	26289	Culligan of Sylmar	RO Rental 9/1/18-9/30/18	-27.95
09/12/2018	26290	Cushman Contracting Corp.	Thomas Debris Flow - Construction Services - Final invoice	-11,007.55
09/12/2018	26291	Cushman Contracting Corp.	Emergency Pumping System - Pay Req #52-Phase II	-7,000.00
09/12/2018	26292	ECHO Communications	Message Service August 2018	-69.00
09/12/2018	26293	Farwest Corrosion Control Co.	Annual Cathodic Protection System Survey & Report (Ops)	-2,632.50
09/12/2018	26294	Filippin Engineering, Inc.	Quiota Creek Crossings 5 & 9 - Construction Engineering Services	-8,558.50
09/12/2018	26295	Frontier Communications	Phone Service - North Portal	-56.26
09/12/2018	26296	Frontier Communications	Phone Service - Ortega Hill	-56.26
09/12/2018	26297	Frontier Communications	Phone Service - Main Office	-431.39
09/12/2018	26298	Frontier Communications	Phone Service - Carpinteria	-56.26
09/12/2018	26299	Frontier Communications	Phone Service - SCADA	-570.32
09/12/2018	26300	Fugro Consultants, Inc.	Quiota Creek Crossing 5 - Geotechnical Consulting & Engineering Services	-8,734.73
09/12/2018	26301	Fugro Consultants, Inc.	Quiota Creek Crossing 9 - Geotechnical Consulting	-1,617.72
09/12/2018	26302	Harrison Hardware	Misc Supplies (Fish & Oak Tree)	-288.99
09/12/2018	26303	HDR Engineering, Inc.	Engineering Services - Crossings No. 5 and No. 9	-17,938.65
09/12/2018	26304	Home Depot Credit Services	Misc Supplies (Ops)	-21.42
09/12/2018	26305	J&C Services	Office Cleaning Service July 2018	-600.00
09/12/2018	26306	Kristen Sneddon	Director Meeting Fees August 2018	-309.04
09/12/2018	26307	Lauren W. Hanson	Director Meeting Fees August 2018	-310.90
09/12/2018	26308	MarBorg Industries	Green Waste Disposal Fees (Ops)	-393.00
09/12/2018	26309	MarBorg Industries	Portable Facilities - Outlying Stations (Ops)	-358.22
09/12/2018	26310	Musick, Peeler & Garrett LLP	General Counsel August 2018	-21,045.00
09/12/2018	26311	Nargan Fire & Safety, Inc.	Fire Extinguisher Service (Ops)	-76.13
09/12/2018	26312	Nestle Pure Life Direct	Operations - Safety	-54.32
09/12/2018	26313	O'Reilly Automotive, Inc.	Automotive Supplies (Fish)	-10.82
09/12/2018	26314	Onset Computer Corporation	Battery Replacements for 6 Dissolved Oxygen Loggers (Fish)	-919.00
09/12/2018	26315	Pacific Rim Automation, Inc.	SCADA - Sierra Wireless 3in1 Panel Antenna	-221.71
09/12/2018	26316	Paychex, Inc. (Payroll)	Payroll & Payroll Tax Services August 2018	-349.55
09/12/2018	26317	Peter Lapidus Construction, Inc.	Quiota Creek Crossing 5 Bridge Construction	-143,075.00
09/12/2018	26318	Peter Lapidus Construction, Inc.	Quiota Creek Crossing 9 Bridge Construction	-65,085.00
09/12/2018	26319	Polly Holcombe	Director Meeting Fees August 2018	-286.84
09/12/2018	26320	SB Home Improvement Center	Misc Supplies (Fish)	-201.46
09/12/2018	26321	Sherwin Williams Co.	Paint Supplies (Ops)	-128.23
09/12/2018	26322	Solinst Canada Ltd.	Purchase of Barologger & Repair of Barologger on Warranty (Fish)	-399.64
09/12/2018	26323	Southern California Edison	Electricity - Main Office & Outlying Stations	-1,811.40
09/12/2018	26324	Staples Credit Plan	Office Supplies (Ops & Fish)	-363.32
09/12/2018	26325	Tri-Co Reprographics	Quiota Creek Crossing 9 - Reproduce Plans	-122.38
09/12/2018	26326	Turenchalk Network Services, Inc.	Network & Software Support	-1,935.10
09/12/2018	26327	Underground Service Alert of So. Calif.	99 Ticket Charges & Database Fee (Ops)	-173.35
09/12/2018	26328	W. Douglas Morgan	Director Meeting Fees August 2018	-321.80
09/12/2018	26329	Wright Express Fleet Services	Fleet Fuel August 2018	-3,449.52



Cachuma Operation & Maintenance Board

**Paid Claims**

As of September 30, 2018

<u>Date</u>	<u>Num</u>	<u>Name</u>	<u>Memo</u>	<u>Amount</u>
09/18/2018	26330	Verizon Wireless	Wireless Phones & Modems (Ops)	-679.87
09/25/2018	ACH092518A	American Riviera Bank (ARB)	EPFP Loan Pmt	-28,123.75
09/25/2018	ACH092518B	American Riviera Bank (ARB)	EPFP Loan Pmt	-10,354.21
Total 1050 - General Fund				<u>-724,318.04</u>
<b>TOTAL</b>				<u><b>-724,318.04</b></u>

**APPROVED FOR PAYMENT**

\_\_\_\_\_ Director

\_\_\_\_\_ Director

\_\_\_\_\_ Director

# CACHUMA OPERATION & MAINTENANCE BOARD

## Administrative Committee Meeting

3301 Laurel Canyon Road  
Santa Barbara, CA 93105

**Wednesday October 10, 2018**  
**1:00 p.m.**

### AGENDA

*Chair: Director Morgan*  
*Member: Director Hanson*

1. Call to Order
2. Public Comment (*Public may address the Committee on any subject matter not on the agenda and within the Committee's jurisdiction*)
3. Draft Second Amendment to the 1996 COMB Amended and Restated Joint Exercise of Power Agreement (*for information and possible recommendation*)
4. Draft Fiscal Policy (*for information and possible recommendation*)
5. Draft Director Handbook (*for information and possible recommendation*)
6. Adjournment

#### NOTICE TO THE PUBLIC

**Public Comment:** The public is welcome to attend and observe the meeting. A public comment period will be included at the meeting where any member of the public may address the Committee on any subject within the Committee's jurisdiction. The total time for this item will be limited by the Chair.

**Americans with Disabilities Act:** In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Cachuma Operation & Maintenance Board (COMB) at 687-4011 at least 48 hours prior to the meeting to enable staff to make reasonable arrangements.

[This Agenda was posted at COMB offices, 3301 Laurel Canyon Road, Santa Barbara, CA and Noticed and Delivered in Accordance with Section 54954.1 and .2 of the Government Code.]

# CACHUMA OPERATION & MAINTENANCE BOARD

## Operations Committee Meeting

3301 Laurel Canyon Road  
Santa Barbara, CA 93105

**Thursday, October 11, 2018**  
**3:30 p.m.**

### AGENDA

*Chair: Director Sneddon*  
*Member: Director Morgan*

1. Call to Order
2. Public Comment (*Public may address the Committee on any subject matter not on the agenda and within the Committee's jurisdiction*)
3. Annex to Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan (*for information and possible recommendation*)
4. San Antonio Creek Blow-off Rehabilitation Project (*for information and possible recommendation*)
5. Infrastructure Improvement Projects Update (*for information*)
6. Construction Projects within USBR Right-of-Way (*for information*)
7. Adjournment

#### NOTICE TO THE PUBLIC

**Public Comment:** The public is welcome to attend and observe the meeting. A public comment period will be included at the meeting where any member of the public may address the Committee on any subject within the Committee's jurisdiction. The total time for this item will be limited by the Chair.

**Americans with Disabilities Act:** In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Cachuma Operation & Maintenance Board (COMB) at 687-4011 at least 48 hours prior to the meeting to enable staff to make reasonable arrangements.

[This Agenda was posted at COMB offices, 3301 Laurel Canyon Road, Santa Barbara, CA and Noticed and Delivered in Accordance with Section 54954.1 and .2 of the Government Code.]

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Edward Lyons
Approved by:	Janet Gingras

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**SUBJECT:** Financial Review – 1<sup>st</sup> Quarter Fiscal Year 2018-19

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**RECOMMENDATION:**

The Board of Directors receive and file the 1<sup>st</sup> Quarter Fiscal Year 2018-19 Financial Review and exhibit.

**DISCUSSION:**

The Board of Directors approves the Cachuma Operation and Maintenance Board (COMB) Budget each fiscal year. Unaudited financial statements are received and filed by the Board on a monthly basis. Staff provides, on a quarterly basis, a fiscal year-to-date financial review of the unaudited interim financial reports to the Board of Directors, comparing actual expenditures to the Budget.

**FISCAL ANALYSIS:**

**Revenues Assessed and Collected**

- COMB assessed and collected \$1.1M in quarterly O&M Budget Assessments for the period July – September 2018. Pursuant to the Separation Agreement, starting in Fiscal Year 2017-18 and going forward, certain actual expenditures incurred by COMB will be collected from Santa Ynez River Conservation District, ID No. 1 through an invoice issued quarterly by COMB.
- COMB assessed \$115.8K in quarterly EPFP Loan Assessments related to loan repayments made on behalf of Goleta Water District and Montecito Water District pertaining to the Emergency Pumping Facility for the period July – September 2018. Payments are due by the end of October.

**Expenditures To Date (% of Budget Apportioned thru September – 3 months or 25%)**

**General and Administrative (Combined)**

- General and Administrative Expenses include costs for support of all administrative functions of COMB such as: Director fees, legal expenditures, general liability and property insurance, audit fees, utilities, IT and communications, postage and office supplies, training, education and subscriptions and miscellaneous expenses. Costs are generally allocated between Operations and Maintenance (65%) and Fisheries Division (35%). General and Administrative expenses of \$130.5K (29.99%) are slightly higher than the apportioned budget. Notable expenses include the annual payment of the ACWA JPIA General Liability Insurance of \$59k for the period October 1, 2017 – September 30, 2018. The invoice reflects an 8% decrease over the previous year's premium amount. Additional costs include \$21K in legal fees related to the ID No. 1 separation and other COMB legal matters.
- General and Administrative Labor includes salaries, employer taxes, health insurance and retirement benefit costs for the COMB General Manager and Administrative staff.

General and Administrative Labor expense of \$186.5K (24.49%) are within the apportioned budget.

- **The total combined General and Administrative expenses and labor of \$317K (26.5%) thru September are slightly higher than the apportioned budget.**

### **Operations Division**

- Operation and Maintenance Labor includes salaries, employer taxes, health insurance and retirement benefit costs. Personnel costs of \$150.6K (18.52%) are lower than the apportioned budget due to staff vacancies.
- Vehicles & Equipment includes funds for the purchase of fixed capital, equipment rental, vehicle and equipment maintenance, and fuel costs. Year to date actual costs of \$10.7K (15.4%) are within the apportioned budget.
- Contract Labor contains funds for outside services and labor that cannot be supported by COMB staff which may include elevator maintenance or repair, tree trimming and removal services, heavy equipment and operators' labor costs for various small projects including meter calibration and meter repair. Projects and staff assignments are reviewed by the General Manager and Operations Division Manager to control costs in this category. Actual costs of \$1.9K (2.03%) are within the apportioned budget.
- Materials and Supplies covers costs related to the operation and maintenance of the conduit, reservoirs, and outlying buildings and roads. Actual costs of \$3.7K (4.77%) are within the apportioned budget.
- Other Expenses includes utilities, uniforms, hazardous waste disposal, communications (phones at facilities, and cell phones for operations and maintenance), Underground Service Alerts, and employee training and certifications. Actual costs of \$9.0K (19.69%) are within the apportioned budget.
- Special Projects - Board policy requires that all infrastructure improvement projects are to be approved thru Committee and by the Board prior to commencement. Actual costs thru September were \$60.3k. This amount is attributed to the following projects: South Coast Conduit Structure Rehabilitation Project/Thomas Debris Flow (\$15.7K), Sycamore Canyon Slope Stabilization (\$22.1K) and the storage of key components of the pumping barge (\$22K). The timing and ranking of projects are dependent on factors such as: (1) water supply reliability, (2) risk, (3) critical need/life cycle of asset, (4) safety, and (5) service disruption necessary to accomplish project.
- **The total Operations Division expenses of \$478.4K (13.42%) thru September are within the apportioned budget.**

### **Fisheries Division**

- Fisheries Division Labor includes salaries, employer taxes, health insurance and retirement benefit costs for the Fisheries Division Manager, two Senior Field Biologists, a Biologist Aide position, and four part-time seasonal positions. Personnel costs of \$153.2K (22.13%) are within the apportioned budget.
- Vehicles & Equipment includes funds for the purchase of fixed capital, equipment rental, vehicle and equipment maintenance, and fuel costs. Year to date actual costs of \$5.8K (17.7%) are within the apportioned budget.
- Contract Labor contains funds for outside services/labor to support equipment calibration on flow meters, and funds for technical assistance corresponding to the operation, maintenance and performance review of completed fish passage projects. No notable costs have been incurred in this category thru September.

- Materials and Supplies includes costs for the purchase of items needed for the Fisheries Monitoring Program specifically for migration, spawning and over-summering; constructing and repairing fish migration traps and the equipment necessary to conduct snorkel and redds surveys. Actual costs of \$3.1K (43.71%) are higher than the apportioned budget. Notable expenses include the battery replacement for six Dissolved Oxygen Loggers (\$920) and various other monitoring supplies (<\$500 per item)
- Other Expenses include funds to pay for uniforms and gear for the fisheries division employees. No notable costs have been incurred in this category thru September.
- Fisheries Division Activities includes funding for special activities related to ongoing Cachuma Project Biological Opinion (BO) compliance efforts, the implementation of the Lower Santa Ynez River Fisheries Monitoring Program, GIS mapping, grants technical support, USGS Stream Gauge Program and the Oak Tree Restoration Program. Actual costs of \$9.7K (4.48%) are within the apportioned budget.
- Fisheries Habitat Improvement - Board policy requires that all habitat improvement projects are to be approved thru Committee and by the Board prior to commencement. Costs of \$634.2K thru September include the following fish passage projects: COMB Quiota Creek Crossing 5 (\$496K) and Quiota Creek Crossing 9 (\$138k). Offsetting grants funds are expected to be collected following project completion.
- **The total Fisheries Division expenses of \$893.5K (25.8%) thru September are slightly higher than the apportioned budget due to the timing of construction related to the two fish passage improvement projects referenced in the preceding paragraph entitled Fisheries Habitat Improvement.**

#### **Restricted Funds and Obligations**

- **Warren Act Trust Fund (Restricted Fund)** - The Warren Act Trust Fund is a requirement of the Cachuma Project Warren Act Contract negotiated between the Central Coast Water Authority (CCWA) and the Bureau of Reclamation for delivery and transport of State Water Project water through the Cachuma Project facilities. A 1995 memorandum of understanding executed in conjunction with the Warren Act Contract established a charge of \$43 per acre foot (AF) (\$58 initially with a \$15 service charge by Reclamation), which is not indexed. Payments are required upon delivery of SWP water to Cachuma Reservoir. CCWA makes quarterly payments to COMB based on the prior quarter's water deliveries to the lake.

The balance in the restricted account as of September 30th in the amount of \$909K and is comprised of funds collected in calendar year 2017 of \$539K. These funds were reviewed by the Cachuma Project Warren Act Trust Funds Advisory Committee at their meeting in May 2018 and appropriated towards eligible FY 2018-19 fisheries activities.

COMB has collected an additional \$300K of Warren Act Trust Fund payments from CCWA in calendar year 2018. These funds along with future funds deposited in calendar year 2018 will be reviewed by the committee in April 2019 for use in FY 2019-20.

- **Renewal Funds (Restricted Fund)** - The Renewal Fund is a requirement of the 1995 Renewal Master Contract (executed in 1996) entered into for water conveyance from the Cachuma Project to the five Cachuma Project Member Units, which are the City of Santa Barbara, the Goleta Water District, the Montecito Water District, the Carpinteria Valley Water District, and the Santa Ynez River Water Conservation District, Improvement District No. 1 (ID No. 1).

The Renewal Master Contract requires the payment of \$10 per acre foot of water made available by the Cachuma Project. The Renewal Fund itself is capped at \$257,100, which is related to the current annual operational yield of 25,714 AF. The aggregate amount to be deposited in the Renewal Fund at the start of each Water year by the Cachuma

Member Units is not to exceed an amount which bears a ratio to \$257,100, which is inverse to the ratio which the aggregate amount paid into the Warrant Act Trust Fund during the immediately preceding Calendar Year bears to \$300,000.

For WY 2018-19, the amount required to be deposited into the Renewal Fund by the Cachuma Member Units is zero based on the fact that the amount of funds deposited into the Warren Act Trust Fund exceeded the calculation threshold.

- **EPFP Bank Loan Obligation** – During fiscal year ending 2015, COMB contracted for the construction of the Emergency Pumping Facilities Project (EPFP) to provide continued delivery of water from Lake Cachuma to the Member Agencies until sufficient inflow occurred and the reservoir levels returned to normal operating condition. In order to implement this large scale project, three of the four South Cost Member agencies agreed to finance their proportionate share through a commercial financing arrangement with the Bank of Santa Barbara, which merged with American Riviera Bank during 2016.

The Districts participating in the financing included Goleta Water District, Montecito Water District and Carpinteria Valley Water District. The City of Santa Barbara chose to fund their portion through quarterly assessments.

While COMB secured the financing of the project, the three districts participating in the debt obligation provided the guarantee for repayment of their allocated percentage.

The financing arrangement was converted to a sixty (60) month repayment loan as of July 25, 2016. Carpinteria Valley Water District opted to pay off their obligation in-full on or about the conversion date.

COMB assesses the remaining member agencies at the end of each quarter, for the monthly loan payments made on their behalf during that period. As of September 30, 2018, the total combined principal outstanding for the EPFP loan obligation is approximately \$1.2M.

- **Bradbury/Lauro SOD Contracts** - Under the terms and conditions of a repayment contract executed in 2002, COMB is responsible for payment to the United States of fifteen percent (15%) of the total amount of Safety of Dams (SOD) Act funds expended by the United States for structural stability and related work at Bradbury Dam.

The fifteen percent obligation under the Bradbury SOD contract is \$7,605,739 and is to be repaid by annual payments over a 50-year period. COMB's payment obligation for FY 2018-19 is \$261,647 and assesses the Member in accordance with each Member Agencies' Cachuma Project entitlement percentages.

The fifteen percent obligation under the Lauro SOD contract is \$1,009,737 and is to be repaid by annual payments over a 50-year period. COMB's payment obligation for FY 2018-19 is \$44,404.66 and assesses the South Coast Member Agencies (only) in accordance with each Member Agencies' pro-rata Cachuma Project entitlement percentages.

#### **LIST OF EXHIBITS:**

- 1) Fiscal Year 2018-19 Statement of Revenue and Expenditures

**Cachuma Operation & Maintenance Board  
Statement of Revenues and Expenditures  
Budget vs. Actuals July 2018 - Sep 2018**

	Fisheries				Operations				TOTAL			
	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget	Jul - Sep 18	Budget	\$ Over Budget	% of Budget
<b>Income</b>												
<b>Revenue</b>	236,627.00	3,462,440.00	-3,225,813.00	6.83%	1,007,311.55	3,565,791.00	-2,558,479.45	28.25%	1,243,938.55	7,028,231.00	-5,784,292.45	17.7%
<b>Total Income</b>	236,627.00	3,462,440.00	-3,225,813.00	6.83%	1,007,311.55	3,565,791.00	-2,558,479.45	28.25%	1,243,938.55	7,028,231.00	-5,784,292.45	17.7%
<b>Gross Profit</b>	236,627.00	3,462,440.00	-3,225,813.00	6.83%	1,007,311.55	3,565,791.00	-2,558,479.45	28.25%	1,243,938.55	7,028,231.00	-5,784,292.45	17.7%
<b>Expense</b>												
<b>General and Admin Expenses</b>	40,013.40	137,526.08	-97,512.68	29.1%	90,534.39	297,763.00	-207,228.61	30.41%	130,547.79	435,289.08	-304,741.29	29.99%
<b>General and Admin Labor</b>	47,331.76	211,508.92	-164,177.16	22.38%	139,134.98	549,881.00	-410,746.02	25.3%	186,466.74	761,389.92	-574,923.18	24.49%
<b>O&amp;M Labor</b>	0.00				150,583.68	813,247.00	-662,663.32	18.52%	150,583.68	813,247.00	-662,663.32	18.52%
<b>O&amp;M Vehicle &amp; Equip</b>	0.00				10,777.52	70,000.00	-59,222.48	15.4%	10,777.52	70,000.00	-59,222.48	15.4%
<b>O&amp;M Contract Labor</b>	0.00				1,924.88	95,000.00	-93,075.12	2.03%	1,924.88	95,000.00	-93,075.12	2.03%
<b>O&amp;M Material and Supplies</b>	0.00				3,721.51	78,000.00	-74,278.49	4.77%	3,721.51	78,000.00	-74,278.49	4.77%
<b>O&amp;M Other Expenses</b>	0.00				8,959.01	45,500.00	-36,540.99	19.69%	8,959.01	45,500.00	-36,540.99	19.69%
<b>O&amp;M Special Projects</b>	0.00				60,273.24	1,616,400.00	-1,556,126.76	3.73%	60,273.24	1,616,400.00	-1,556,126.76	3.73%
<b>Fisheries Labor</b>	153,237.01	692,409.00	-539,171.99	22.13%	0.00				153,237.01	692,409.00	-539,171.99	22.13%
<b>Fisheries Vehicle &amp; Equip</b>	5,752.18	32,500.00	-26,747.82	17.7%	0.00				5,752.18	32,500.00	-26,747.82	17.7%
<b>Fisheries Contract Labor</b>	186.97	28,000.00	-27,813.03	0.67%	0.00				186.97	28,000.00	-27,813.03	0.67%
<b>Fisheries Material and Supplies</b>	3,059.92	7,000.00	-3,940.08	43.71%	0.00				3,059.92	7,000.00	-3,940.08	43.71%
<b>Fisheries Other Expenses</b>	0.00	3,500.00	-3,500.00	0.0%	0.00				0.00	3,500.00	-3,500.00	0.0%
<b>Fisheries Activities</b>	9,677.38	216,000.00	-206,322.62	4.48%	0.00				9,677.38	216,000.00	-206,322.62	4.48%
<b>Fisheries Habitat Enhancement</b>	634,242.74	2,133,996.00	-1,499,753.26	29.72%	0.00				634,242.74	2,133,996.00	-1,499,753.26	29.72%
<b>Other Interest Expense - EPFP</b>	0.00				12,513.61				12,513.61	0.00	12,513.61	100.0%
<b>Total Expense</b>	893,501.36	3,462,440.00	-2,568,938.64	25.81%	478,422.82	3,565,791.00	-3,087,368.18	13.42%	1,371,924.18	7,028,231.00	-5,656,306.82	19.52%
<b>Net Income</b>	<b>-656,874.36</b>	<b>0.00</b>	<b>-656,874.36</b>	<b>100.0%</b>	<b>528,888.73</b>	<b>0.00</b>	<b>528,888.73</b>	<b>100.0%</b>	<b>-127,985.63</b>	<b>0.00</b>	<b>-127,985.63</b>	<b>100.0%</b>



# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Janet Gingras

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**SUBJECT:**     **Second Amendment to the 1996 COMB Amended and Restated Joint Exercise of Power Agreement**

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**RECOMMENDATION:**

The Board review the Draft Second Amendment to the COMB 1996 Amended and Restated Joint Exercise of Power Agreement and forward the Amendment to the Member Agencies for approval and execution.

**SUMMARY:**

The Separation Agreement entered into by the Santa Ynez River Water Conservation District, ID No. 1, COMB, and the South Coast Member Units was approved by all parties and became effective as of August 28, 2018. On Friday, August 31, 2018, pursuant to the terms and conditions of the Separation Agreement, COMB received from ID No. 1 the payment of the outstanding assessments in the amount of \$167,500 for fiscal years ending 2015 and 2016. Pursuant to the Separation Agreement, upon COMB's receipt of the outstanding assessments on August 31, 2018, ID No. 1 was deemed no longer a Member Agency of COMB and had departed from the COMB JPA Agreement as of May 27, 2016.

Now that the Separation Agreement has been approved, an amendment to the 1996 COMB JPA is necessary to reflect the departure of ID No.1 from the Cachuma Operation and Maintenance Board. Attached is the draft Second Amendment to the 1996 COMB Amended and Restated Joint Exercise of Power Agreement.

**LEGAL CONCURRENCE:**

Legal Counsel has provided the Member Agencies General Counsels' with the draft Second Amendment to the 1996 Amended and Restated Joint Exercise of Power Agreement.

**COMMITTEE STATUS:**

The Administrative Committee reviewed the Draft Second Amendment to the COMB 1996 Amended and Restated Joint Exercise of Power Agreement. The Committee suggested General Counsel add language referencing provisions contained in Article 14 of the Transfer Agreement which indicates receiving a written consent from Reclamation regarding a change in the Contractors organization. The language has been added to the October 17, 2018 draft version included as an attachment. The Administrative Committee forwards the Amendment to the Board for submission to the Member Agency's for approval and execution.

**LIST OF EXHIBITS:**

1. Draft Second Amendment to the 1996 COMB Amended and Restated Joint Exercise of Power Agreement

**SECOND AMENDMENT TO 1996 AMENDED AND RESTATED AGREEMENT  
FOR THE ESTABLISHMENT OF A BOARD OF CONTROL TO  
OPERATE AND MAINTAIN THE CACHUMA PROJECT –  
CACHUMA OPERATION AND MAINTENANCE BOARD**

This Second Amendment (“Second Amendment”) to the 1996 Amended and Restated Joint Exercise of Power Agreement relating to the establishment of the Cachuma Operation and Maintenance Board (“COMB”) dated May 23, 1996, as first amended on September 16, 2003, is made effective October \_\_, 2018, by and among the CARPINTERIA VALLEY WATER DISTRICT, the GOLETA WATER DISTRICT, the MONTECITO WATER DISTRICT (collectively referred to as the “Water Districts”) and the CITY OF SANTA BARBARA (the “City,” and all four entities collectively referred to as the “Parties”), based on the recitals stated below:

**RECITALS**

- A. The Parties to this Second Amendment are each parties to the 1996 Amended and Restated Agreement for the Establishment of a Board of Control to Operate and Maintain the Cachuma Project – Cachuma Operation and Maintenance Board, as first amended on September 16, 2003 (the “JPA Agreement”).
- B. During the period between October 2015 and July 2018, a dispute arose between the Parties and the Santa Ynez River Water Conservation District, Improvement District Number One (“Improvement District”) regarding, among other things, liability for certain assessments and related matters. Numerous discussions between COMB and the Improvement District resulted in a negotiated separation and departure of the Improvement District as a participating agency of COMB and as a party to the JPA Agreement. [The United States Bureau of Reclamation also advised COMB that it had no objection to the Improvement District separating as a participating agency of COMB and as a party to the JPA Agreement.](#)
- C. On August 28, 2018, the Parties, the Improvement District and COMB entered into an agreement entitled, “Cachuma Operation and Maintenance Board Joint Powers Authority Separation Agreement” (“Separation Agreement”), wherein the parties thereto agreed to resolve prescribed disputes and issues, including the Improvement District’s stated request to withdraw from the JPA Agreement. (A copy of the Separation Agreement is attached hereto and incorporated herein by reference). Specifically, pursuant to the Separation Agreement, upon the Improvement District’s satisfaction of certain conditions, the Parties agreed to take all required or necessary actions to promptly amend the JPA Agreement to affect and reflect that the departure and separation of the Improvement District as a participating agency of COMB and as a party to the JPA Agreement was effective as of May 27, 2016. As of September 4, 2018, the Improvement District has satisfied those particular conditions under the Separation Agreement, triggering this Second Amendment.

**AGREEMENT**

Pursuant to Section 4.7 of the JPA Agreement, and the provisions of the Separation Agreement, the Parties agree that the JPA Agreement is amended as follows:

Sections 1.1 and 1.2 of Article I are amended to remove the name of the Improvement District as a party to the JPA as of May 27, 2016.

Paragraph (g) of Section 1.3 of Article I is amended to eliminate the reference to the Improvement District, and its authority to vote as a party to the JPA as set forth therein, as of May 27, 2016.

Paragraph (e) of Section 3.5 of Article 3 is amended to eliminate the reference to the Improvement District as of May 27, 2016.

Section 4.1 of Article 4 is amended to eliminate the reference to the Improvement District as of May 27, 2016.

Section 4.5 of Article 4 is amended to eliminate the reference to the Improvement District, and its entitlement to participate in any disposition of the assets of the Cachuma Operation and Maintenance Board as set forth therein, as of May 27, 2016.

This Second Amendment Agreement may be executed by the Parties in separate counterparts, each of which when so executed and delivered shall be an original, but in all such counterparts together shall constitute but one and the same instrument.

The JPA Agreement, shall remain in full force and effect, except as hereby amended.

IN WITNESS WHEREOF, the Parties hereto have executed this Second Amendment Agreement as of the day and year first above written.

CARPINTERIA VALLEY WATER DISTRICT

By: \_\_\_\_\_

Attest:

\_\_\_\_\_  
Secretary

MONTECITO WATER DISTRICT

By: \_\_\_\_\_

Attest:

\_\_\_\_\_  
Secretary

GOLETA WATER DISTRICT

By: \_\_\_\_\_

Attest:

\_\_\_\_\_  
Secretary

CITY OF SANTA BARBARA

By: \_\_\_\_\_

Attest:

\_\_\_\_\_  
Clerk

Approved as to form:

\_\_\_\_\_, City Attorney

By: \_\_\_\_\_

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Joel Degner, Elijah Papen
Approved by:	Janet Gingras

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**SUBJECT:**      **Annex to Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan**

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**RECOMMENDATION:**

The Board approve submission of the COMB Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan to the Santa Barbara County Office of Emergency Services (SBCOES), California Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA) for review and approval.

**SUMMARY:**

The purpose of a Hazard Mitigation Plan (HMP) is to identify policies and actions that can be implemented to reduce risk and future losses from disasters. HMPs create a framework for risk-based decision making to reduce damage to lives, property and local economies by focusing resources on the greatest risks and vulnerabilities. State, local and tribal governments benefit from HMP adoption in the following ways:

- Creating a more disaster-resistant and resilient community.
- Accruing points under the National Flood Insurance Program's Community Rating System (CRS)
- Gaining access to hazard mitigation assistance programs and funding, including Hazard Mitigation Grant Programs, Pre-Disaster Mitigation, Flood Mitigation Assistance and Severe Repetitive Loss Grant Programs.



COMB has prepared a draft Annex to the 2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan which covers specific hazards and potential mitigation actions within our area of responsibility. We have received a letter from the Director of the County of Santa Barbara Office of Emergency Management, which is the lead agency for the development and coordination of the local HMP, in support of the inclusion of COMB's annex.

The next steps to be undertaken are outlined below in the process for approval:

- 1) COMB Board approve submittal to SBCOES for review.
- 2) SBCOES will forward draft plan to CalOES for review.
- 3) CalOES will forward the draft plan to FEMA for approval.
- 4) COMB will receive a conditional approval notice from FEMA.
- 5) COMB will present conditional approval notice to Board of Directors for plan adoption through a Board resolution.
- 6) COMB will submit the Board Resolution to FEMA for final approval.

Normally this process for approval takes about one year, however, CalOES and FEMA may be able to fast track the process (~90 days). The plan will expire when the County's plan expires in 2020, at which point the County will initiate the planning process to update the HMP.

Additionally, COMB has submitted a Hazard Mitigation Grant Program (HMGP) Project Sub-application for the Sycamore Canyon Slope Stabilization Project. One of the eligibility criteria for receiving HMGP funding is that the sub-applicant must have a FEMA approved and adopted Local or Multi-Jurisdictional Hazard Mitigation Plan at the time of the award. If the annex to Santa Barbara County's HMP is approved by the state and FEMA before the time of the HMGP Project award, COMB will be eligible to receive HMGP funding for the Sycamore Canyon Slope Stabilization Project, as well as other important projects and project types outlined in the draft annex.

**COMMITTEE STATUS:**

The Operations Committee reviewed the COMB draft Annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan and forwards the Plan to the Board with a recommendation to submit the plan through the applicable process for final approval by FEMA.

**LIST OF EXHIBITS:**

1. Cachuma Operation and Maintenance Board Annex to the 2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

**Cachuma Operation and Maintenance Board  
Annex to the 2017 Santa Barbara County  
Multi-Jurisdictional Hazard Mitigation Plan**



Submitted to CalOES and FEMA

by

Cachuma Operation and Maintenance Board

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# CACHUMA OPERATION AND MAINTENANCE BOARD

## 17 INTRODUCTION

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### 17.1 BACKGROUND

Throughout the United States, natural disasters have led to increasing levels of death, injury, property damage, and interruption of business and government services. During the last decade, wildfires, severe drought, and natural disasters within the Lake Cachuma watershed and the South Coast of Santa Barbara County have devastated life, property and the natural environment. The long term impacts of these natural disasters on water supply and water quality are still under investigation. To respond and recover from these natural disasters subsequently impacts financial resources that otherwise would be dedicated to other important programs of work within the Cachuma Project system.

Hazard mitigation is defined by FEMA as “any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.” For the purposes of this plan, hazards include only natural hazards. A “hazard” is defined by FEMA as “any event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other losses.” Effective mitigation begins with identifying the threats and hazards that could affect a community and determining the associated vulnerabilities and consequences. Understanding risks makes it possible to develop strategies and plans to manage them. The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses.

The Directors of the Cachuma Operation and Maintenance Board (COMB) recognize the need to address, prepare and mitigate for natural disasters within the watershed and the Cachuma Project system to protect life-line water conveyance structures and safeguard valuable resources. Emergency preparedness will ensure a prompt response to hazardous scenarios for the protection of public safety and financial stability. In short, COMB is interested in hazard mitigation planning in an effort to reduce or eliminate the long term risk to human life and property caused by natural hazards.

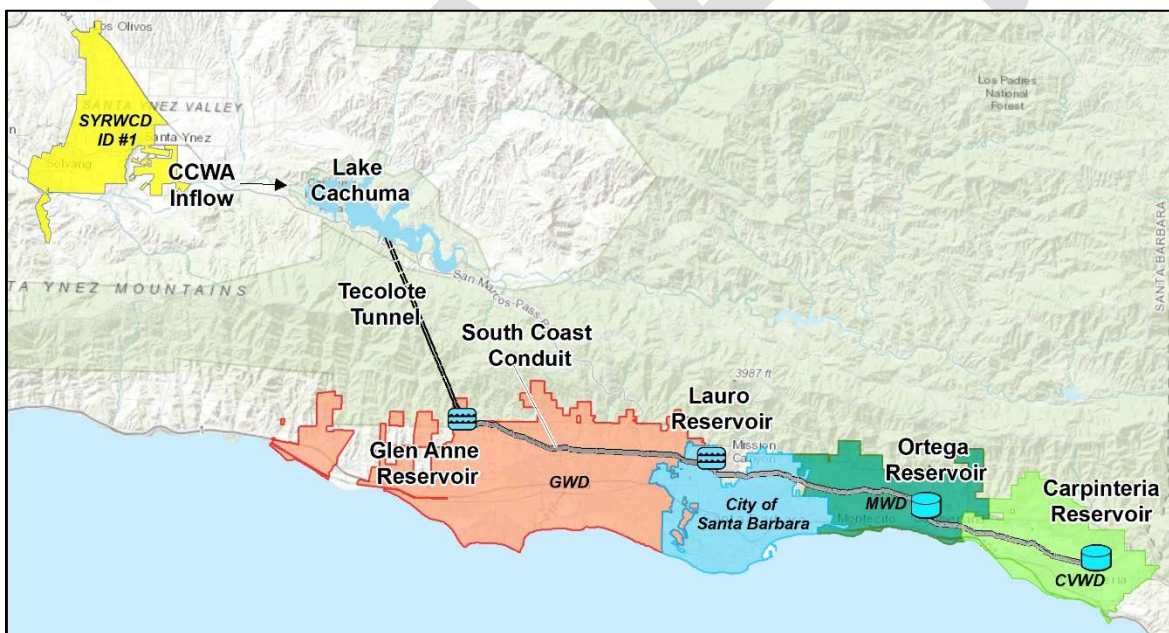
### 17.2 STUDY AREA

Lake Cachuma, through the Tecolote Tunnel serves as the primary source of water for the South Coast of Santa Barbara County (Figure 17-1). Water from the lake is allocated among five water districts; City of Santa Barbara, Goleta Water District, Montecito Water District, Carpinteria Valley Water District and the Santa Ynez River Water Conservation District, Improvement District No. 1 (ID No. 1). ID No. 1 receives their lake water through an exchange agreement with the South Coast Member Agencies and others who participate in the State Water Project delivered by the Central Coast Water Authority (CCWA). The CCWA pipeline passes through the Santa Ynez Valley and terminates at Lake Cachuma. The South Coast member units receive their water via the North Portal Intake Tower, which carries water through the Tecolote Tunnel

to the South Coast Conduit (SCC) and the Goleta West Conduit. COMB operates and maintains the SCC conveyance system. The water is normally gravity fed from the lake into the Intake Tower, but in years of severe and persistent drought when the lake level has receded below the lowest gates of the Intake Tower, an Emergency Pumping Facility is installed.

The COMB Hazard Mitigation Plan (HMP) Annex study area includes Lake Cachuma, as well as the SCC conveyance system and associated balancing reservoirs located on the South Coast and maintained by COMB. Lake Cachuma reservoir is owned and operated by the U.S. Bureau of Reclamation (Reclamation). Reclamation holds the water permits issued by the State Water Resources Control Board (SWRCB) on behalf of the United States for diverting water from the Santa Ynez River for the Cachuma Project. COMB, as the agency that operates and maintains the Cachuma Project facilities, has taken the lead role in developing the HMP annex.

This plan is intended to document the process that Cachuma Operation and Maintenance Board uses to improve its disaster resiliency and to meet regulatory requirements, including the Disaster Mitigation Act of 2000 (DMA 2000), its amendments and regulatory implementation as well as potential eligibility for Pre-Disaster Mitigation Grants (PDM) and the Hazard Mitigation Grant Program (HGMP) funds should they be required.



**Figure 17-1. Map of Cachuma Project Facilities**

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### 17.3 PLAN PURPOSE

Authority to create this Plan is derived from the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000 (DMA 2000). The requirements and procedures for mitigation plans are found in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201 and the associated Interim Final Rule changes. The federal law and associated rule changes and regulations establish planning and funding criteria for states and local communities.

- Enhance Public Awareness and Understanding – to help the communities on the South Coast better understand the natural hazards that threaten safety and welfare; economic vitality; and the operational capability of critical infrastructure;
- Create a Decision Tool for Management – to provide information that managers and leaders of local government, business and industry, community associations, and other key institutions and organizations need to take action to address vulnerabilities to future disasters;
- Promote Compliance with State and Federal Program Requirements – to ensure that COMB can take full advantage of state and federal grant programs, policies, and regulations that encourage or mandate that local governments develop comprehensive hazard mitigation plans;
- Enhance Local Policies for Hazard Mitigation Capability – to provide the policy basis for mitigation actions that should be promulgated by participating jurisdictions to create a more disaster-resistant future;
- Provide Inter-Jurisdictional Coordination of Mitigation-Related Programming – to ensure that proposals for mitigation initiatives are reviewed and coordinated among the participating jurisdictions within the County;
- Achieve Regulatory Compliance – To qualify for certain forms of federal aid for pre- and post-disaster funding, local jurisdictions must comply with the federal DMA 2000 and its implementing regulations (44 CFR Section 201.6). DMA 2000 intends for hazard mitigation plans to remain relevant and current. Therefore, Local plans (including Santa Barbara County's) are updated every five years. This means that the Hazard Mitigation Plan for COMB uses a "five-year planning horizon". It is designed to carry the COMB through the next five years, after which its assumptions, goals, and objectives will be revisited and the Plan resubmitted for approval.

The intent of this plan is to identify potential hazards within COMB's area of responsibility, assess vulnerability and risk on assets, implement adequate measures to reduce losses from natural disasters, and to ensure that critical services and facilities which sustain the South Coast communities of Santa Barbara County will continue to function after a natural disaster.

The purpose of developing a HMP is to initiate and eventually implement constructive projects to achieve the plan's stated goal of hazard mitigation. Some of the projects currently being

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considered include the construction and installation of the Emergency Pumping Facility which will address delivering water from declining reservoir levels due to drought, slope stabilization/seismic assessments and subsequent design plans related to mitigating earthquake damage, and protect availability of supplies due to failing infrastructure, in addition to other projects listed within the document. Each of these projects will be designed to mitigate one or more of the potential hazards known to occur within this area. The plan will be reviewed on an annual basis and may be periodically updated to include additional relevant projects as they are added to approved COMB capital planning documents, described in section 17.6 Plan Maintenance below.

## 17.4 PLANNING PROCESS

### 17.4.1 Regional Planning Process

The planning process undertaken for creating the COMB HMP Annex is based on previous work from two separate processes, (1) the regional planning process, and (2) the local planning process. The first process is the County of Santa Barbara's Office of Emergency Management development of the 2017 Multi-Jurisdictional Hazard Mitigation Plan (HMP), which identifies major hazards within the county. The planning process for the Santa Barbara County HMP incorporated the following steps:

- Plan Preparation
  - Form/Validate planning team members
  - Establishing common project goals
  - Setting expectations and timelines
  
- Plan Development
  - Validate and revise the existing conditions/situation within planning area; the Capabilities Assessment and Hazard Assessment Sections in the HMP
  - Develop and review the risk to hazards (exposure and vulnerability) within the planning area; the Vulnerability Assessment Section in the HMP
  - Review and identify mitigation actions and projects within the planning area; the Mitigation Strategy in the HMP
  
- Finalize the Plan
  - Review and revise the plan
  - Approve the plan
  - Adopt and disseminate the plan

While COMB did not participate in the initial 2017 Santa Barbara County Multi-Jurisdictional Local Hazard Mitigation Planning process, COMB has been invited to join the existing plan by participating in a coordinated process to provide an annex to the County's approved 2017 Local Multi-Jurisdictional HMP. COMB has participated in Santa Barbara County Emergency Operational meetings and trainings which are held to educate, inform and collaborate with local governmental and emergency personnel on potential disasters. In addition, COMB incorporates hazard mitigation into its regular planning and budgeting processes, informed by participation in

regional coordination meetings with local, county, state and federal partners. Public outreach for the overall plan has been provided by Santa Barbara County and is described in Section 3.4 for this annex.

It should be noted that COMB is not eligible to participate in the NFIP, and there are no NFIP repetitive loss properties. Instead, please refer to the County of Santa Barbara Local Hazard Mitigation Plan.

#### 17.4.2 Local Planning Process

COMB was provided a letter of support by Santa Barbara County Office of Emergency Management in July 2018 to prepare an Annex to the Santa Barbara County Multi-Jurisdictional Plan. The annex identifies and assesses potential hazards in order to prioritize appropriate and reasonable mitigation strategies, and to facilitate coordination with external stakeholders. COMB created an internal planning team consisting of key management and supervisory staff tasked with drafting the preliminary plan, reviewing and updating components, and coordinating with Member Agencies in order to produce this COMB HMP. Internal planning participants and their positions are shown in Table 17-1 below. In addition to the internal planning team process, COMB provided an opportunity for the local water agencies that are members of COMB (City of Santa Barbara, Goleta Water District, Montecito Water District, and Carpinteria Valley Water District) to be involved in the process by reviewing draft sections of the plan and providing input on mitigation actions in September 2018. Subsequently, a subcommittee of the COMB Board of Directors will review the plan.

**Table 17-1. Agency Internal Planning Team**

Name	Position/Title
Janet Gingras	General Manager
Edward Lyons	Administrative Manager/CFO
Joel Degner	Water Resources Engineer
Tim Robinson	Senior Resource Scientist
Dave Stewart	Operations Division Manager
David Flora	Operations Division Foreman
Elijah Papen	Program Analyst

During the past several years, extensive field investigation and analysis has been performed by external engineering consultants to inform and produce three reliability studies on the SCC. The focus of these investigations was to assess the condition, reliability, and capacity of the SCC and to identify alternatives to increase the reliability of the asset. Included in these studies were aerial surveying and mapping, field reconnaissance, pipe pressure analysis, hydraulic modeling and surge potential, geotechnical assessments, initial corrosion examination, and an alternatives analysis. In addition to these documents, the Bureau of Reclamation continually updates their Standard Operating Guidelines and Emergency Action Plan for the Cachuma Project facilities, which was also used as a resource for developing the COMB HMP.

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## 17.5 PLAN MAINTENANCE

Cachuma Operation and Maintenance Board will be responsible for ensuring that this HMP Annex is being monitored. The plan will be reviewed on annual basis to assess progress and needed mitigation actions. Major disasters affecting the County, any legal changes, and/or other events may trigger the need to update this annex before the five-year mark. Operations Division staff will focus on evaluating the HMP annex. The HMP will be updated utilizing the following steps.

- Thoroughly analyze and update the risk of natural hazards in the Planning Area.
- Complete a new Annual Review Questionnaire and review previous survey.
- Provide a detailed review and revision of the mitigation strategy.
- Prepare a new mitigation action plan with input from the local water agencies affected by the plan.
- Prepare an updated draft HMP and submit it to the County of Santa Barbara, Cal OES and FEMA for preliminary review and approval.
- Submit the updated draft HMP to the Board of Directors for adoption.
- Submit the updated HMP to FEMA for final approval.

## 17.6 CAPABILITY ASSESSMENT

COMB identified current capabilities and mechanisms available for implementing hazard mitigation activities. This section presents a discussion of the roles of key departments, administrative and technical capacity, fiscal resources, and summaries of relevant planning documents.

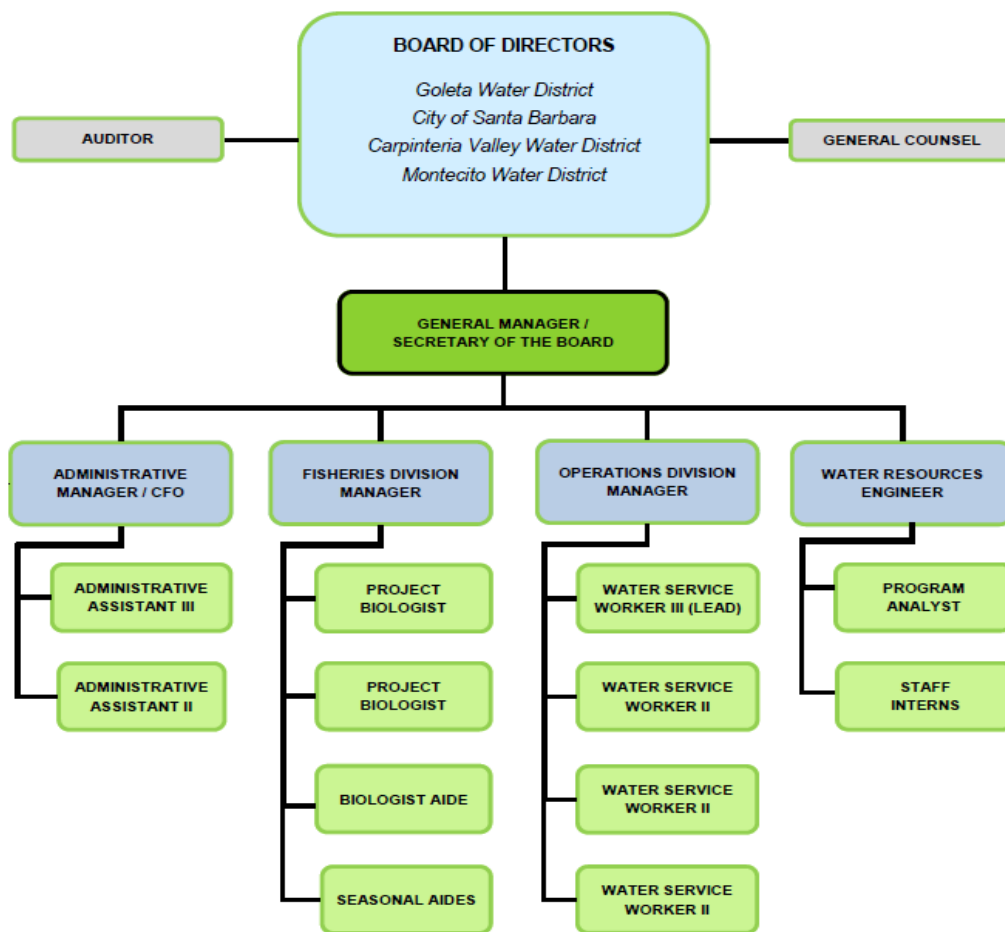
### 17.6.1 COMB Governance and Organizational Structure

On January 1, 1957, the Cachuma Operation and Maintenance Board (COMB) was formed as a Joint Powers Authority (JPA) through an agreement organized by the Cachuma Member Units pursuant to the provisions of Articles 1, 2, and 4 of Chapter 5, Division 7, Title 1 of the California Government Code. The JPA agreement was created to provide for the joint exercise of powers by the Member Agencies for the rights to, the facilities of, and the operation, maintenance and use of the United States, Department of the Interior, Bureau of Reclamation project known as the Cachuma Project, including storage, treatment, transport and appurtenant facilities, and all necessary tangible and intangible property and rights. COMB also has the authority for the financing of costs for the capture, development, treatment, storage, transport and delivery of water. The Governing Board is composed of one publicly elected representative member from each of the governing bodies and is appointed by appropriate action of each governing board to serve on the COMB Board. The appointed Board members are authorized to carry out the provisions of the JPA agreement and any other agreements entered into by the Governing Board. The Board of Directors are responsible for setting policy on matters such as fiscal management and financial planning, Board administration, infrastructure improvements, and long range planning documents. Day-to-day operations are executed by the General Manager who serves at the pleasure of the Board. The General Manager oversees a staff of 12 full time employees including division managers, certified distribution operators, senior biology staff, a

water resources engineer, financial analyst, and administrative personnel. COMB's organizational structure is provided in Figure 17-2.

COMB coordinates closely with the Bureau of Reclamation and Member Agency staff to ensure that water supplies meet daily demands. COMB staff reads meters and accounts for Project water deliveries on a monthly basis, and performs repairs and preventative maintenance on Project facilities and equipment. COMB safeguards Project lands and rights-of-way on the South Coast as the contractor for Reclamation. COMB is responsible for issuing Project water production and use reports, operations reports, fisheries reports, and financial and investment reports which track operation and maintenance expenditures.

## COMB ORGANIZATIONAL CHART



**Figure 17-2. COMB Organizational Structure**

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## 17.6.2 Infrastructure

The majority of Cachuma Project and State Project water flows through the Tecolote Tunnel and 26 miles of pipeline along the south coast of Santa Barbara County to serve the water customers of Goleta Water District, the City of Santa Barbara, Montecito Water District, and Carpinteria Valley Water District. Water from Lake Cachuma is conveyed to the South Coast Member Units through the Tecolote Tunnel intake tower at the east end of the reservoir. The Tecolote Tunnel extends 6.4 miles through the Santa Ynez Mountains from Lake Cachuma to the western terminus of the South Coast Conduit, a concrete pipeline that extends 26 miles from the Tecolote Tunnel outlet to the Carpinteria Valley Water District. COMB is responsible for diversion of water to the South Coast through the Tecolote Tunnel, and operation and maintenance of the South Coast Conduit pipeline, appurtenant facilities, and four regulating reservoirs.

### 17.6.3 Existing Divisions, Plans, Policies and Guidance Documents

#### 17.6.3.1 Technical Capacity

COMB's internal technical staff consists of a Water Resources Engineer who is responsible for hydrologic modeling, project planning and implementation, GIS resources and production, land use and right-of-way management. COMB's Operations Division Manager has extensive large capacity pipeline construction experience and related facility and infrastructure experience. In addition, COMB employs a Senior Resource Scientist who provides environmental documentation review, project planning, and hydrologic analysis. COMB provides the financial resources necessary to contract with expert consultants and engineers on an as needed basis when necessary for protection of assets. COMB's administrative resources include a Chief Financial Officer who is responsible for financial reporting requirements related to the operation of the system.

#### 17.6.3.2 Relevant Plans and Policies

COMB has a range of guidance documents and plans related to operations. With respect to hazard mitigation, the most relevant plans include Reclamations' Standard Operating Procedures and Emergency Action Plans, various phased Reliability Studies for the South Coast Conduit and regulating reservoirs, and an internal draft Infrastructure Improvement Planning document. In addition, the Bureau of Reclamation provides oversight involving annual reviews (1-yr interval), periodic facility reviews (3-year intervals), and comprehensive facility reviews (6-year intervals) and provides recommendations for facility improvements.



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## 17.7 HAZARDS ASSESSMENT

The purpose of this section is to review the identified and profiled hazards in the 2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan (HMP), and confirm which hazards are relevant to the Cachuma Project Facilities.

The Mitigation Advisory Committee (MAC), formed in 2004, is a standing committee that works together throughout the year to discuss and provide input on a variety of activities. The MAC is led by the Santa Barbara County Public Works Department, Santa Barbara County Fire Department, and the Santa Barbara County Office of Emergency Services. In addition, the MAC has representation from all of the local jurisdictions.

The MAC was utilized for the updating of the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan. To assist with this effort, Santa Barbara County Fire Office of Emergency Services hired a consultant to support and assist each jurisdiction to update their Local Hazard Mitigation Plan; contained as an annex in the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan.

### 17.7.1 Hazard Identification

Based on the review of the Santa Barbara County 2017 HMP, incorporating information from other documents (i.e., the California State Multi-Hazard Mitigation Plan), and utilizing local experience and knowledge, below is a list of hazards the MAC has identified as being relevant to Cachuma Project Facilities in Santa Barbara County.

- Drought/Water Shortages
- Flooding/Debris Flows
- Landslides/Other Earth Movements
- Wildfires
- Earthquakes

### 17.7.2 Hazard Screening and Prioritization

The intent of screening hazards is to assist in prioritizing hazards that create the greatest concern in the community. The prioritization of hazards is based on methods used to develop the 2017 Santa Barbara County HMP. A “ranking tool design” prioritizes hazards on two separate factors:

- Probability of hazard affecting community
- Potential impacts of hazard on the community

To further assist with the process, the following definitions of “High”, “Medium”, and “Low” probability and impacts were utilized. A numeric value was applied to the ranking scale allowing for a clear definition between priority hazards and hazards of interest.

**Probability**

- High – Highly Likely/Likely (100% chance will happen every year (3 points)
- Medium – Possible (Chance it will happen every five years (2 points)
- Low – Unlikely (50% chance will happen every 10 years) (1 point)

**Impact**

- High – Catastrophic/Critical: Major loss of function, downtime, and/or evacuations (3 points)
- Medium – Limited: Some loss of function, downtime, and/or evacuations (2 point)
- Low – Negligible: Minimal loss of function, downtime, and/or evacuations (1 point)

Based on the revised list of hazards and utilizing the prioritization approach, the hazards were screened. The results of the assessment are in Table 17-2. The shading of the matrix indicates overall priority level: Red = Tier 1 or 5-6 points; Green = tier 2 or 4 points; and Gray = tier 3 or 2-3 points.

**Table 17-2 Hazard Screening and Ranking**

Rank	High Impact	Medium Impact	Low Impact
High Probability	<ul style="list-style-type: none"><li>• Drought/Water Shortages</li><li>• Wildfires</li></ul>	<ul style="list-style-type: none"><li>• Flooding/Debris Flows</li><li>• Landslide/Other Earth Movements</li></ul>	
Medium Probability	<ul style="list-style-type: none"><li>• Earthquakes</li></ul>		
Low Probability			

## 17.7.3 Hazards

### 17.7.3.1 Drought/Water Shortages

Drought and water shortages are a gradual phenomenon and generally are not signified by one or two dry years. California's and southern Santa Barbara County's extensive system of water supply infrastructure (reservoirs, groundwater basins, and interregional conveyance facilities) can mitigate the effects of short-term dry periods for most water users. However, drought conditions are present when a region receives below-average precipitation, resulting in prolonged shortages in its water supply.



*North Portal Intake Tower during drought conditions with pipeline connection to emergency pumping system*

### *Vulnerabilities and Potential Impacts of Hazard*

The lake comprises an important water source for the community, being the primary source drinking water for five water agencies and 200,000 people living on the South Coast. During periods of sustained drought, lake elevations recede and have gotten as low as 7% historically (2016). The impact of drought on water customers in this area could be great if lake levels reached the minimum pool of 643 feet (12,000 AF) which could impact deliveries. Drought therefore represents a high risk hazard, especially when coupled with unknown variables such as climate change.

Prolonged periods of drought can drop lake levels below the inlet gates at the Intake Tower. The Intake Tower gravity feeds water from Lake Cachuma into the Tecolote Tunnel; however, the ability to gravity feed (normal operations) is lost once the lake level falls below the inlet gates. This impacts both surface water deliveries from the lake, as well as State Water which is delivered via Lake Cachuma, and all supplemental water purchases as Cachuma serves as a critical conveyance facility. In order to maintain access to available water supplies, COMB has requested permission from the Bureau of Reclamation to periodically install a temporary Emergency Pumping Facility (EPF) during drought conditions in order to allow available water supplies to be pumped from a floating platform (pumping barge) to the Intake Tower until sufficient inflow to the lake occurs and reservoir levels return to normal operating conditions. The 36" high-density polyethylene floating pipeline is connected to the lowest inlet gate, Gate 5, and stretched across the lake 3,500' to a floating pumping station, which allows water to be pumped at a low elevation to continue Cachuma Project and State Water Project deliveries to the South Coast communities of Santa Barbara County. If the lake elevation continues to drop, the

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pipeline can be extended an additional 7,000 feet and the barge re-located to another site in order to continue conveyance operations.

Although the EPF allows COMB to continue delivering water to the South Coast users during a drought, installing the EPF is an expensive and temporary fix. The cumulative costs of the implementation and operation of the Emergency Pumping Facility Project during the 2014 to 2017 period was approximately \$8.6 million. A repeat of the 2014-2017 drought would cost approximately \$4.3 million under the current terms of a change order for extended operations. If the EPF is not installed once the lake level falls below the lowest intake gate, or if the drought/water shortage lowers lake levels below the minimum pool (643 feet, 12,000 AF), lake water deliveries would cease, affecting about 200,000 customers on the South Coast.

Beyond water supply, prolonged periods of drought can also impact water quality at Lake Cachuma. When lake levels are low during a drought, vegetation will begin to colonize previously submerged areas. After subsequent large rain events when lake levels increase again, newly established growth becomes submerged and will begin decaying underwater. Declining lake water quality at Lake Cachuma is a growing concern to the Member Agencies of COMB because increasing levels of organic matter make it more difficult to maintain consistent chlorine residual in the system and meet the drinking water standard for trihalomethanes (THMs). While COMB's south coast member agencies are pursuing treatment solutions for their respective systems, there is a shared interest in reducing organic concentrations coming into the treatment plants.

#### *History of Hazard*

The construction of Bradbury Dam began in 1951 and was completed in 1953. The lake first filled and spilled in 1958. There have been two major multi-year dry periods (1987-1991 and 2012-2017) in the history of the lake where the lake elevations receded below the limit of gravity flow requiring an emergency pumping facility (Figure 17-3). In addition, the period when the dam was constructed was a multi-year dry (1951-1957) period and it took several years for the lake to fill. Installation of the EPF has occurred in the past during drought conditions (1990-1991 and 2014-2017), and is anticipated to occur in the future during drought conditions.

#### *Probability of Occurrence*

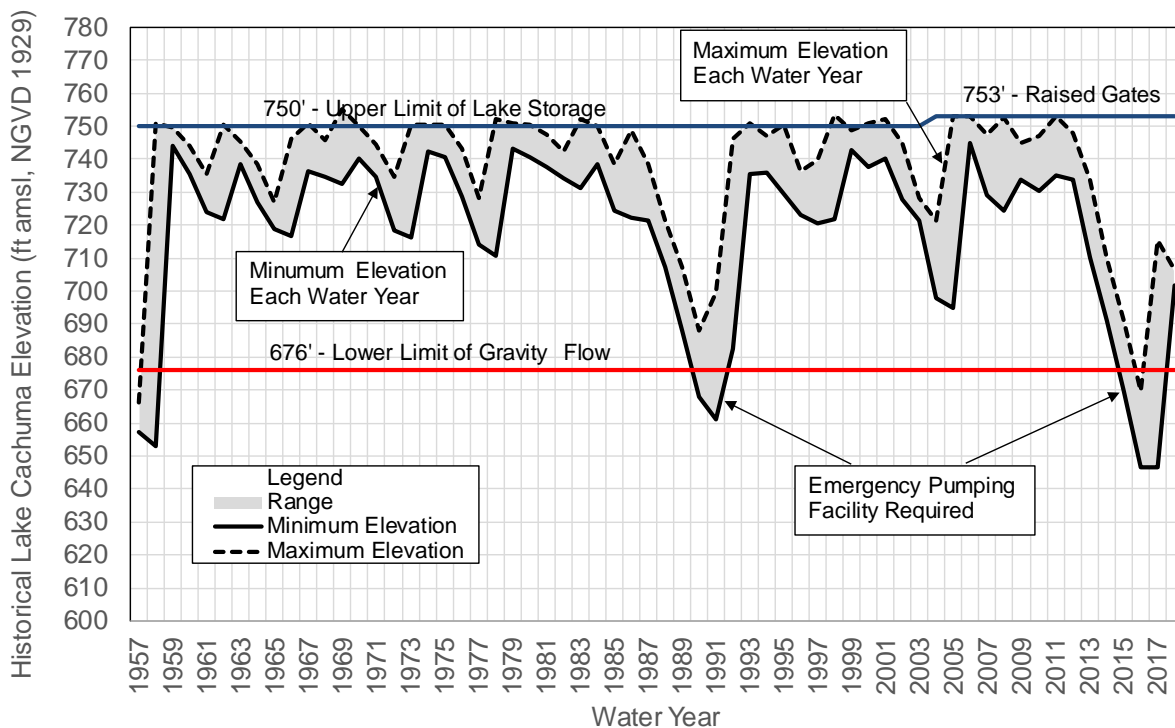
Based on the history of the lake elevations, an emergency pumping system is likely required at least once every thirty years and would be required to be utilized for several years. However, increased downstream release requirements, reduced capacity due to sedimentation, and potential changes in climate will likely require the implementation of the emergency pumping system more frequently in the future.

#### *Climate Change Considerations*

The drought of record for Lake Cachuma began in 2012 and continues as of 2018. The combined last seven years are the driest seven years on record. A recent study of climate change impacts (Swain et al. 2018, UCLA CCS 2018) found extreme dry years will be 2.4 times more frequent.

The drought extremes experienced in the Lake Cachuma watershed in the last decade are likely to continue and potentially worsen due to the effects of climate change. More frequent droughts mean that critical water supplies for the community can be expected to be reduced in the future, that lake deliveries will depend increasingly on an emergency pumping barge, and that water quality issues will be more common.

**Figure 17-3. Lake Cachuma Historical Elevations**



**17.7.3.2 Flooding/Mud-Debris Flows**

A flood is a general and temporary condition of partial or complete inundation on land that is normally dry. Several factors determine the severity of floods, including rainfall intensity and duration, antecedent moisture conditions, surface permeability, and geographic characteristics of the watershed such as shape and slope. Mudflows are defined as flows or rivers of liquid mud down a hillside on the surface of normally dry land. They occur when water saturates the ground, usually following long and heavy rain falls, or rapid snow melt. Mud can form and flows down slope if there is no ground cover such as brush or trees to hold the soil in place. Debris flow is defined when water begins to wash material from a slope or when water sheets off of a newly burned stretch of land. Chaparral



*Damage to SCC vault during 1/9/18 debris flows*

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land is especially susceptible to debris flows after a fire. The flow will pick up speed and debris as it descends the slope. As the system gradually picks up speed it takes on the characteristics of a basic river system, carrying everything in its path along with it.

Other causes of floods can include a ruptured dam or levee, rapid ice or snow melting in the mountains, under-engineered infrastructure, or even a poorly placed beaver dam can overwhelm a river or channel and send water spreading over adjacent land or floodplains.

### *Vulnerabilities and Potential Impacts of Hazard*

Flooding and debris flows are a major risk to COMB assets. In the event of a storm, the South Coast Conduit and Secondary Pipeline are at risk of being exposed and damaged. In February of 2017, severe runoff resulting from a storm event exposed the South Coast Conduit at Sycamore Canyon. When a section of conduit is exposed, it is vulnerable to pipeline failure resulting from structural damage, corrosion, and or additional erosion material sliding over the conduit. A failed pipeline can quickly cause flood damage to the surrounding area, posing a significant risk.

Other susceptible areas include creek crossings and locations experiencing elevated flow during a storm surge. In January and February of 2017, the Quiota Creek Crossing Project was damaged by flood events. Damage to the project includes: several feet of deposition under the precast arch bridge, bank erosion upstream of the bridge, and minor damage to the rock vanes upstream of the project. There are also examples of the South Coast Conduit becoming exposed at creek crossings.

Flooding and debris flows can be exacerbated by wildfires. After a significant wildfire, bare earth is exposed without significant vegetation to stabilize the soil. During the January 9, 2018 debris flow event in Montecito, nine structures along the SCC were impacted with two structures severely damaged. Because wildfires are becoming more common in the Santa Barbara backcountry near COMB assets, the possibility of damaging debris flows is becoming more likely.

Post-wildfire debris flows can also cause sedimentation and water quality issues within Lake Cachuma. Debris flows can introduce large amounts of organic material into surface waters, as well as increased nutrient loading, dissolved organic carbon, major ions, fire-fighting compounds, turbidity, and other compounds present in the watershed. Debris flows accelerate ongoing sedimentation in the reservoirs, effectively reducing storage capacity. Mono and Big Caliente debris dams, located upstream of Gibraltar Reservoir, were constructed to collect sediment. Both debris dams are now full, and Gibraltar Reservoir is significantly reduced in capacity due to sedimentation. As upstream storage continues to be reduced, the sediment loading on Cachuma could increase.

The EPF infrastructure is especially vulnerable during flood events and rapid lake elevation. During installation of the EPF, the first step is driving of piles into the lake bottom to secure the floating pipe. These anchor piles are 45 to 60-foot tall steel H-beams or pipes and are driven to where the elevation at the top of the piles is 700 ft amsl. The pile driving must begin before the lake reaches an elevation of 695 ft amsl. Once the piles are driven, the the working barge must

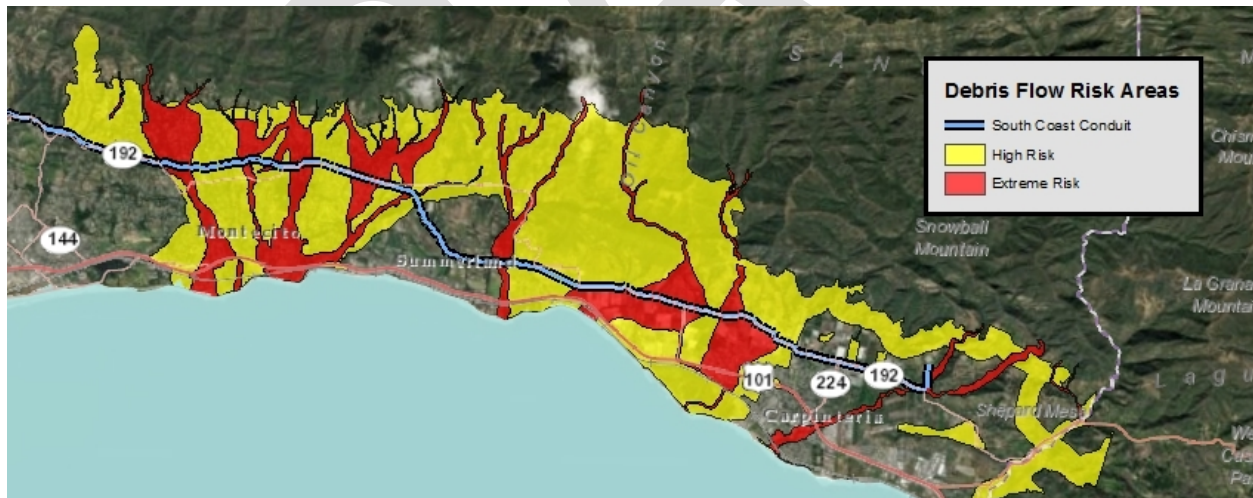
remain on standby during the winter months. During storm events, the reservoir can rise rapidly. In February 2017, the reservoir rose 23 feet in one day at the peak of the inflow. The reservoir nearly rose above the piles before they could be removed. COMB's contractor worked around the clock in the rain to remove the piles before the lake level overtopped the pilings. Within the current design, the requirement to drive the piles well before the pumping barge is needed results in the Emergency Pumping Facility being placed in standby mode for an extended period of time.

### *History of Hazard*

Flooding has been a major problem throughout Santa Barbara County's history. The most common flooding in Santa Barbara County is due to riverine flooding, debris flows, and flash flood events. Between 1862 and the 2014, Santa Barbara experienced 19 significant floods. Eight of these floods received Presidential Disaster Declarations (County of SB 2017).

### *Probability of Occurrence*

In response to the debris flow disaster in Montecito on January 9, 2018, the Santa Barbara County Office of Emergency Management (OEM) has published a map showing high and extreme risk areas for debris flow. Below is a map showing these boundaries in relationship to the South Coast Conduit, the major pipeline maintained by COMB (Figure 17-4). The sections of the South Coast Conduit from Montecito through Carpinteria have the highest risk for debris flow according to OEM findings.



**Figure 17-4. Debris Flow Risk Following the 2017 Thomas Fire**

### *Climate Change Considerations*

A recent study of climate change impacts in California (Swain et al. 2018, UCLA CCS 2018) found extreme wet years would be 2.5 times more frequent in Southern California.

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### *17.7.3.3 Landslide/Other Earth Movements*

Landslides can be defined as the movement of a mass of rock, debris, or earth down an incline. Types of landslides include: rock falls, rock slides, deep slope failures, shallow debris flows, and mud flows. Slope failure occurs when there is erosion of slopes by surface-water runoff. The intensity of slope wash is dependent on the discharge and velocity of surface runoff and on the resistance of surface materials to erosion. The most common cause of a landslide is an increase in the down slope gravitational stress applied to slope materials, also known as over-steepening. Over-steepening can be caused by natural processes or by man-made activities. Undercutting of a valley wall by stream erosion or of a sea cliff by wave erosion are ways in which over-steepening may occur naturally.

#### *Vulnerabilities and Potential Impacts of Hazard*

Similar to debris flows, landslides have the potential to damage critical water delivery structures. In 1995, a slide engulfed the former South Portal structure. Existing slope instability has the potential to cover the South Portal configuration on the Modified Upper Reach Reliability Project, adversely affecting access and causing soil infiltration into the South Coast Conduit. In the 1980s, a portion of the South Coast Conduit was re-aligned in Greenwell Canyon due to landslide and earth movement concerns. In 2005 storms exposed the South Coast Conduit in the Goleta reach which required slope stabilization and drainage improvement. The storms in February 2017 resulted in slope failure in Sycamore Canyon area which exposed the conduit. Additional erosion or slope movement could result in the damage to the conduit and surrounding area.

Landslides around Lake Cachuma and COMB's reservoirs can also impact water quality and sedimentation. Landslides can be triggered by heavy rainfall, snowmelt, reservoir drawdown and seismic activity, especially in the mountainous terrain within the Lake Cachuma watershed. Negative impacts of landslide events to Lake Cachuma and COMB's reservoirs include increased suspended sediment, turbidity, organic material, ions of concern, mercury and other metals of concern found within surrounding soils. Sedimentation within Lake Cachuma has reduced the capacity of Lake Cachuma by 11% and has buried the lowest gate of the Intake Tower, reducing the operational capacity of the reservoir. The Intake Tower and other structures at the North Portal are vulnerable to increased sedimentation resulting from landslides within the watershed.

#### *History of Hazard*

The South Coast Conduit has been subject to landslides along the alignment. The original South Coast Conduit in Greenwell Canyon had to be relocated in the 1980s due to landslide concerns. Landslides also exposed the conduit in the Goleta area requiring extensive measures to stabilize the pipeline. More recently a slope failure in 2017 exposed the conduit in the Sycamore Canyon area. Earth movements have also impacted access roads, such as the access road to the North Portal.

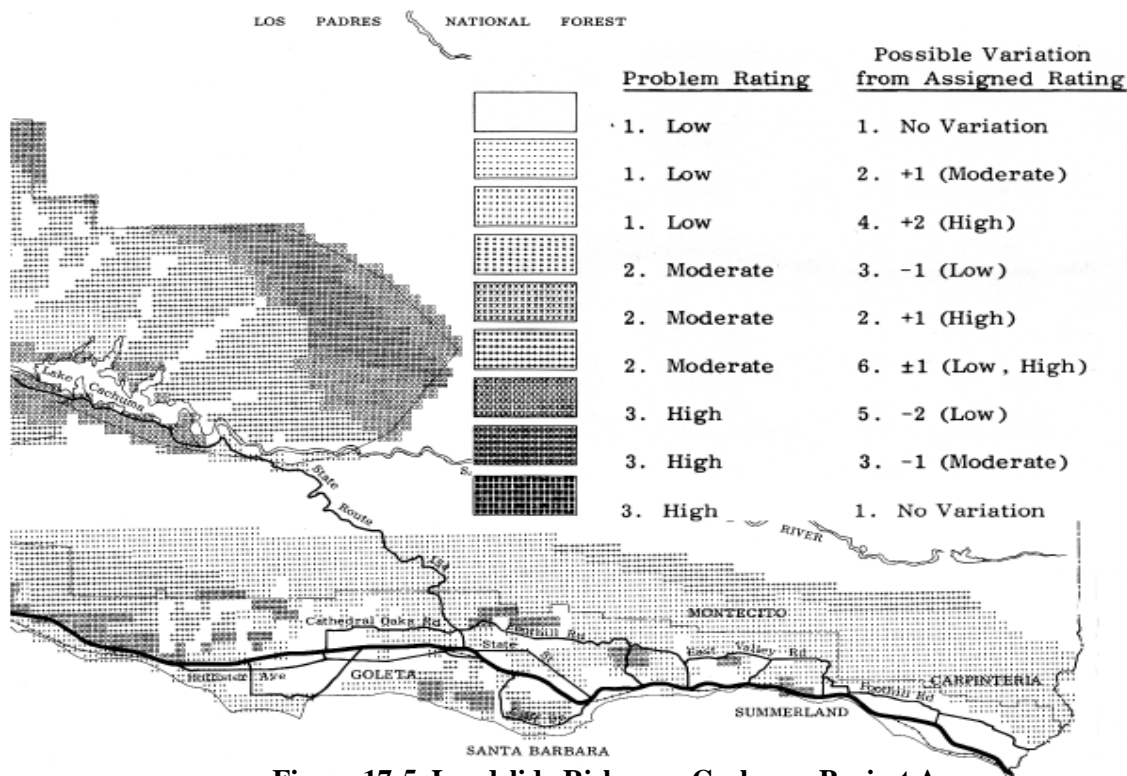


*Probability of Occurrence*

Landslides have the potential to impact the conduit where the pipeline alignment is located along the sides of slopes in the foothills of the Santa Ynez Mountains.

*Climate Change Considerations*

Climate change and associated extreme weather events can directly and indirectly condition landslide activity, frequency, and abundance (Gariano and Guzzetti 2016).



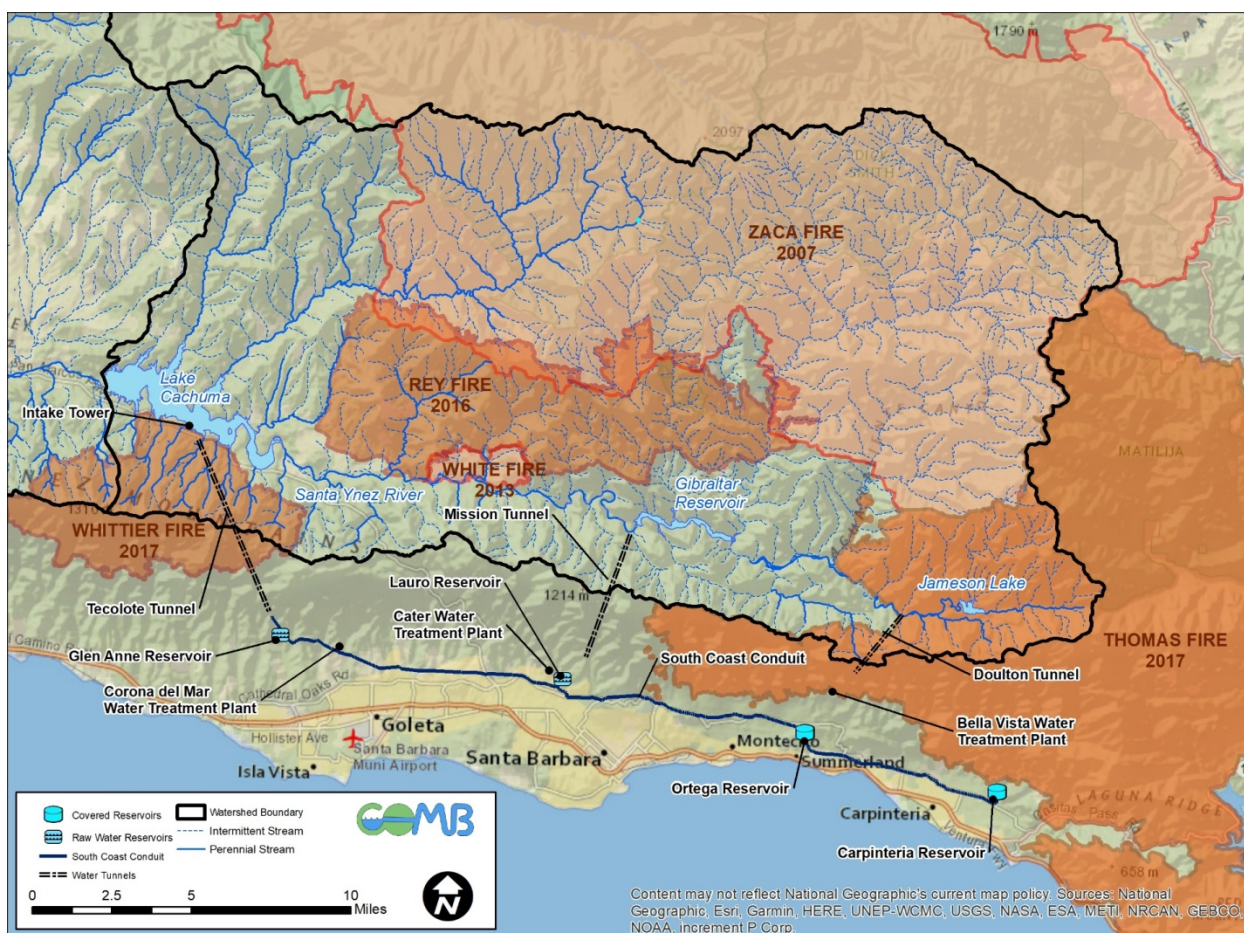
**Figure 17-5. Landslide Risk near Cachuma Project Area**

**17.7.3.4 Wildfire**

Wildfires can be classified as either a wildland fire or a wildland-urban interface (WUI) fire. The former involves situations where wildfire occurs in an area that is relatively undeveloped, while the latter can contain elements of human development, undeveloped wildland and vegetative fuels. Certain conditions must be present for a wildfire hazard to occur; a large source of fuel must be present, the weather must be conducive (generally hot, dry, and windy), and fire suppression sources must not be able to easily suppress and control the fire. The cause of a majority of wildfires is human-induced or lightning.



*Thomas Fire in 2017 advancing down the mountain*



**Figure 17-6. Recent Wildfire Extents within Lake Cachuma Watershed**

*Vulnerabilities and Potential Impacts of Hazard*

One of the primary ways that wildfires impact COMB assets and operations is through water quality hazards, including increased sedimentation. Water quality constituents affected by fires include color, sediment, organic material, suspended material, and turbidity. Subsequent floods and debris flows can entrain large material, which can physically damage infrastructure associated with the beneficial utilization of water (e.g., water conveyance structures; transportation networks). The loss of riparian shading and the sedimentation of channels by floods and debris flows may increase stream temperature. Fire-induced increases in mass wasting along with extensive tree mortality can result in increases in floating material – primarily in the form of large woody debris. Post-fire delivery of organic debris to stream channels can potentially decrease dissolved oxygen concentrations in streams. Fire-derived ash inputs can increase pH, alkalinity, conductivity, and nutrient flux (e.g. ammonium, nitrate, phosphate, and potassium), although these changes are generally short lived.

The original design capacity for Lake Cachuma was 205,000 acre feet. Recent fires within the Lake Cachuma watershed have contributed greatly to siltation within the reservoir.

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Sedimentation has reduced the overall capacity by 11% and has buried the lowest gate of the Intake Tower, reducing the operational capacity of the reservoir. The sedimentation reduces the overall yield of the Cachuma Project and increases the operational costs of delivering water during times of drought. The pumping facility operation during the drought from 2014-2017 increased water delivery costs by \$8.6 million. Lauro and Glen Anne regulating reservoirs are also vulnerable to sedimentation from wildfires.

In addition to water quality and sedimentation issues, wildfires have the ability to burn critical infrastructure in difficult to reach areas. Vulnerable structures include those associated with the North Portal Intake Tower and Tecolote Tunnel, appurtenances to the South Coast Conduit/ laterals/turnouts, structures associated with regulating reservoirs, access roads, and critical equipment/buildings located at organizational headquarters. If any critical structure is destroyed in a wildfire, it could delay operations and may cause complications to delivering water.

### *History of Hazard*

More than half of the Lake Cachuma watershed has been burned by wildfire in the last decade with the Zaca Fire (2007), White Fire (2010), Rey Fire (2016), Whittier Fire (2017), and Thomas Fire (2017). Between the five fires listed, approximately 180,000 acres of the Lake Cachuma watershed has burned. Most recently, the Thomas Fire has destroyed 166 structures, damaged 395 more, and resulted in 21 fatalities due to subsequent debris flow in Santa Barbara County alone.

### *Probability of Occurrence*

Vegetation and topography are the significant elements in the identification of fire threat zones. A substantial amount of the vegetation in Santa Barbara is commonly called chaparral, a dense and scrubby bush that has evolved to persist in a fire-prone habitat. Chaparral plants will eventually age and die; however, they will not be replaced by new growth until a fire rejuvenates the area. Chamise, manzanita and ceanothus are all examples of chaparral which are quite common in Santa Barbara County. Santa Barbara County was subject to 29 major wildfires over 88 years, resulting in a 33% chance of occurrence in any given year.

### *Climate Change Considerations*

Climate change plays a significant role in wildfire hazards. The changing conditions from wet to dry can create more fuel; the increased possibility of high winds increase risk and present a challenge, and drought conditions could hinder ability to contain fires. Large wildfires also have several indirect effects beyond those of a smaller, local fire. These may include air quality and health issues, road closures, business closures, and other forms of losses. Furthermore, large wildfires increase the threat of other disasters such as landslide and flooding. More frequent fires associated with climate change are anticipated to result in increased sedimentation and water quality challenges in the future.

### 17.7.3.5 Earthquake

An earthquake is caused by a release of strain within or along the edge of the Earth's tectonic plates producing ground motion and shaking, surface fault rupture, and secondary hazards, such as ground failure. The severity of the motion increases with the amount of energy released, decreases with distance from the causative fault or epicenter, and is amplified by soft soils. After just a few seconds, earthquakes can cause massive damage and extensive casualties.

#### *Vulnerabilities and Potential Impacts of Hazard*

The North Portal is the north end of the Tecolote Tunnel, a critical point in the water delivery system that is potentially vulnerable to earthquake damage. The North Portal contains several COMB facilities: North Portal Control Station, Tecolote Tunnel Intake Tower and Access Bridge, and the North Portal of the Tecolote Tunnel. Water enters through the 120 foot intake tower, a five-sided structure with a 36 by 48 inch slide gate on each side, into the Tecolote Tunnel and is delivered to the South Coast users. Damage to critical North Portal structures from seismic activity could result in suspended water deliveries to over 200,000 people.



*Damage from the 1925 Santa Barbara earthquake*

The Tecolote Tunnel is 6.4 miles long and passes through the Santa Ynez Fault in the Santa Ynez Mountains. The entire zone of rock visibly affected by the Santa Ynez fault within Tecolote Tunnel is approximately 1,090 feet wide. Movement along the Santa Ynez Fault zone could cause major damage to the Tecolote Tunnel, taking months to repair and to restore water deliveries to the South Coast. In the event of an earthquake resulting in a power outage during a tunnel inspection, a stand-by Caterpillar Diesel generator at the North Portal automatically and instantly starts providing power within seconds for tunnel ventilation blower, gate chamber sump pump, building lights, and elevator.

Earthquakes have the potential to affect the four regulating reservoirs along the South Coast Conduit. Lauro Reservoir Dam underwent a major seismic retrofit in 2005 reduce the potential impacts that earthquakes may have on the dam. Glen Anne Dam has also been taken out service with water no longer being stored in the reservoir due to seismic concerns.

A large earthquake is capable of damaging any existing COMB structure within the buried pipeline network. Seismic failure for large diameter segmented pipeline is primarily due to distress at pipeline joints. With over 26 miles of segmented conduit within the water delivery system ranging from Goleta to Santa Barbara, a large seismic event could cause pipeline failure and structural damage. If a pipeline failure was to occur, life, property and the environment in the area immediately downstream of the break could be threatened until shutoff.

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In addition to direct damage to COMB structures, other vulnerabilities include damage to access roads that COMB uses to access equipment and deploy staff in the field, as well as the potential for utility outages. Currently, COMB has working generators in place at all critical facilities for use in the event of a power outage, but if fuel deliveries are interrupted for significant lengths of time the ability to operate the system would be threatened.

### *History of Hazard*

Seismic events near Santa Barbara County are not historically uncommon. For example, in 1978 a series of small earthquakes occurred underneath the northeastern end of the Santa Barbara Channel. More recently, a 6.5 magnitude earthquake called the “San Simeon Earthquake” had an epicenter just northeast of San Simeon where two fatalities occurred and over forty buildings collapsed, also causing damage to thirty buildings within Santa Barbara County.

A number of dam-safety modifications were constructed at Bradbury Dam between 1994 and 2003 to address potential seismic failure modes. The work included the excavation and replacement of foundation materials in the downstream foundation of the dam, along with construction of a stability berm on the downstream face of the dam to stabilize it, construction of terrace filters on the dam abutments to prevent internal erosion caused by fault rupture in the foundation, reinforcement and stabilization of the spillway crest structure, and reinforcement of the spillway gates. Lauro Dam also underwent seismic retrofits to prevent liquefaction, including enhancement of the water inflow infrastructure to bring the dam up to federal standards for seismic safety.

### *Probability of Occurrence*

Santa Barbara County is located in a high seismic activity zone in the Transverse Range geologic province. Movement of continental plates manifest primarily along the San Andreas Fault system. The San Andreas Fault is situated seven miles northeast of Santa Barbara County; active faults in the San Andreas Fault system that fall within Santa Barbara County include the Nacimiento, Ozena, Suey, and Little Pine faults. Other active faults in the region include the Big Pine, Mesa, Santa Ynez, Graveyard-Turkey Trap, More Ranch, Pacifico, Santa Ynez, and Santa Rose Island faults. Statewide, the rate of earthquakes around Magnitude 6.7 (the size of the 1994 Northridge earthquake) has been estimated to be one per 6.3 years (more than 99% likelihood in the next 30 years); in southern California, the rate is one per 12 years (93% likelihood in the next 30 years).

### *Climate Change Considerations*

To date, no credible evidence has been provided that links climate to earthquakes; however, climate and weather does play a significant role in the response and recovery from earthquakes. Effects from climate change could create cascading complications and impacts.

## 17.8 CRITICAL FACILITIES

Critical facilities that are vital to the delivery of water to the South Coast communities include the following structures in Table 17-3. Table 17-3 also provides the constructions costs for the critical facilities

**Table 17-3. Costs of the Cachuma Transferred Project Works and Member Unit Projects**

Project Components	Construction Cost	Year	2017 Index-Adjusted Cost*
Tecolote Tunnel/Intake Tower	\$14,615,513	1950-1956	\$307,700,000
South Coast Conduit – Goleta Reach	\$2,789,096	1950-1953	\$58,700,000
South Coast Conduit - Carpinteria Reach	\$3,761,224	1950-1953	\$79,200,000
Lauro Regulating Reservoir	\$1,195,933	1951-1954	\$23,600,000
Lauro Dam SOD Modification	\$8,000,000	2005	\$11,500,000
Glen Anne Regulating Reservoir	\$1,148,750	1951-1954	\$22,700,000
Ortega Regulating Reservoir	\$960,943	1951-1954	\$19,000,000
Carpinteria Regulating Reservoir	\$464,218	1951-1954	\$9,200,000
Secondary Pipeline - South Portal to Glen Anne Turnout	\$3,950,000	2011-2012	\$4,700,000
<b>Total</b>	<b>\$36,885,667</b>		<b>\$536,300,000</b>

*\*Index-adjusted costs are estimated by adjusting the construction costs by the ENR historical construction cost index. Replacement costs would likely be greater due to increased design standards and regulatory requirements since the water facilities were completed.*

## 17.9 MITIGATION STRATEGY

### 17.9.1 Mitigation Objectives

Using the 2017 Santa Barbara County HMP as a guideline, COMB reviewed and revised the goals and objectives to reflect the specific hazards and vulnerabilities of COMB managed facilities. The fundamental goals and objectives of this plan are provided in Table 17-4.

**Table 17-4. Goals and Objectives**

Goal 1. Promote Disaster Resiliency for Existing Assets
Objective 1 : Mitigate long-term vulnerability of structures and critical water infrastructure to reduce impacts from hazards
Objective 2: Participate in initiatives that provide mutual hazard mitigation benefits for COMB and the Member Agencies
Objective 3: Continue to identify, prioritize and implement mitigation actions as directed by the COMB Board

**Goal 2. Promote Disaster Resiliency for Future Development Projects**

Objective 1: Facilitate the rehabilitation of current and development of new critical water infrastructure to make the South Coast Water System more resilient

**17.9.2 Mitigation Priorities**

The proposed mitigation actions are shown in Table 17-5 below in order of priority. The priorities are based on the South Coast population that would be impacted by the disruption in water supply if a disaster occurred. A cost-benefit analysis will be performed on a project by project basis for grant funding subapplications utilizing the FEMA Benefit-Cost-Analysis Toolkit.

**Table 17-5. Mitigation Actions**

<i>Project Name/Description</i>	<i>Population Affected</i>
1. Lake Cachuma Emergency Pumping Facility Project	200,000 people with disruption in water supply
2. Sycamore Canyon Slope Stabilization	28,000 people with disruption in water supply
3. South Coast Conduit Creek Crossing Protection Measures	13,000 to 120,000 people with disruption in water supply depending on impacted creek crossing
4. Lake Cachuma Sediment Management	Improves overall supply and could reduce the need for emergency pumping facility

**17.9.3 Implementation Plan**

The mitigation actions will be implemented by the COMB Operations Division. The Emergency Pumping Facility Project would be implemented in Spring 2019 if drought conditions continue. Sycamore Canyon Slope Stabilization project is also planned for implementation in 2019. Several creek crossings which are shallow or exposed are being actively monitored and may require protection measures in the near future. COMB is starting a Water Quality and Sediment Management Study in 2018 which will further refine and prioritize water quality and sediment management actions. In addition, COMB is updating its five-year infrastructure improvement planning for 2020-2024 which will incorporate components of this plan and provide additional projects which would be included in this Annex in a future update.

<b>Action Title</b> Lake Cachuma Emergency Pumping Facility Project
<b>Action Description</b> Lake Cachuma serves as the primary water supply for over 200,000 people in southern Santa Barbara County. The ability to gravity feed the Intake Tower will be lost as the lake level falls below the inlet gates located at the Intake Tower. Lack of rainfall and associated insufficient run-off could potentially lead to need to re-install the Emergency Pumping Facility Project.  An Emergency Pumping Facility Project is needed to allow water to be pumped from a floating platform (Pumping Barge) to the Intake Tower, to allow for continued use of the remainder of reservoir water until sufficient inflow to the lake occurs and reservoir levels return to a normal operating

condition for gravity feed. Initially, a floating HDPE pipeline 3,500 feet in length and 36 inches in diameter is installed in the lake. As lake levels drop, the pipeline needs to be extended an additional 7,000 feet. A similar facility was temporarily installed and operated in the 1990-1991 and in 2014-2017 (the only two examples in the reservoir's history), and the occasional need for such a facility was envisioned when the reservoir was originally designed and constructed in 1953 by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation).

With potential changes in downstream release requirements, potential increase in drought conditions due to climate change, and increased lake sedimentation this system may need to be installed more frequently in the future. The pipeline portion of this system may need to be secured in the lake on a long-term basis to facilitate more efficient use of the project and reduce environmental impacts.

**Relevant Objective**

Objective 2: Facilitate the development of new critical water infrastructure to make the South Coast Water System more resilient.

**Applicable Hazards:** Drought/Water Shortage, Wildfire (Sedimentation)

**Estimate Timeline to Complete:** The project is dependent on the lake levels and drought conditions. The temporary emergency system has been designed, permitted and the key components are in storage. The temporary system can be installed in the lake in 120 days. The pipeline component of the system could be weighted to the bottom of the lake to provide long-term storage of the pipeline for expected higher frequency need of the system. This would reduce the time needed to install the system and reduce the environmental impacts of moving, fusing, floating, and pile driving that is required to install the temporary pipeline. A pipeline weighted with collars would need to be designed and permitted (~6 to 12 months) and could be installed in 2 to 3 months.

**Cost/Funding Source**

The system cost \$8,600,000 to operate from 2014 to 2017. With the key components in storage the system could be reinstalled and operated for a similar period for \$4,300,000 for ~ 2.5 year operation of temporary system.

A one-time cost of \$3,000,000 to \$4,000,000 would be needed to purchase the pipe with appropriate thickness and use weighted collars to store the pipe on the bottom of the lake. This would reduce the future installation time, reduce environmental impacts, reduce future costs, and mitigate against future impacts from sedimentation reducing operational capacity.

COMB Operating Budget/Section 404 Funding

**Action Title**

Sycamore Canyon Slope Stabilization

**Action Description**

Erosion caused by severe runoff in February 2017 has caused exposure of the South Coast Conduit in the Sycamore Canyon section of the system. The exposed portion of the South Coast Conduit is vulnerable to pipeline failure resulting from structural damage, corrosion, and or additional erosion material sliding over the conduit. The downslope creek has also eroded the toe of the slope. Additional erosion during flood events in two areas could expose or damage the conduit. This vulnerability poses a significant risk to system operation.

Sycamore Canyon Slope Stabilization project involves installation slope stabilization measures and drainage improvements. These mitigation measures would prevent future slope failure of the pipeline zone in this area by improving surface drainage, stabilizing the slope slip planes, and preventing future



streambank erosion from undercutting the slope.
<b>Relevant Objective</b> Objective 1: Mitigate vulnerability of structures and critical water infrastructure by restoring the slope, correct the existing drainage issues, and protect the SCC from future damage.
<b>Applicable Hazards</b> – Landslides/Other Earth Movements
<b>Estimate Timeline to Complete</b> – Engineering and geotechnical analysis is complete. Permitting is ongoing (1-2 months). Construction is expected to take 3 months. Total time – 6 months.
<b>Estimated Cost</b> \$500,000 Operating Budget Funding, FEMA 404/406 Funding

<b>Action Title</b> South Coast Conduit Creek Crossing Protection Measures
<b>Action Description</b> Over time the creek crossings for the South Coast conduit have eroded resulting in exposure of the pipeline in some locations. This project would involve mitigating the risks to the conduit by either protecting in place (concrete encasement and channel stabilization) or lowering of the conduit.
<b>Relevant Objective</b> Objective 1 : Mitigate vulnerability of structures and critical water infrastructure
<b>Applicable Hazards:</b> Flooding and debris flows
<b>Estimate Timeline to Complete:</b> Creek crossing protection measures would typically be performed during the late summer when there is minimal to no flow in the creeks. These projects would require additional engineering and permitting (6 to 12 months). Construction of concrete encasement and channel stabilization measures would take 1 month. Pipeline relocation by lowering the conduit would take approximately 2 to 3 months.
<b>Cost/Funding Source</b> \$100,000 (in-stream protection in place) to \$1,500,000 (pipeline relocation) for affected crossings/ COMB Operating Budget/Section 404 Funding

<b>Action Title</b> Lake Cachuma Sediment Management
<b>Action Description</b> Overtime reservoir sedimentation has reduced the capacity of Lake Cachuma. The risk of sedimentation is greatest following large-scale wildfires. Sedimentation has reduced the overall capacity by 11%. Sedimentation has also buried the lowest gate of the Intake Tower reducing the operational capacity of the reservoir.  This project would involve removing accumulated sediment from near the Intake Tower to increase both the overall capacity and operational capacity of the reservoir by restoring the original approach channel to the sill of Gate 5. The sediment could be removed by hydraulic dredging or excavated when the lake bed is exposed. Sediment may be disposed of onsite or transported off-site for disposal. Removing sediment around the intake tower could reduce the need to install the emergency pumping system.
<b>Relevant Objective</b> Objective 1 : Mitigate vulnerability of structures and critical water infrastructure
<b>Applicable Hazards:</b> Flooding/debris flows, Wildfire

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**Estimate Timeline to Complete:** This project requires additional engineering and permitting (~1 year). Construction timing and cost will depend on the lake levels and whether dry excavation could be performed or if hydraulic dredging would be needed. Dredging around the intake tower may take 6 to 12 months and would need to be periodically maintained in the future. Total time (1 to 2 years).

**Cost/Funding Source**

\$1,000,000 (dry excavation) to \$5,000,000 (hydraulic dredging)  
COMB Operating Budget/Section 404 Funding

## 17.10 CONTACT INFORMATION

Comments or suggestions regarding this plan may be submitted at any time to Cachuma Operation and Maintenance Board using the following information:

Janet Gingras, General Manager  
Cachuma Operation and Maintenance Board  
3301 Laurel Canyon Road, Santa Barbara, CA 93110  
JGingras@cachuma-board.org  
805-687-4011

## 17.11 REFERENCES

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# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Joel Degner
Approved by:	Janet Gingras

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**SUBJECT:** San Antonio Creek Blowoff Repair Project (2012-2-35) – Proposal for Construction

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**RECOMMENDATION:**

The Board of Directors approve the proposed labor and equipment costs for the San Antonio Creek Blow-off Repair project; and authorize the General Manager to execute a contract with Cushman Contracting Corporation in an amount not to exceed \$31,200.

**SUMMARY:**

The San Antonio Creek blow-off structure (477+30) was constructed as an addition to the Cachuma Project facilities in 1958. It was constructed to provide a method for water release and draining of Lauro Reservoir during an Emergency Scenario. The structure's purpose is to respond to dam safety considerations or quickly drain the Upper Reach of the South Coast Conduit in the event of a break in pipeline.



The existing structure includes an 18-inch and a 16-inch gate valve with a baffled outlet structure to control the release of water in San Antonio Creek. Both valves are currently frozen in place and inoperable because of age and corrosion. The inoperable condition of the valves prevents regular maintenance. The two valves serve as a lifeline control response to an emergency that would require COMB to drain or reduce the elevation at Lauro Reservoir in response to dam safety considerations. This project has been identified by Reclamation as a Category 2 recommendation.

The San Antonio Creek blow-off structure is twenty-five feet deep and located a quarter mile from the nearest paved road with a dirt access route which crosses San Antonio Creek, making access particularly difficult. COMB hired Flowers and Associates in May 2018 to examine the structure and provide plans and detailed specifications for the repair. Flowers and Associates has completed the evaluation and recommends replacing in kind the two valves, pipe supports, the reducing flange coupling adapter, valve stems extensions and guides, and floor stands. The structure also includes a 3-inch connection to the SCC that is corroded and subject to failure. The design includes installing a welded plate over the 3" pipeline connection and abandoning the pipeline.

In order to be prepared to perform the repair, COMB ordered the 18-inch and 16-inch gate valves in August 2018 and recently received the items. COMB staff is planning to order the additional materials

needed for the repair including the pipe supports, reducing flange coupling adapter, valve stem extension and guides, and floor stands.

The Lateral 3 Blow-off repair project (approved by the Board in August 2017) was scheduled to occur in 2017 but was delayed due to the Thomas Fire and complications from the subsequent debris flows. The Lateral 3 Blowoff Repair Project is now scheduled to occur in late November/early December 2018 and will require up to a 10 day shutdown of the Upper Reach.

The San Antonio Creek Blow-off Rehabilitation Project additionally requires a shutdown and dewatering of the Upper Reach from Corona Del Mar Turnout to the Lauro Control station. Dewatering the Upper Reach of the South Coast Conduit will result in the release of up to 5 million gallons of water (16 acre-feet) and can only be scheduled for low demand winter months. Staff is recommending utilizing Cushman Contracting specifically for this work as outlined in the non-competitive bid justification form attached as an exhibit to this memorandum.

By timing the Lateral 3 Blowoff repair with the San Antonio Creek Blowoff repair, 16 acre-feet of water could be saved. COMB requested a quote from Cushman Contracting Corporation (approved contractor for the Lateral 3 project) for the labor, equipment, and mobilization effort required to perform the San Antonio Creek Blow Repair project with customer supplied materials during the scheduled Lateral 3 Repair shutdown. Cushman provided a quote of \$31,200 for labor and equipment.

**FISCAL IMPACTS:**

The San Antonio Creek Blowoff Repair Project budget for Fiscal Year 2018-19 is \$60,000 for construction. COMB has purchased the materials for the project saving markup costs.

If the San Antonio Creek Blowoff Repair project were to occur in a separate shutdown, the costs would be higher due to the additional mobilization and dewatering activities required by the contractor. A Non-Competitive Bid Justification is provided as an attachment. Normally, proposed project work during a shutdown would be bid together under one contract. However, since the Lateral 3 repair project was delayed, there is an opportunity to also efficiently perform the San Antonio Creek Blow-off Repair Project in the same shutdown. By completing it concurrently utilizing the contractor responsible for the Lateral 3 Repair project under the same shutdown, there is significant savings in both dollars and de-watering costs.

**ENVIRONMENTAL COMPLIANCE:**

The San Antonio Creek blowoff and access structure is located within a park which is owned and operated by the County of Santa Barbara. The U.S. Bureau of Reclamation has an easement through the park for the South Coast Conduit which enables access to the structure. The work will be performed within the vault and will involve replacing structures in kind. Equipment and personnel will access the structure through an existing access route which crosses San Antonio Creek. In this location the creek is generally dry except following large winter storms. Based on communications with the Regional Water Quality Control Board (Regional Board), crossing the creek when dry would not be regulated as long as no dredge or fill is placed in the creek and vegetation is not cleared. The Regional Board requested that we consult with them prior to crossing the creek with equipment if the creek is flowing to implement measures to reduce water quality impacts to the creek. COMB will be utilizing its low threat discharge permit for the implementation of this project.

**COMMITTEE STATUS:**

The Operations Committee reviewed the proposed labor and equipment costs, and the attached Non-Competitive Bid Justification for the San Antonio Creek Blow-off Repair project and forwards to the Board with a recommendation to approve; and authorize the General Manager to execute a contract with Cushman Contracting Corporation in an amount not to exceed \$31,200.

**LIST OF EXHIBITS:**

1. Non-Competitive Bid Justification Form

# CACHUMA OPERATON & MAINTENANCE BOARD

## Non-Competitive Bid (NCB) Justification

**Date:** October 22, 2018  
**To:** Janet Gingras, General Manager  
**From:** Engineering Division  
**Project:** San Antonio Creek Blow-off Rehabilitation Project

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**Complete responses must be provided for all of the following questions:**

***A. Why is the submission of a NCB necessary and what are the determining factors?***

In order to perform the San Antonio Creek Blow-off Rehabilitation Project as part of the upcoming Lateral 3 shutdown this winter, a non-competitive bid is required. The repair work consists of de-watering the Upper Reach of the South Coast Conduit for up to 10 days. Coupling the two projects during the same shutdown will be a cost savings.

A contract with Cushman Contracting to perform the Lateral 3 rehabilitation work was approved by the COMB Board in August 2017. The implementation of the project was delayed due to the Thomas Fire and subsequent debris flows which prevented dewatering of the system during that time. The Lateral 3 project is now scheduled to be performed this winter (2018) within a 10 day shutdown period.

Procuring a separate contractor to work on the San Antonio Creek Blow-off repair project would incur additional costs. The project would have to be delayed and implemented during a future shutdown which would incur additional costs associated with a secondary mobilization, separate dewatering costs, potential safety costs, and the elimination of economies of scale.

The contractor performing the work is required to be involved in the shutdown process, the dewatering procedure, and must be accountable for specific contractor safety measures such as lock-out/tag-out procedures. The projects are similar in nature and require a welder to enter the conduit at each location.

The Lateral 3 repair work needs to be scheduled in early winter when the chance of rain and saturated conditions are minimal. Access to many of the structure locations on the Upper Reach are impassable for vehicles when the soil is in saturated condition and many of the dewatering activities (operating blowoffs and monitoring air vents) would need to be completed on foot.

***B. What are the consequences of not having this NCB approved?***

The San Antonio Creek Repair Project would not be able to be performed concurrently with Lateral 3 shutdown. It would be delayed until later in the winter when the project may be more difficult with increased chances for winter rains, which may require it to be delayed to winter 2019-2020. COMB would not be able to respond as quickly to an emergency that would require COMB to drain or reduce the elevation at Lauro Reservoir in response to dam safety considerations without the functionality of the San Antonio Creek Blowoff. It would require an additional shutdown and release of 5 million gallons of water (16 acre-feet). It would be performed at higher costs due to the additional effort required by the contractor for mobilization of staff, dewatering and shutdown coordination. The Reclamation category 2 recommendation would be postponed one additional year.

***C. How will COMB ensure adequate planning to prevent submittal of NCB's for goods or services that should have been competitively bid?***

Normally, proposed project work during a shutdown would be bid together under one contract. However, since Lateral 3 repair project was delayed by the Thomas Fire, there is an opportunity to also efficiently perform the San Antonio Creek Repair Project in the same shutdown. By completing it concurrently with the contractor responsible for the Lateral 3 Repair project under the same shutdown, there is significant cost savings in both dollars and water. Lateral 3 Repair project was competitively bid. Future projects that could occur during the same shutdown would be coupled and bid at the same time to the extent feasible in the future.

**RESTRICTED CONTRACTOR JUSTIFICATION (NON COMPETITIVE BID)**

**A. PRICE ANALYSIS**

***1. How was the price offered determined to be fair and reasonable?***

COMB is purchasing and supplying the materials for the project which eliminates the contractor markup and reduces the cost for submittal review. The contract is for labor and equipment only which can be estimated based on previous work. An independent estimate of labor and equipment needed for the project was made and the price was determined to be reasonable. In addition, the normal markup for construction projects is 20 percent; however, Cushman Contracting has provided a markup percentage of half the normal markup.

***2. Describe any cost savings realized or costs avoided by acquiring the goods/services from this contractor.***

By completing this work during the Lateral 3 shutdown, there is increased efficiencies by way of reduction in shutdown coordination with the Member Agencies, contractor safety measures, and dewatering activities and costs that would be required if the work was to be performed in a separate shutdown. Performing the work concurrently with the Lateral 3 repair results in a water savings of 5 million gallons or 16 acre-feet.





Mission Statement:

*“To provide a reliable source of water to our member agencies in an efficient and cost effective manner for the betterment of life in our communities.”*

October 22, 2018

**General Manager Report**

The following summary provides the Board with information and an overview of progress on current COMB activities.

Meetings

- Santa Ynez River Flood Forecast Coordination Meeting

In early November, Santa Barbara County Flood Control is hosting an annual pre-winter coordination meeting for the Santa Ynez River Flood Forecast which will include river modeling. The objective of the meeting is to inform stakeholders about the river system, the County’s flood warning system, to provide the FCRiver Forecast modeling overview, review Cachuma Reservoir infrastructure operations and elevations, the Cachuma inflow calculation and discuss the communication plan.

Administration

- Contracts Executed by the General Manager

Under the general procurement guidelines, Section 2 of the COMB Procurement Policy authorizes the General Manager to approve expenditures made for official Agency business up to a maximum of \$25,000, provided such expenditures are within the budget, as adopted by the Agency.

Pursuant to the COMB Procurement Policy adopted by the Board, a quarterly report of all contracts executed by the General Manager for the period of July 1, 2018 through September 30, 2018 is presented for information. All contracts exceeding the authorized limit have been previously presented to and approved by the governing Board through respective Committees.

<b>Table 1</b>				
<b>Contracts Executed by General Manager</b>				
<b>July 1 - September 30, 2018</b>				
<b>Vendor Name</b>	<b>Contract Description</b>	<b>Date Executed</b>	<b>Date Expires</b>	<b>Contract Amount</b>
Filippin Engineering Inc.	General engineering services and design for Quiota Creek Crossing 5	07/23/2018	12/15/2018	\$13,908
Filippin Engineering Inc.	General engineering services and design for Quiota Creek Crossing 9	07/23/2018	12/15/2018	\$13,908
Krazan & Associates, Inc.	Construction testing & inspection services at Quiota Creek Crossing 9	07/23/2018	12/15/2018	\$5,710
AECOM	Engineering oversight of bridge pre-fabrication for Quiota Creek Crossing 9	08/01/2018	12/15/2018	\$8,600
Kenneth A. Knight Consulting, LLC	Arborist services for the Lake Cachuma Oak Tree Restoration Program	08/01/2018	06/30/2019	\$10,000
HDR Engineering Inc.	Engineering services for Fisheries Division (Board Approved)	08/09/2018	06/30/2019	\$135,800
Fugro USA Land, Inc.	Construction materials sampling and testing at Quiota Creek Crossing 5	08/09/2018	12/15/2018	\$7,990
Fugro USA Land, Inc.	Construction materials sampling and testing at Quiota Creek Crossing 9	08/09/2018	12/15/2018	\$7,990
Fugro USA Land, Inc.	Geotechnical Engineering services for Quiota Creek Crossing 5	08/09/2018	12/15/2018	\$4,800
Fugro USA Land, Inc.	Geotechnical Engineering services for Quiota Creek Crossing 9	08/09/2018	12/15/2018	\$4,800
Otis Elevator Co.	Maintenance agreement for North Portal elevator	09/30/2018	09/30/2019	\$499 / month

- Comprehensive Annual Financial Report – FY 2016-17

COMB's Comprehensive Annual Financial Report (CAFR) for fiscal year ending June 2017 was awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association of the United States and Canada (GFOA). The Certificate of Achievement is the highest form of recognition for excellence in the state and local government financial reporting. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. The report must satisfy both generally accepted accounting principles and applicable legal requirements. It is a rarity to achieve certification on the first attempt. I am extremely proud of our Administrative Manager and staff who developed and produced the first Cachuma Operation and Maintenance Board Fiscal Year Ending 2017 CAFR which was awarded the Certificate of Achievement for Excellence by the GFOA.

#### Personnel

- Staff Appreciation Lunch

On September 26<sup>th</sup>, a staff appreciation picnic lunch and boat ride touring Lake Cachuma was held to honor several COMB staff for long term service anniversaries. Included were staff members Scott Engblom, Senior Project Biologist with 20 years of service, Scott Volan, Senior Project Biologist having 18 years of service, Tim Robinson, Fisheries Division Manager with 13 years of service, and Joshua Smith, Water Service Worker II dedicated with 10 years of service. COMB is fortunate to have distinguished members of staff who display professionalism and extreme enthusiasm for their daily work.

#### Operations / Engineer Activities

- CCWA Maintenance Schedule

The Central Coast Water Authority has planned their annual maintenance shutdown scheduled for November 2<sup>nd</sup> through November 19<sup>th</sup> which will eliminate the delivery of State Project Water into the lake during this timeframe. The lake level projections produced by COMB for conveyance planning purposes take into consideration CCWA's planned maintenance shutdown.

- System Scheduled Shutdowns

Staff is coordinating with the Member Agencies to perform a system shutdown to commence work related to the Lateral 3 project and the air vacuum air release valve and blow-off valve rehabilitation projects. Three separate shutdowns are preliminarily scheduled to occur in late November, December and January for completion of important infrastructure improvement project work.

- Arroyo Paredon Bridge Replacement Project - Caltrans

CalTrans is currently working under emergency status with respect to replacement of the Arroyo Paredon Bridge on Highway 192 in the Carpinteria area. Rock slope protection and channel stabilization has been occurring during the past few weeks. COMB operations staff continues to monitor construction activity on a daily basis to ensure the South Coast Conduit is not impacted during the restoration process.

- Sycamore Canyon Slope Stabilization Project

Final engineering designs have been received from Flowers and Associates. Since a potential for FEMA hazard mitigation grant funding exists, staff postponed the solicitation of bids on the project until after the winter season. The operations crew has winterized the site in anticipation of the rainy season. Contractor bids will be solicited during late spring 2019.

Fisheries Division Activities

- Monitoring and BO Compliance

The Fisheries Division staff has conducted all required 2000 BiOp compliance monitoring throughout the month as requested by Reclamation. Specific monitoring tasks have included water quality monitoring, lake profiles, snorkel surveys, target flow monitoring, and photo point documentation.

- Annual Monitoring Reports / Annual Monitoring Summaries

Staff continues to work with Reclamation to complete all Annual Monitoring Summaries (AMS) and Annual Monitoring Reports (AMR) for submission to NMFS by Reclamation. The AMS and AMR document development process is on schedule with the 2015 reports completed through internal review, manager review and sent to the Fisheries Committee members for review and comments. The 2016 reports are scheduled for internal review the week of October 22, 2019.

- Quiota Creek Crossings 5 and 9

The Quiota Creek Crossing 5 and Crossing 9 projects are well under construction and are both on track to be completed by the middle of December. Staff continues to conduct all the required biological monitoring and work closely with the projects' resident engineer on construction oversight.

Respectfully Submitted,

*Janet Gingras*  
General Manager

# CACHUMA OPERATION AND MAINTENANCE BOARD

## MEMORANDUM

**DATE:** October 22, 2018  
**TO:** Janet Gingras, General Manager  
**FROM:** Joel Degner, Water Resources Engineer  
**RE: MONTHLY ENGINEERING REPORT**

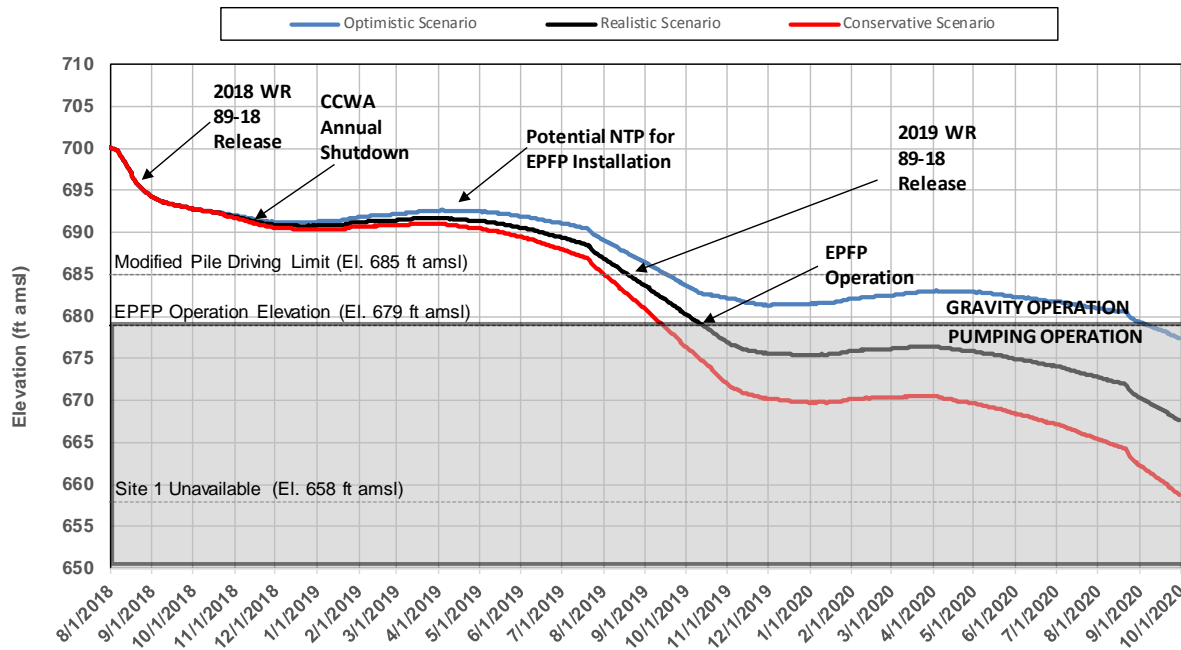
The following summary provides the Board with information and an overview of progress by engineering staff.

### FORECASTED LAKE ELEVATIONS

Engineering staff continues to monitor and model lake elevations (Figure 1). The Lake Elevation Projection Model has been updated with data through October 15, 2018. Updated forecasts for imports/exports from Lake Cachuma were provided by the COMB Member Agencies for two years to allow modeling through September 2020. Based on the elevation modeling, the Notice to Proceed for the installation of the Emergency Pumping Facility would be needed in April 2019 to have the EPFP operational by September/October 2019.

**Table 1. Lake Elevation Projection Scenarios**

Parameter	Optimistic	Realistic	Conservative
SCC Exports	80% of Forecast	Forecast	120% of Forecast
CCWA Inflow	Full Capacity (100%)	90% Full (Forecast)	90% in WY19, 70% in WY20
WR 89-18 Release	8,000 AF	10,000 AF	12,000 AF



**Figure 1. Lake Cachuma Elevation Forecast (as of 10/15/2018) using 2013 Dry Year Hydrology**

Lake importations through Central Coast Water Authority depend in part on the 2019 and 2020 State Water Project (SWP) allocation. Member agencies may have to modify forecasts for importation if there is a limited amount of SWP or supplemental water available. The modeling assumes a downstream release of 8,000 to 12,000 acre-feet in 2019 by Santa Ynez River Water Conservation District (SYRWCD) based on past releases and water available in the Above Narrows Account. The dry-year hydrology is based on Water Year 2013. Evaporation continues to track with the historical median in 2018 (Figure 2). The historical median evaporation was 70 inches from 1958 to 2018. The 2013 evaporation was also 70 inches. Water Year 2013 also had the lowest rainfall and inflow at Lake Cachuma during the past multi-year dry period (2012-2018).

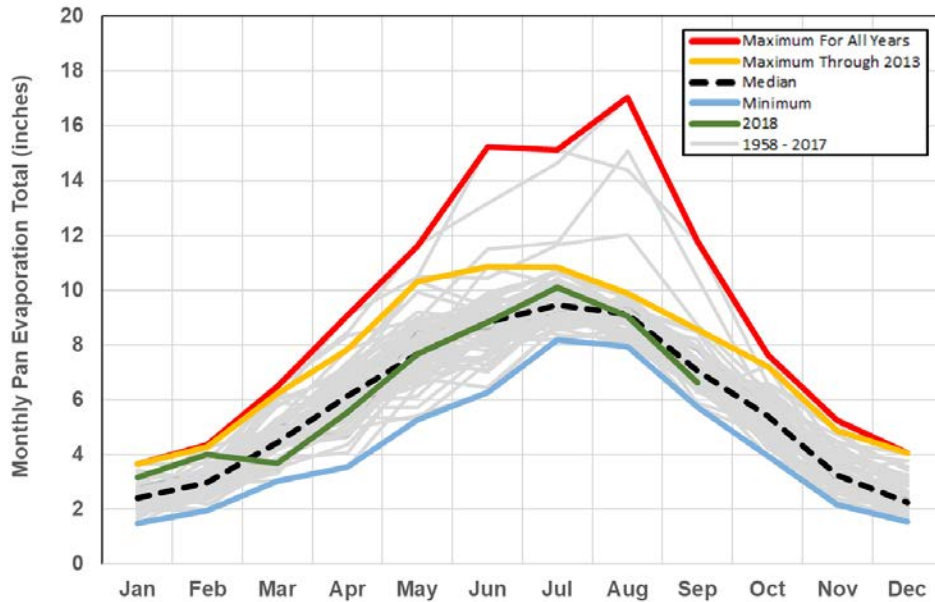


Figure 2. Lake Cachuma Monthly Pan Evaporation Totals

**CLIMATE CONDITIONS**

Santa Barbara County is in severe drought (D2) as of October 9, 2018 according to the United States Drought Monitor. The National Weather Service Climate Prediction Center predicts El Niño is favored to form in the next couple of months and continue through the Northern Hemisphere winter 2018-19 (70-75% chance). (Note: Previously predicted El Nino conditions during the last several years [2012-2018] did not result in above average rainfall for Santa Barbara County). The antecedent moisture index at Gibraltar Dam is at the maximum value of 12.5 which indicates very dry watershed conditions.

**GRANT FUNDING ACTIVITIES**

COMB received notification from CalOES that the Notice Of Interest for the Sycamore Canyon Slope Stabilization was an eligible activity and confirmed a formal invitation to prepare a subapplication for HGMP grant funding. COMB submitted a subapplication for the project on September 4, 2018. COMB staff continues to track Integrated Water Management Plan Proposition 1 Funding and re-occurring Bureau of Reclamation grant funding opportunities.

**INFRASTRUCTURE IMPROVEMENT PROJECT STATUS**

Table 2 provides a summary of the FY 2018-2019 Infrastructure Improvement Projects. The table has been updated according to COMB's 2018-2019 Operating Budget. COMB staff is hosting meetings starting in October with Member Agency staff to develop the 2019-2024 Five-Year Infrastructure Improvement Plan.

**Table 2. Infrastructure Improvement Projects Status**

Infrastructure Improvement Projects	Status / Phase	Complexity / Challenges	Estimated Completion Date
<b>Infrastructure Improvement Projects</b>			
Sycamore Canyon Slope Stabilization	Final designs prepared for COMB's approval. Reclamation is completing NEPA analysis. Project is undergoing environmental review and requires FEMA approval. Bid documents are prepared and plan to be issued in Spring 2019.	Several components (permitting, potential fo winter rains, and grant funding) resulted in a delay of the to 2019.	September 2019
SCC Structure Rehabilitation (AVAR/BO)	Schedule A, B, C work to be completed in FY 2018-2019 (Cater WTP to Barker Pass). Work Plan for Schedule A is complete and submittals review is ongoing. Sites have been visited by contractor. Shutdowns are being coordinated with the Member Agencies.	Work to be completed in low demand months. Two 3-day shutdowns required which need to be coordinated with Member Agencies demands.	May 2019 (Sch. A, B, C)
Lateral 3 Repair	Construction contract in place, parts ordered, repair scheduled for early winter months (Nov-Dec) of FY 2018-2019.	Requires 10-day shutdown in upper reach of the system.	February 2019
Rehabilitate San Antonio Creek Blow-off	Design complete. Required replacement valves have been ordered. Repair planned to be timed with Lateral 3 shutdown in FY 2018-2019 to save water and reduce costs.	The repair requires shutdown in upper reach of the system and is planned to occur during Lateral 3 shutdown.	February 2019
SCC Line Valves for Shutdown	Pre-project planning needed with Member Agencies to confirm potential location. A key determination is if installation can be completed with shutdown or if bypass will be required. Next step is RFP preparation for engineering.	Additional line valves in the SCC could better facilitate planned maintenance activities.	Design by June 2019
SCC Structure Rehabilitation : Lower Reach Laterals	Staff started work with CWWD and CWWD contractor on lateral shutdowns requirements for each lateral. This project will involve a condition assessment and rehabilitation plan for the portions of the Lower Reach laterals under COMB's responsibility.	In order to facilitate shutdowns on the Lower Reach of the SCC, lateral valves may need replacement.	Design by June 2019
<b>Special Projects</b>			
Emergency Pumping Facility Project	Contract and permits in place for re-deployment if necessary. Board approved delay option until the Spring (April). Monitoring forecasts and lake levels closely.	Need highly dependent on lake levels and actual downstream releases. Current design requires long lead time in installation before the barge is utilized.	TBD
Lake Cachuma Water Quality and Sediment Management Study	Contractor has been selected and professional services agreement is being completed. Notice to Proceed will likely be provided in early November.	Recent wildfires will likely result in decreased water quality and increased sedimentation into Lake Cachuma.	March 2020

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**CACHUMA OPERATION AND MAINTENANCE BOARD**

**MEMORANDUM**

**DATE:**        **October 22, 2018**

**TO:**           **Janet Gingras, General Manager**

**FROM:**       **David Flora, Operations Division Lead**

**RE:**           **MONTHLY OPERATIONS DIVISION REPORT**

**Operations – Report Attached**

# MONTHLY OPERATIONS DIVISION REPORT

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OCTOBER 22, 2018

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CACHUMA OPERATION  
& MAINTENANCE BOARD  
*DAVID FLORA*





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# Monthly Operations Division Report

## Introduction

The Operations Division of the Cachuma Operation and Maintenance Board has the responsibility to operate, repair and maintain all Cachuma Project facilities from the Intake Tower at Lake Cachuma to the Carpinteria Reservoir. The Annual Work Plan sets forth all activities necessary to ensure system reliability. Consistent with the Plan, Operation and Maintenance staff performs routine maintenance on the distribution and storage system. Staff continues to improve the system, address deficiencies and identify items to be included in the Infrastructure Improvement Program of work.

## Operations Division is responsible for:

- Adequately regulating and maintaining the diversion of water from Lake Cachuma to the South Coast via the Tecolote Tunnel as the primary water source for 5 communities.
- Operation and maintenance of the South Coast Conduit pipeline, which consist of 26.5 miles of pipeline with a combined 124 blow off and air vent structures, 43 turnout structures and 20 meters.
- Operation and Maintenance of four regulating reservoirs.
- Prompt response to Underground Service Alerts (USA's) within the USBR right-of-way.

## Operations staff regularly performs the following duties:

- Weekly off site inspections of major facilities
- Structure maintenance on all air vent, blow off and turnouts
- Dam inspection and instrumentation reports (all reservoirs)
- Annual exercising of control valves
- Quarterly meter calibrations
- Weekly safety meetings
- Weekly rodent bait (all reservoirs)
- Weekly toe drain and piezometer reads at Ortega (L23)
- USA Dig Alerts – Respond as necessary to alerts
- Pesticide report to County of Santa Barbara
- Operational tests of generators at the North Portal and at Lauro Yard
- Inspection of fire extinguishers
- Read anodes and rectifier data
- Water samples taken at Lake Cachuma
- Clean up, inspection and tool inventory of all vehicles
- Clean up and organize service yard and all buildings

***“Our mission is to provide a reliable source of water to our member agencies in an efficient and cost effective manner for the betterment of our community.”***

## Lake Cachuma Operations

The total flow from Lake Cachuma into the Tecolote Tunnel for September was 1877.6 acre-feet, for an average daily flow of 62.58 acre-feet. Lake elevation was 694.27 feet at the beginning of September and 692.83 feet at the end of September. Storage change decreased 2105 acre-feet. CCWA wheeled 1,230.3 acre-feet of water to Cachuma Project facilities.

## South Coast Conduit Operations

South Coast Conduit - Structure Inventory													
Reach	Endpoints	Linear Length (ft)	Pipe Diameter	Regulating Storage Reservoirs	Meters	Air Vents	Blow-Offs	Turnouts	Open Air Vents	Valves	Valve Size	Slide Gates	Capacity / Volume (gal)
Upper	Glen Annie Turnout (S. Portal) - Cater Water Treatment Plant	64,050	48"	2	5	32	35	18	2	115	4" - 48"	7	6,017,421
Lower	Cater Water Treatment Plant - Carpinteria Reservoir	90,910	27" - 36"	2	15	26	31	42	4	144	4" - 36"	-	3,190,171

- Staff has been on site monitoring several ongoing projects throughout the area, working closely with the construction and engineering contractors to ensure that:
  - Pipeline easements and the right-of-way remain accessible to Operations staff for possible emergencies and ongoing facility maintenance.
  - All projects are following the COMB and USBR approved plans.
  - No damage occurs to the SCC during the construction process.
- Continued daily monitoring of the Arroyo Paredon bridge replacement project located in Carpinteria. Staff has been overseeing the step pool construction process to ensure the safety of the South Coast Conduit. Caltrans / Lash Construction began work June 4<sup>th</sup> removing the bridge which was damaged during the January 9<sup>th</sup> debris flows.
- Completed the winterization at the Sycamore Canyon slide area. The area was damaged by erosion which exposed the South Coast Conduit in 2016. Staff installed 300+ sand bags and 6,000 square feet of vinyl plastic to protect the conduit and the surrounding area from further damage.
- Performed quarterly meter calibrations at the North Portal Control Station, Glen Annie Turn

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Out, Lauro Control Station and Sheffield Control Station.

- Cleaned the valve pits at Ortega Reservoir, Lauro Reservoir, Carpinteria Reservoir, and Sheffield Control Station in preparation for the winter season.
- Obtained the Lake Cachuma monthly water sampling for the City of Santa Barbara staff.
- Began the structure maintenance program focusing our efforts on Zone 5 of the Upper Reach at all blow-offs and air vents that will be utilized or affected during the winter shutdown for the Lateral 3a project. Included in this program is the exercising of all valves, servicing of air vents, repainting of signage, cleaning and re-establishing site access.

<b>Upper Reach Structure Maintenance Focused Area</b>	
Pipe Size - 48" ID	Total Distance - 43,982 FT
Air Vents - 29	Blow Offs - 23

- The Operations department continually inspects all sites, reservoirs, structures and the South Coast Conduit for operational safety, reliability and evaluation for future maintenance projects.

# OPERATIONS PROJECT PHOTOS

## Structure Maintenance



Sycamore Slope Protection



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## On Going Projects & Monitoring

LAT 3A



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**Remove abandoned turnout and reconfigure blow off structure.**

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**PATTERSON AVE.**



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**Patterson Oaks subdivision**

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## **BOULDERS PROJECT**



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**Boulders subdivision**



# CACHUMA OPERATION AND MAINTENANCE BOARD

## BOARD MEMORANDUM

**DATE:** October 22, 2018  
**TO:** Janet Gingras, General Manager  
**FROM:** Tim Robinson, Fisheries Division Manager  
**RE: MONTHLY FISHERIES DIVISION REPORT**

### HIGHLIGHTS:

- USBR continues to deliver approximately 3.5 cfs of Lake Cachuma water to Hilton Creek through the Hilton Creek Watering System (HCWS) which is sustaining the *O. mykiss* population in the creek.
- There was a power outage at Bradbury Dam in the early morning on 10/3/18 that caused the HCWS to shut off. Flow was restored to the creek several hours later. There were no observed *O. mykiss* strandings or mortalities.
- The prefabricated bridge for the Quiota Creek Crossing 9 Project was successfully installed on 10/3/18.

In compliance with the 2000 Cachuma Project Biological Opinion (BiOp) (NMFS, 2000) and as described in the 2004 Lower Santa Ynez River Fish Management Plan (SYRTAC, 2000) and the Monitoring Program in the 2000 Revised Biological Assessment (BA), the COMB Fisheries Division (FD) staff conducts routine monitoring of steelhead/rainbow trout and their habitat on the Lower Santa Ynez River (LSYR) below Bradbury Dam. The following is a list of activities carried out by COMB-FD staff since the last COMB Board Fisheries Division Report and has been broken out by categories.

### LSYR Steelhead Monitoring Elements:

***Thermograph Network:*** The thermograph network is deployed at the beginning of April and picked up at the end of December to record water temperatures at all designated locations within the LSYR mainstem and several tributaries. The thermograph network has been deployed in the LSYR mainstem and its tributaries. Thermographs are downloaded monthly and the results are summarized in the Annual Monitoring Summary.

***Lake Profiles:*** Lake Cachuma water quality measurements (temperature, dissolved oxygen concentration solids and turbidity) at one meter intervals from the surface to the bottom of the lake (Lake Profile) are taken once a month at the Hilton Creek Watering System (HCWS) intake barge. This is considered to be near the deepest point in the lake and allows for monitoring of lake stratification, water quality conditions at the intake level for the HCWS and lake-turnover. Due to the drought and the need to carefully monitor Lake Cachuma, lake profiles are being taken monthly throughout the year and are reported in the Annual Monitoring Summary.

***Snorkel surveys:*** Snorkel surveys for *O. mykiss* and non-native fish are conducted three times a year. The spring and summer surveys have been completed and the fall survey is nearing completion. The results are presented in the Annual Monitoring Summary.

**Cachuma Lake Oak Tree Restoration Program:** COMB staff, with guidance from a hired professional arborist, continues to implement the Program and has successfully conducted all management actions as required. A project update is provided in a separate Board memo.

### **Tributary Project Updates:**

**Quiota Creek Crossing 5:** As discussed and recommended by the COMB Board on 3/7/16, staff submitted a 2016 CDFW-FRGP Grant on 3/11/16 for \$893,287 with a COMB construction match of \$50,000. COMB was awarded the grant and the COMB Board accepted the grant by resolution on 5/22/17. The Board approved by resolution expenditures of funds for the project on 6/26/17. All permits and final designs for the project have been obtained and approved. The construction of the project was solicited for competitive bidding in conjunction with the Quiota Creek Crossing 9 Project. A contract has been awarded to Peter Lapidus Construction and construction began on 7/23/18. A separate Board memo is provided with details of the ongoing project that discusses the project status and financials.

**Quiota Creek Crossing 8:** Funding for this project have been applied for through three separate grant programs. The initial grant was submitted by the County to Caltrans that required a Cooperative Agreement between the County and COMB. The agreement was discussed at the 5/4/16 Fisheries Committee meeting with approval by the Board on 5/23/16 to move forward with the project and the Cooperative Agreement. The County Board of Supervisors approved the Cooperative Agreement on 7/12/16. With a fully executed Cooperative Agreement, the County submitted a CalTrans Federal Highway Administration (CT-FHWA) grant application to fund the project and CalTrans approved the funding for a full bridge replacement. SBCAG approved the project on 11/17/16. A Professional Service Agreement (PSA) for COMB with the County to manage the project was approved by the Board during the 3/27/17 Board meeting and was fully executed on 5/16/17. The Request for Authorization (RFA) has been sent by the County to Caltrans to begin grant expenditures with no response. Caltrans has informed the County that the Federal prioritization for rural bridge replacement projects (the County's pending grant funding) has been stalled due to being 100% oversubscribed with no additional federal allocation, hence the list of truly awarded projects will not be addressed until 2020, suggesting this funding opportunity is on hold.

The second funding opportunity is through a CDFW-FRGP grant application that was submitted on 3/29/18 for \$1,010,700 with a \$50,000 construction match from COMB as approved by the COMB Board during the 2/26/18 Board meeting. On 5/15/18, the CDFW-FRGP Technical Grant Review Team visited the site. They evaluated the technical aspects of the project, scored it, and then will provide their recommendations to the Director of CDFW. The grant award notices will be given during February 2019.

Finally, a third funding opportunity is through a CDFW-Prop 1 grant application that was submitted on 6/12/18 for the exact same project and same amount of money and construction match. CDFW provided notice that the proposal did not meet the administrative evaluation criteria due to a minor oversight.

**Quiota Creek Crossing 9:** COMB was awarded a CDFW-FRGP grant for the Crossing 9 Project for \$993,121 with a \$50,000 COMB construction match. COMB was awarded the grant and the COMB Board accepted the grant by resolution on 2/26/18. The Board approved by resolution expenditures of funds for the project on 4/23/18. All permits and final designs for the project have been obtained and approved. The construction of the project was solicited for competitive bidding in conjunction with the Quiota Creek Crossing 5 Project. A contract has been awarded to Peter Lapidus Construction and construction began on 9/5/18. A separate

Board memo is provided that discusses the project status specifically the bridge installation on 10/3/18 and financials.

***Salsipuedes Creek – Jalama Road Fish Ladder:*** There has been no action on the suggested repairs to this project.

***El Jaro Creek – Cross Creek Ranch Fish Passage Facility:*** There has been no action on the suggested repairs to this project.

**Power Outage at Bradbury Dam:**

Early in the morning on 10/3/18 there was a power outage at Bradbury Dam. COMB Fisheries Division staff were aware shortly after the start of the outage and immediately notified Reclamation (dam tenders and the Fresno office) that the HCWS pumps had shut off resulting in an interruption of flow event to Hilton Creek. The Hilton Creek storage tanks were opened up within one hour of the outage to provide emergency flow to the creek (approximately 0.44 cfs) and keep all pool habitats flowing. Approximately two hours later, Reclamation reestablished flow to the creek through the Hilton Creek Emergency Backup System (HCEBS) on diesel pumps at approximately 3 cfs. The following day Reclamation Activated the HCWS and shut off the HCEBS. There has been no interruptions of flow to the creek since. There were no observed *O. mykiss* strandings or mortalities, although two sculpin were successfully rescued and relocated.

**Hilton Creek Watering System (HCWS) and Emergency Backup System (HCWBS) Repairs and Upgrades plus the Hilton Creek:**

***HCWS and HCEBS:*** The HCWS and HCEBS are owned, operated, and maintained by USBR. The HCEBS was completed at the end of January 2016. With this system fully operational, USBR has now been working on needed repairs to the HCWS with success on getting the pumping system operational and the HCEBS connected to the HCWS to operate if the HCWS shuts down. Currently the HCWS delivers water to the Upper Release Point (URP) while the HCEBS delivers water to the Lower Release Point (LRP). Work is still needed on the HCEBS to meet complete operational design as observed on 10/3/18.

**Surcharge Water Accounting:**

The following table summarizes the amount of surcharge water used to date from each of the three accounts plus project yield at the end of last month (Table 1). All numbers are from USBR's Daily Operations Report. The start time for the use of the Surcharge Water Accounts and Project Yield was 5/27/11, or the day following the last day of full surcharge and end of the last spill event. As of May 2012, all of the fish rearing accounts have been used and USBR is now using Project Yield to meet BiOp target flows. Water Right (WR 89-18) release durations since 2013 are noted as follows: 7/15/13 - 12/2/13, 8/18/14 - 11/11/14, 8/3/15 - 9/26/15, 7/12/16 - 8/29/16, and the most recent release 8/21/17 - 11/8/17. During these releases, no fish rearing releases are debited as WR 89-18 releases are used conjunctively with fish flows under the Cachuma Project Settlement Agreement. The Adaptive Management Committee (AMC) called for two releases from the Adaptive Management Account (AMA), 35 acre-feet in October 2012 and 114 acre-feet in June 2013. The remaining amount in the AMA is 351 acre-feet. There have been no releases from the Fish Passage Supplementation Account (FPSA). Determination of critical drought and the associated accounting and possible usage of the AMA and FPSA during that period have not been finalized and approved (or if those accounts are now replenished from WY2017's runoff) by NMFS and USBR. Therefore they are not reflected in Table 1.

**Table 1:** Summary of the surcharge water accounting and use of Project Yield as of the day after the end of the last spill event and full surcharge (5/27/11).

<b>Accounts*</b>	<b>Allocation</b>	<b>Amount Used**</b>	<b>Amount Remaining</b>
<b>Units:</b>	<b>(acre-feet)</b>	<b>(acre-feet)</b>	<b>(acre-feet)</b>
<b>Fish Passage Supplementation</b>	3,200	0	3,200
<b>Adaptive Management</b>	500	149	351
<b>Fish Rearing***</b>	5,484	5,484	0
<b>Project Yield</b>		23,478	
<b>Total:</b>	<b>9,184</b>	<b>29,111</b>	<b>3,551</b>
* Originally was 9,200 af, 8,942 af in 2008 and 9,184 af in 2013.			
** Values as of 9/30/18.			
*** This water is for meeting required target flows. This is not an official account and is what remains after subtracting the other two accounts.			

**Reporting / Outreach / Training:**

**Reporting:** Staff continues to work on the Annual Monitoring Reports (the USBR report) and the Annual Monitoring Summaries (the COMB report). The first draft of the RPM 6 Report for the 2018 WR 89-18 release has been completed. Staff has been providing information to USBR as requested in support of re-consultation and other operational requests.

**Outreach and Training:** Staff continues to work with Quiota Creek and Salsipuedes Creek watershed landowners, interested parties within the Santa Ynez Valley and the County on a variety of fisheries related issues.

**Consultant Activity Summary:**

**HDR Fisheries Design Center** (Mike Garelo) – Design, reporting and oversight work for the Quiota Creek Crossings 5, 8 and 9 projects.

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Tim Robinson
Approved by:	Janet Gingras

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**SUBJECT:** Update on Fish Passage Improvement Project – Quiota Creek Crossing 5

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**RECOMMENDATION:**

The Board of Directors receives and files an update on the Fish Passage Improvement Project at Quiota Creek Crossing 5.

**SUMMARY:**

***Project Description:*** A 59-foot prefabricated bottomless arched culvert with three wing walls is planned to replace the current concrete low flow crossing at Quiota Creek Crossing 5. The project will remove a fish passage barrier and provide for unimpeded juvenile and adult fish passage for the endangered southern steelhead to NMFS designated critical habitat upstream. The project will also improve road safety and accessibility for the landowners and the public along S. Refugio Road.

***Project Location:*** The nearest town is Santa Ynez. Quiota Creek Crossing 5 is located off of Hwy 246 via Refugio Road 4.7 miles south of Hwy 246. The road is closed at the project site.

***Contractor:*** Peter Lapidus Construction (PLC); the construction contractor who was awarded the competitive bid for \$649,950, was issued a Notice to Proceed on 6/11/18.

***Design Engineer:*** Michael Garelo and Shaun Bevan, HDR Fisheries Design Center.

***Resident Engineer:*** Gino Filippin, Filippin Engineering.

***County Engineers:*** Ron Bensel, Steven Manuel, Eric Pearson, Bert Johnson, and Jemmi Irabon.

***Project Status and Timetable (as of the Board meeting date):***

Status	Time
Notice to Proceed	6/11/2018
Construction start	7/23/2018
Refugio Road closure	7/23/2018
Contract Time (approximate to complete all work)*	4 months
Completion Date and Refugio Road reopened	12/5/2018
Number of construction work days (WD**) (expected)	50
Elapsed Time (WD to the Board mtg)	33
Remaining Time (WDs to complete all work)	17
Time Elapsed (WD) to Date (%)	66%
*Long construction period due to being tied to the QC X9 Project.	
**WD: Working Days.	

**Work Performed to Date:** PLC has completed all of the clearing and grubbing at the site, completely removed the low flow concrete crossing and damaged culvert, excavated both foundations, formed and poured both foundations, has nearly completed all the stream grading and installing rock slope protections around the bridge foundations, installed the bridge, completely back filled the bridge, completed the upstream channel work (rock riffle and bank rock slope protection), and is now backfilling under the bridge and preparing to finish all the stream work next week. ConTech fabricated the arch-bridge system at Bethlehem Construction in Wasco, CA and recently delivery and assisted in successfully installing the bridge on 8/28/18. COMB's resident engineer and County engineers have been overseeing the project during all phases of the construction. The pre-project condition (Figure 1) and current construction efforts (Figures 2-7) are presented as Exhibits. The bridge was successfully fabricated in the fall of 2017 and was stored at the pre-cast location at no cost to COMB until it was installed at the end of August.

**Work Projected for Next Month:** Install rock slope protection under the bridge, complete all stream work, stain and graffiti proof the bridge, install all bridge rail and guardrails, and construct the road.

**FINANCIAL IMPACT:**

A summary of the estimated project costs and available funding for the project (Table 1) and the current expenditures (Table 2) are presented below.

**Table 1:** Estimated project cost and available funds for the project.

	<b>FY 2017-19</b>
<b>Estimated Construction Cost</b>	
Construction Estimate (*)	\$ 836,162
Project Management and Oversight	66,196
Operating Expenses	99,755
<b>Sub Total:</b>	<b>\$ 1,002,113</b>
<b>Available Funding</b>	
CDFW Grant (Operating and Construction)	\$ 893,287
Warren Act Trust Fund FY 2017-18	36,604
Warren Act Trust Fund FY 2018-19	52,500
<b>Sub Total:</b>	<b>\$ 982,391</b>
<b>Balance to be Funded by Member Agencies</b>	<b>\$ 19,722</b>
(*) Includes ConTech Invoice for Bridge System.	

**Table 2: Expenditures to date for the project.**

<b>Estimated Project Costs (all):</b>	\$1,002,113	
<b>Available Funding (all):</b>	\$ 982,391	
<b>Total Expenditure to Date:</b>	<b>FY19</b>	<b>FY17+FY18</b>
ConTech Bridge (delivered + tax) - Invoice 1:		\$ 82,783
ConTech Bridge (delivered + tax) - Invoice 2:	\$ 165,565	
Geotechnical Services (Fugro) - Invoice 1:		\$ 658
Geotechnical Services (Fugro) - Invoice 2:	\$ 3,670	
Resident Engineer - AECOM (fabrication) - Invoices all:		\$ 8,253
Materials Testing - Krazan (fabrication) - Invoices all:		\$ 5,970
PLC - Invoice 1:	\$ 158,850	
PLC - Invoice 2:	\$ 143,075	
PLC - Invoice 3:	\$ 80,795	
Resident Engineer - Gino Filippin (site construction) - Invoice 1:	\$ 1,556	
Resident Engineer - Gino Filippin (site construction) - Invoice 2:	\$ 8,193	
Arborist Services (Ken Knight) - Invoice 1:	\$ 1,300	
Bird Survey (Storror Environmental Services) - Invoice 1:	\$ 810	
Onsite Material Testing (Fugro) - Invoice 1:	\$ 5,065	
Onsite Material Testing (Fugro) - Invoice 2:	\$ 2,744	
Agua-Flo - Invoice 1:	\$ 312	
Tri-Co Reproduction - all invoices:	\$ 100	\$ 473
SWRCB SWPPP Fee:	\$ 221	
Project Site Surveying (Prober Land Surveying):		\$ 1,450
SB County Encroachment Permit Fee:		\$ 25,303
CDFW 1600 Permit Fee:		\$ 4,912
<b>Total Paid:</b>	<b>\$ 572,254</b>	<b>\$ 129,804</b>
<b>Summary:</b>		
<b>% Project Expenditures through 9/6/2018:</b>	<b>70.1%</b>	
<b>Estimated Construction Costs minus Total Expenditures:</b>	<b>\$300,055</b>	
<b>Available Funding minus Total Expenditures:</b>	<b>\$280,333</b>	

**LEGAL CONCURRENCE:**

COMB legal counsel has reviewed and approved the project.

**ENVIRONMENTAL COMPLIANCE:**

All permits have been obtained and are being followed.

**LIST OF EXHIBITS:**

Construction photos:



**Figure 1:** Pre-project condition looking upstream.



**Figure 2:** Backfilling the bridge.





**Figure 3:** Placing rock slope protection upstream of the bridge.



**Figure 4:** Placing foundation scour protection under the bridge.



**Figure 5:** Bridge rail post installation.



**Figure 6:** Berm and oak tree rock slope protection.



**Figure 7:** Preparing the bridge for staining and graffiti proofing.

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Tim Robinson
Approved by:	Janet Gingras

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**SUBJECT:** Update on Fish Passage Improvement Project – Quiota Creek Crossing 9

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**RECOMMENDATION:**

The Board of Directors receives and files an update on the Fish Passage Improvement Project at Quiota Creek Crossing 9.

**SUMMARY:**

**Project Description:** A 60-foot prefabricated bottomless arched culvert with three wing walls is planned to replace the current concrete low flow crossing at Quiota Creek Crossing 9. The project will remove a fish passage barrier and provide for unimpeded juvenile and adult fish passage for the endangered southern steelhead to NMFS designated critical habitat upstream. The project will also improve road safety and accessibility for the landowners and the public along S. Refugio Road.

**Project Location:** The nearest town is Santa Ynez. Quiota Creek Crossing 9 is located off of Hwy 246 via Refugio Road 5.2 miles south of Hwy 246. The road is closed at the project site.

**Contractor:** Peter Lapidus Construction (PLC); the construction contractor who was awarded the competitive bid for \$709,600, was issued a Notice to Proceed on 9/4/18.

**Design Engineer:** Michael Garelo and Shaun Bevan, HDR Fisheries Design Center.

**Resident Engineer:** Gino Filippin, Filippin Engineering.

**County Engineers:** Ron Bensel, Steven Manuel, Eric Pearson, Bert Johnson, and Jemmi Irabon.

**Project Status and Timetable (as of the Board meeting date):**

Status	Time
Notice to Proceed	9/4/2018
Construction start	9/5/2018
Refugio Road closure	7/23/2018
Contract Time (approximate to complete all work)*	3 months
Completion Date and Refugio Road reopened	12/5/2018
Number of construction work days (WD**) (expected)	55
Elapsed Time (WD to the Board mtg)	29
Remaining Time (WDs to complete all work)	26
Time Elapsed (WD) to Date (%)	53%
*Long construction period due to being tied to the QC X5 Project.	
**WD: Working Days.	

**Work Performed to Date:** PLC has completed all of the clearing and grubbing at the site, completely removed the low flow concrete crossing and damaged culvert, excavated both foundations, formed and poured both foundations, successfully installed the prefabricated bridge on 10/3/18, installed the two rock weirs downstream of the bridge, advanced the stream grading and installation of the rock slope protection around the bridge foundations, and completely backfilled the bridge. ConTech completed fabrication of the arch-bridge system at Bethlehem Construction in Wasco, CA on 9/14/18 and assisted with the successful bridge installation on 10/3/18. COMB's resident engineer and County engineers have been overseeing the project during all phases of the construction. The pre-project condition (Figure 1) and current construction efforts (Figures 2-11) are presented as Exhibits.

**Work Projected for Next Month:** Finish all instream work (grading and rock slope projection) upstream, under and downstream of the bridge, install the bridge rail and guardrails, stain and anti-graffiti coat the bridge, and built the road.

**FINANCIAL IMPACT:**

A summary of the estimated project costs and available funding for the project (Table 1) and the current expenditures (Table 2) are presented below.

**Table 1:** Estimated project cost and available funds for the project.

	<b>FY 2017-19</b>
<b>Estimated Construction Cost</b>	
Construction Estimate (*)	\$ 1,035,996
Project Management and Oversight	66,879
Operating Expenses	100,184
<b>Sub Total:</b>	<b>\$ 1,203,059</b>
<b>Available Funding</b>	
CDFW Grant (Operating and Construction)	\$ 993,121
Warren Act Trust Fund FY 2017-18	70,000
Warren Act Trust Fund FY 2018-19	122,500
<b>Sub Total:</b>	<b>\$ 1,185,621</b>
<b>Balance to be Funded by Member Agencies</b>	<b>\$ 17,438</b>
(*) Includes ConTech Invoice for Bridge System	

**Table 2:** Expenditures to date for the project.

<b>Estimated Project Costs (all):</b>	\$1,203,059	
<b>Available Funding (all):</b>	\$1,185,621	
<b>Total Expenditure to Date:</b>	<b>FY19</b>	<b>FY18</b>
ConTech Bridge (delivered + tax) - Invoice 1:		\$ 95,962
Geotechnical Services (Fugro) - Invoice 1:	\$ 1,618	
Geotechnical Services (Fugro) - Invoice 2:	\$ 1,929	
Resident Engineer - AECOM (fabrication) - Invoice 1:	\$ 6,132	
Materials Testing - Krazan (fabrication) - Invoices all:	\$ 3,985	
PLC - Invoice 1:	\$ 29,805	
PLC - Invoice 2:	\$ 65,085	
PLC - Invoice 3:	\$ 273,710	
Resident Engineer - Gino Filippin (site construction) - Invoice 1:	\$ 366	
Arborist Services (Ken Knight) - Invoice 1:	\$ 500	
Onsite Material Testing (Fugro) - Invoice 1:	\$ 3,283	
Agua-Flo - Invoice 1:	\$ 312	
Tri-Co Reproduction - all invoices:	\$ 369	\$ 272
SWRCB SWPPP Fee:	\$ 221	
SB County Encroachment Permit Fee:	\$ 20,303	\$ 10,000
SB County Encroachment Permit Addendum Fee:	\$ 68	
CDFW 1600 Permit Fee:		\$ 5,146
<b>Total Paid:</b>	<b>\$ 407,685</b>	<b>\$ 111,380</b>
<b>Summary:</b>		
<b>% Project Expenditures through 9/12/2018:</b>	43.1%	
<b>Estimated Construction Costs minus Total Expenditures:</b>	\$683,994	
<b>Available Funding minus Total Expenditures:</b>	\$666,556	

**LEGAL CONCURRENCE:**

COMB legal counsel has reviewed and approved the project.

**ENVIRONMENTAL COMPLIANCE:**

All permits have been obtained and are being followed.

**LIST OF EXHIBITS:**

Construction photos:



**Figure 1:** Pre-project condition looking south over the low flow crossing.



**Figure 2:** Completed foundations.



**Figure 3:** Bridge pieces arrive on 10/2/18.



**Figure 4:** Bridge transport up S. Refugio Road over the Quiota Creek Crossing 2 bridge.





**Figure 5:** Navigating a ranch road in route to the project site.



**Figure 6:** Bridge delivery of the first arch passing around the Quiota Creek Crossing 5 Project site.



**Figure 7:** Bridge installation on 10/3/18.



**Figure 8:** Wing wall installation.



**Figure 9:** Extracting delivery trucks with a bulldozer.



**Figure 10:** Backfilling the bridge.



**Figure 11:** Placing scour protection under the bridge.

# CACHUMA OPERATION & MAINTENANCE BOARD

## BOARD MEMORANDUM

Date:	October 22, 2018
Submitted by:	Tim Robinson and Scott Volan
Approved by:	Janet Gingras

**SUBJECT:**                    **Lake Cachuma Oak Tree Restoration Program**

**SUMMARY:**

***Maintenance***

This memorandum on the Lake Cachuma Oak Tree Restoration Program reflects maintenance completed since January, 2018 to the present (1/1/18 – 10/22/18, Table 1). Labor and expenses for the entire fiscal year (July 2017 - June 2018) as well as water usage will be tracked separately and reported as necessary as recommended by the Lake Cachuma Oak Tree Committee. COMB staff continues to rely on the Fisheries Division seasonal employees to conduct the majority of oak tree work in the field. The 2015 Lakeshore Inventory was completed and reviewed by the Lake Cachuma Oak Tree Committee on 2/25/16, which set the mitigation number for the program. The 2017 Annual Inventory and Fiscal Year 2017-2018 Financial Report has been reviewed and approved by the Lake Cachuma Oak Tree Committee with suggested recommendations for the upcoming fiscal year.

**Table 1:** Cachuma Oak Tree Program completed tasks since January, 2018.

	Jan 2018	Feb 2018	March 2018	April 2018	May 2018	June 2018	July 2018	Aug 2018	Sept 2018	Oct 2018
<b>Year 9 Oaks (2016-2017)</b>	Irrigated Weeded	Mulched			Irrigated Weeded	Weeded Roads	Irrigated Weeded		Irrigated Weeded	Irrigated Weeded
<b>Year 8 Oaks (2015-2016)</b>		Mulched	Mulched	Mulched Weeded	Irrigated Weeded	Weeded Roads	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded
<b>Year 7 Oaks (2014-2015)</b>			Mulched Deer Cages	Mulched Weeded		Irrigated Weeded Weeded Roads	Irrigated Weeded	Irrigated Weeded Deer Cages	Irrigated Weeded	Irrigated Weeded
<b>Year 6 Oaks (2010-2011)</b>	Deer Cages	Deer Cages				Weeded Roads	Irrigated*			
<b>Year 5 Oaks (2009-2010)</b>						Weeded Roads	Irrigated*			
<b>Year 4 Oaks (2008-2009)</b>					Deer Cages	Weeded Roads	Irrigated*			Deer Cages
<b>Year 3 Oaks (2007-2008)</b>					Deer Cages	Weeded Roads	Irrigated*			Deer Cages
<b>Year 2 Oaks (2006-2007)</b>						Weeded Roads	Irrigated*			
<b>Year 1 Oaks (2005-2006)</b>						Weeded Roads	Irrigated*			

\*Stressed trees irrigated

Despite receiving an early season rain storm event during the first week of October, antecedent soil moisture remains low and irrigating the oak trees remains the top priority. Two irrigation teams have completed another round of irrigation on the Year 8 and Year 9 trees, and have begun watering the Year 7 trees at Storke Flat. Fisheries Division personnel also recently conducted cage maintenance on the Year 3 and Year

4 trees at Bradbury Dam. Trees that have achieved a height of 6 feet or greater are having their cages removed, while smaller trees are having their infrastructure improved (new cage material, widened cages, etc.).

Mulch is slated for delivery at the end of the month in multiple locations at Storke Flat and Bradbury Dam. Once the rainy season begins in earnest, crews will stop irrigating and focus on spreading mulch on the newer age classes of oak trees.

**RECOMMENDATION:**

For Board information only.

**LIST OF EXHIBITS:**

N/A

**CACHUMA OPERATION AND MAINTENANCE BOARD**  
**METERED USE REPORT FOR SEPTEMBER 2018**

LATERAL/ STATION	NAME	ACRE FEET METERED	LATERAL/ STATION	NAME	ACRE FEET METERED
<b>CARPINTERIA WATER DISTRICT</b>			<b>GOLETA WATER DISTRICT</b>		
Boundary Meter - East		187.38	18+62	G. WEST	105.36
Boundary Meter - West		(1.27)	78+00	Corona Del Mar FILTER Plant	878.30
			122+20	STOW RANCH	0.00
				Raytheon (SWP) (Warren Act Contract)	0.00
				Morehart (SWP) (Warren Act Contract)	(7.00)
				SWP CREDIT (Warren Act Contract)	(409.49)
			<b>TOTAL</b>		<b>567.17</b>
			<b>MONTECITO WATER DISTRICT</b>		
			260+79	BARKER PASS	90.83
			386+65	MWD YARD	63.61
			487+07	VALLEY CLUB	9.72
			499+65	E. VALLEY-ROMERO PUMP	175.98
			510+95	MWD PUMP (SWD)	13.41
			510+95	ORTEGA CONTROL	3.85
			526+43	ASEGRA RD	6.27
			555+80	CO. YARD	0.00
			583+00	LAMBERT RD	0.00
			599+27	TORO CANYON	0.00
				SWP CREDIT (Warren Act Contract)	(363.66)
			<b>TOTAL</b>		<b>0.00</b>
			<b>CITY OF SANTA BARBARA</b>		
			CATER	INFLOW	1272.99
			Gibraltar	PENSTOCK	(202.62)
			CATER	SO. FLOW	(734.76)
			Sheffield	SHEF.LIFT	171.92
				SWP (Warren Act)	(313.92)
				La Cumbre Mutual SWP (Warren Act)	(58.19)
			<b>TOTAL</b>		<b>135.43</b>
			<b>SANTA YNEZ RIVER WATER CONSERVATION DISTRICT, ID#1</b>		
			COUNTY PARK, ETC		2.16
			<b>TOTAL</b>		<b>2.16</b>
			<b>BREAKDOWN OF DELIVERIES BY TYPE:</b>		
			STATE WATER DELIVERED TO LAKE		1220.00
			STATE WATER TO SOUTH COAST (including from storage)		(1338.37)
			<b>METERED DIVERSION</b>		<b>704.75</b>
<b>SWP CREDIT (Warren Act Contract)</b>		<b>(186.11)</b>			
<b>TOTAL</b>		<b>(0.00)</b>			
Note:	Meter reads were taken on: 10/1/2018				

**17-18 CACHUMA PROJECT ALLOCATION**

**CACHUMA OPERATION AND MAINTENANCE BOARD  
WATER PRODUCTION AND WATER USE REPORT  
FOR THE MONTH OF SEPTEMBER 2018 AND THE WATER YEAR TO DATE (WYTD) <sup>(1)</sup>**

(All in rounded Acre Feet)

	<b>MONTH</b>	<b>WYTD</b>
<b>SCC WATER PRODUCTION:</b>		
Cachuma Lake (Tec. Diversion)	1,953.2	18,835.9
Tecolote Tunnel Infiltration	45.7	985.7
Cachuma Lake (County Park)	2.2	22.8
<b>Subtotal - Water Production</b>	<b>2,001.0</b>	<b>19,844.4</b>
<b>SCC WATER DELIVERIES:</b>		
State Water Diversion	1,338.4	15,317.5
Cachuma Diversion	704.8	4,019.8
So. Coast Storage gain/(loss)	(52.0)	(14.6)
<b>Subtotal - Water Deliveries</b>	<b>1,991.1</b>	<b>19,322.7</b>
<b>Total Water Production</b>	<b>2,001.0</b>	<b>19,844.4</b>
<b>Total Water Deliveries</b>	<b>1,991.1</b>	<b>19,322.7</b>
<b>Difference = Apparent Water Loss <sup>(9)</sup></b>	<b>10.0</b>	<b>521.6</b>
% Apparent Water Loss	0.50%	2.63%

**SCC APPARENT WATER LOSS ALLOCATION <sup>(2)</sup>**

	<b>GWD</b>	<b>SB CITY</b>	<b>MWD</b>	<b>CVWD</b>	<b>TOTAL</b>
<b>CURRENT MONTH CHARGE / (ADJUSTMENT) <sup>(2)</sup></b>					
M&I	0.2	1.1	0.0	0.0	1.3
Agriculture	0.1	0.0	0.0	0.0	0.1
<b>Subtotal Cachuma Project</b>	<b>0.3</b>	<b>1.1</b>	<b>0.0</b>	<b>0.0</b>	<b>1.4</b>
(+) State Water Project	0.2	2.5	3.7	2.1	8.5
<b>Total <sup>(9)</sup></b>	<b>0.5</b>	<b>3.6</b>	<b>3.7</b>	<b>2.1</b>	<b>9.9</b>
<b>WATER YEAR-TO-DATE CHARGE / (ADJUSTMENT)</b>					
M&I	9.5	1.1	0.0	37.0	47.5
Agriculture	6.9	0.0	0.0	49.1	56.0
<b>Subtotal Cachuma Project</b>	<b>16.3</b>	<b>1.1</b>	<b>0.0</b>	<b>86.1</b>	<b>103.5</b>
(+) State Water Project	17.3	172.1	202.2	26.6	418.3
<b>Total</b>	<b>33.7</b>	<b>173.2</b>	<b>202.2</b>	<b>112.7</b>	<b>521.8</b>

**CACHUMA PROJECT WATER CHARGE**

	<b>GWD</b>	<b>SB CITY</b>	<b>MWD</b>	<b>CVWD</b>	<b>SYRID #1</b>	<b>TOTAL</b>
<b>CURRENT MONTH</b>						
Water Usage						
M&I	436.7	135.4	0.0	0.0	2.2	574.3
Agricultural	130.4	0.0	0.0	0.0	N/A	130.4
<b>Subtotal Project Water Use</b>	<b>567.2</b>	<b>135.4</b>	<b>0.0</b>	<b>0.0</b>	<b>2.2</b>	<b>704.8</b>
(+) Apparent Water Loss	0.3	1.1	0.0	0.0	N/A	1.4
(+) Evaporative Loss <sup>(3)</sup>	2.3	54.9	21.9	0.3	0.0	79.4
<b>Total Project Water Charge</b>	<b>569.8</b>	<b>191.4</b>	<b>21.9</b>	<b>0.3</b>	<b>2.2</b>	<b>785.5</b>
<b>WATER YEAR-TO-DATE</b>						
Water Usage						
M&I	1,924.1	135.4	0.0	289.3	22.8	2,371.6
Agricultural	1,264.6	0.0	0.0	385.7	N/A	1,650.3
<b>Subtotal Project Water Use</b>	<b>3,188.7</b>	<b>135.4</b>	<b>0.0</b>	<b>675.1</b>	<b>22.8</b>	<b>4,021.9</b>
(+) Apparent Water Loss	16.3	1.1	0.0	86.1	N/A	103.5
(+) Evaporative Loss <sup>(3)</sup>	197.5	573.9	153.5	20.6	0.8	946.4
<b>Total Project Water Charge (*)</b>	<b>3,402.5</b>	<b>710.4</b>	<b>153.5</b>	<b>781.8</b>	<b>23.6</b>	<b>5,071.8</b>

(\*) Project Water Charge is applied first to Carryover Water balance and then to Current Year Water Allocation



**17-18 CACHUMA PROJECT ALLOCATION**

**CACHUMA OPERATION AND MAINTENANCE BOARD  
WATER PRODUCTION AND WATER USE REPORT  
FOR THE MONTH OF **SEPTEMBER 2018** AND THE WATER YEAR TO DATE (WYTD) <sup>(1)</sup>**

(All in rounded Acre Feet)

**CACHUMA PROJECT WATER BALANCE**

	<b>GWD</b>	<b>SB CITY</b>	<b>MWD</b>	<b>CVWD</b>	<b>SYRID #1</b>	<b>TOTAL</b>
<b>Project Water Carryover - 10/1/2017</b>	3,088.0	3,988.0	1,011.0	800.0	16.0	8,903.0
Transfers/Adjustment <sup>(4)</sup>	30.0	0.0	0.0	0.0	0.0	30.0
<b>(-) Project Water Charge (WYTD)</b>	<b>3,088.0</b>	<b>710.4</b>	<b>153.5</b>	<b>781.8</b>	<b>16.0</b>	<b>4,749.7</b>
<b>Balance Carryover Water</b>	<b>30.0</b>	<b>3,277.6</b>	<b>857.5</b>	<b>18.2</b>	<b>0.0</b>	<b>4,183.3</b>
<b>Current Year Allocation <sup>(5)</sup></b>	<b>3,728.0</b>	<b>3,311.0</b>	<b>1,060.0</b>	<b>1,125.0</b>	<b>1,060.0</b>	<b>10,284.0</b>
<b>(-) Balance of Project Water Charge (WYTD)</b>	<b>314.5</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.6</b>	<b>322.1</b>
<b>Net Allocation Available Before Adjustments</b>	<b>3,413.5</b>	<b>3,311.0</b>	<b>1,060.0</b>	<b>1,125.0</b>	<b>1,052.4</b>	<b>9,961.9</b>
<b><u>Adjustments to Net Allocation (WYTD)</u></b>						
Carryover Balances Spilled	0.0	0.0	0.0	0.0	0.0	0.0
Surplus	0.0	0.0	0.0	0.0	0.0	0.0
State Water Exchange <sup>(6)</sup>	364.0	243.0	243.0	162.0	(1,012.0)	0.0
Transfers/Adjustment <sup>(7)</sup>	(36.2)	432.6	(296.4)	0.0	0.0	100.0
<b>Balance Current Year Allocation</b>	<b>3,741.3</b>	<b>3,986.6</b>	<b>1,006.6</b>	<b>1,287.0</b>	<b>40.4</b>	<b>10,061.9</b>
<b>Total Cachuma Project Water Available</b>	<b>3,771.3</b>	<b>7,264.2</b>	<b>1,864.1</b>	<b>1,305.2</b>	<b>40.4</b>	<b>14,245.2</b>

**Footnotes**

- (1) Water Year = October 1 through September 30
- (2) Based on an correspondence from Michael Jackson, dated 09/15/17, which revised the approach to the assessment for unaccounted-for water loss based on lake conditions
- (3) Per USBR, evaporation is applied to Cachuma Carryover and SWP water through standard contract formula effective April 1, 2017.
- (4) Adjustment for GWD November/December 2016 Evaporation Amount charged in error (+30AF).
- (5) Per USBR, 40% Allocation to Member Agencies, effective 10/1/17
- (6) TheSWP Exchange amount for September 2018 was zero.
- (7) Transfer per Contract for Exchange Water with Thomas B. Bishop Company and GWD (100 AF)  
Transfer per Juncal agreement between SB & MWD (296.37 AF)  
Transfer per Overlap agreement between SB & GWD (136.19 AF)
- (8) Memo only - State Water Deliveries to Lake Cachuma for September 2018 (Total =1220 AF): MWD 274 AF; CVWD 182 AF  
GWD 409 AF (Morehart 7 AF); City of S.B. 274 AF; and LaCumbre 74 AF: (Raytheon 0 AF)

**SUMMARY: APPARENT WATER LOSS ALLOCATION**  
**September 2018**

	<b>Lauro &amp; Cater Loss (LE + CTPL)</b>	<b>Ortega Toe Drain (OTD)</b>	<b>Use Area 1</b>	<b>Use Area 2</b>	<b>Use Area 3</b>	<b>Use Area 4</b>	<b>Total (AF)</b>	<b>Rounded Total (AF)</b>
<b>GWD</b>	0.4	0.0	0.1	0.1	0.0	0.0	0.5	<b>0.5</b>
<b>City of SB</b>	3.1	0.0	0.0	0.5	0.0	0.0	3.6	<b>3.6</b>
<b>MWD</b>	2.5	0.5	0.0	0.4	0.0	0.3	3.7	<b>3.7</b>
<b>CVWD</b>	1.3	0.5	0.0	0.2	0.0	0.1	2.1	<b>2.1</b>
<b>Total</b>	7.2	1.0	0.2	1.1	0.1	0.4	10.0	<b>10.0</b>

August 2018 - Includes a credit adjustment to Apparent Water Loss (AWL). AUWL is attributed to system loss, meter discrepancies and change in water storage. COMB staff monitors trends for potential corrective action or accounting adjustment.

**CACHUMA OPERATION AND MAINTENANCE BOARD**  
**WATER STORAGE REPORT**

**MONTH: September 2018**

**GLEN ANNIE RESERVOIR (1)**

Capacity at 385' elevation:	518	AF
Capacity at sill of intake at 334' elevation:	21	AF
Stage of Reservoir Elevation	<b>335.00</b>	Feet
Water in Storage	26.79	AF

**LAURO RESERVOIR**

Capacity at 549' elevation:	503	AF
Capacity at top of intake screen, 520' elevation:	106.05	AF
Stage of Reservoir Elevation	<b>544.00</b>	Feet
Water in Storage	490.33	AF

**ORTEGA RESERVOIR**

Capacity at 460' elevation:	65	AF
Capacity at outlet at elevation 440':	0	AF
Stage of Reservoir Elevation	<b>446.70</b>	Feet
Water in Storage	18.58	AF

**CARPINTERIA RESERVOIR**

Capacity at 384' elevation:	45	AF
Capacity at outlet elevation 362':	0	AF
Stage of Reservoir Elevation	<b>375.50</b>	Feet
Water in Storage	24.59	AF

**TOTAL STORAGE IN RESERVOIRS (1)**

Change in Storage	533.50	AF
	(52.04)	AF

**CACHUMA RESERVOIR**

Capacity at 750' elevation:	184,121	AF
Capacity at sill of tunnel 660' elevation:	24,281	AF
Stage of Reservoir Elevation	<b>692.83</b>	Feet
Water in Storage	<b>61,273</b>	AF
Surface Area	<b>1,444</b>	
Evaporation	<b>610.1</b>	AF
Inflow	<b>176.3</b>	AF
Downstream Release WR8918	<b>736.0</b>	AF
Fish Release (Hilton Creek)	<b>220.3</b>	AF
Outlet	<b>56.0</b>	AF
<b>Spill/Seismic Release</b>	<b>0</b>	AF
State Water Project Water	<b>1220.3</b>	AF
Change in Storage	<b>-2,106</b>	AF
Tecolote Diversion	<b>1,877.6</b>	AF
<b>Rainfall: Month:</b>	<b>-</b>	
<b>Season:</b>	<b>9.77</b>	
<b>Percent of Normal:</b>	<b>0%</b>	

(1) The Glen Annie Reservoir is currently offline and is excluded from the Total Storage in Reservoirs amount.

**COMB STATE WATER PROJECT ACCOUNTING - SOUTH COAST ONLY (Does not include SYRWCD, ID#1 or exchange water)**

Month	Total Delivered to Lake per CCWA	CVWD						MWD					CITY OF SB						GWD					LCMWC				RSYS			MLC											
		Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Evap / Spill (-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Stored in Lake							
<b>2017</b>						<b>504</b>						<b>809</b>												<b>2098</b>							<b>747</b>				<b>0</b>			<b>11</b>				<b>1</b>
Bal. Frwd						720	357	58	3	3	0	1102	357	273	4	8	10	2179	467	58	0	3	(10)	1144	35	10	2	23	0	0	1144	35	10	2	23	0	0	11	2	2	1	
January	1437	219	0	1	2	0	809	296	25	2	10	0	1361	296	197	5	21	0	2252	445	50	0	11	0	1528	15	29	2	7	0	0	1528	15	29	2	7	0	0	11	2	2	1
February	1250	196	96	4	7	0	753	226	76	2	12	0	1498	226	112	7	20	0	2340	339	190	0	13	0	1664	59	34	0	33	4	4	1664	59	34	0	33	4	4	11	1	1	1
March	990	135	180	4	7	0	686	144	180	23	22	0	1417	144	210	21	35	0	2218	217	567	3	25	0	1286	29	55	1	6	3	3	1286	29	55	1	6	3	3	11	1	1	1
April	634	96	134	17	11	0	429	258	229	24	29	0	1392	258	80	49	46	0	2301	388	520	3	27	0	1124	86	63	0	29	4	3	1124	86	63	0	29	4	3	12	3	4	0
May	1165	168	372	39	14	0	182	230	293	10	33	0	1286	230	252	17	55	0	2208	345	958	2	27	0	483	60	34	1	54	4	4	483	60	34	1	54	4	4	12	4	4	0
June	1026	153	377	13	10	0	3	254	321	12	34	0	1174	255	247	24	58	0	2134	383	850	3	13	0	0	84	74	1	62	4	4	0	84	74	1	62	4	4	12	6	6	0
July	1151	165	327	12	5	0	0	223	333	0	37	71	1098	223	210	67	119	2199	334	345	0	0	11	0	74	92	2	42	4	4	0	74	92	2	42	4	4	12	4	4	0	
August	1006	144	232	0	0	85	0	263	288	36	39	0	997	263	187	16	78	0	2181	395	392	3	0	0	0	88	21	1	108	0	0	0	88	21	1	108	0	0	12	6	6	0
September	1190	175	153	22	0	0	0	244	348	19	15	0	860	244	352	13	32	0	2028	367	365	2	0	0	0	46	81	2	71	0	0	0	46	81	2	71	0	0	12	0	0	0
October	1048	147	139	8	0	0	0	96	265	32	7	0	652	96	391	29	16	0	1688	145	143	2	(0)	0	0	32	96	1	7	0	0	0	32	96	1	7	0	0	12	0	0	0
November	369	0	0	0	(0)	0	0	61	4	0	0	630	298	273	36	10	0	1667	532	526	6	0	0	0	68	12	0	62	22	22	0	68	12	0	62	22	22	12	7	7	0	
December	1281	0	0	0	(0)	0	2945	2726	225	244	71	630	2890	2783	222	445	129	1667	4357	4964	24	117	1	0	676	601	13	62	45	44	12	36	37	0								
<b>Total</b>	<b>12547</b>	<b>1598</b>	<b>2010</b>	<b>120</b>	<b>56</b>	<b>85</b>	<b>0</b>	<b>2945</b>	<b>2726</b>	<b>225</b>	<b>244</b>	<b>71</b>	<b>630</b>	<b>2890</b>	<b>2783</b>	<b>222</b>	<b>445</b>	<b>129</b>	<b>1667</b>	<b>4357</b>	<b>4964</b>	<b>24</b>	<b>117</b>	<b>1</b>	<b>0</b>	<b>676</b>	<b>601</b>	<b>13</b>	<b>62</b>	<b>45</b>	<b>44</b>	<b>12</b>	<b>36</b>	<b>37</b>	<b>0</b>							

**(\*) Adj / Notes:**  
**January 2017** - GWD transferred 18.12 AF SWP water to City of SB per overlap agreement  
**August 2017** - Includes credit adjustment for water loss charged to South Coast Member Units (Mar - Jul) based email from Michael Jackson, dated 09/15/17, which revised the approach to the assess for unaccounted-for water loss based on lake conditions.

Month	Total Delivered to Lake per CCWA	CVWD						MWD					CITY OF SB						GWD					LCMWC				RSYS			MLC											
		Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Loss (-)	Evap / Spill (-)	Adj (*) (+/-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Evap / Spill (-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Stored in Lake	Delivered to Lake (+)	Delivered to SC (-)	Stored in Lake							
<b>2018</b>						<b>0</b>						<b>630</b>												<b>1667</b>							<b>0</b>				<b>62</b>			<b>12</b>				<b>0</b>
Bal. Frwd						0	167	270	219	18	4	0	659	301	346	16	11	0	1595	452	387	2	(0)	0	62	49	30	0	80	0	0	62	49	30	0	80	0	0	12	2	2	0
January	1275	201	31	3	(0)	0	311	253	257	35	5	0	614	253	367	29	13	0	1440	380	146	3	1	0	293	85	52	1	113	0	0	293	85	52	1	113	0	0	12	2	2	0
February	1142	169	20	3	1	0	372	255	98	14	4	0	753	254	291	19	10	0	1373	381	9	1	2	0	663	10	15	1	107	4	4	663	10	15	1	107	4	4	12	2	2	0
March	976	70	6	1	2	0	320	287	225	5	9	0	801	287	496	8	16	0	1140	636	196	0	8	0	1094	0	29	1	77	5	5	1094	0	29	1	77	5	5	12	3	3	0
April	1218	0	47	2	4	0	338	309	290	23	13	0	784	285	491	23	18	0	892	463	400	2	18	0	1137	0	22	1	54	5	5	1137	0	22	1	54	5	5	12	3	3	0
May	1255	190	154	12	5	0	327	263	310	10	15	0	713	264	459	10	17	0	671	395	791	2	21	0	719	50	51	1	51	5	5	719	50	51	1	51	5	5	12	5	5	0
June	1157	175	174	6	6	0	256	256	425	-11	16	0	538	256	682	-9	15	0	239	384	950	-2	17	0	139	86	91	1	45	3	3	139	86	91	1	45	3	3	12	5	5	0
July <sup>(1)</sup>	1160	170	239	-6	8	0	140	283	431	-8	12	0	387	282	477	-5	5	0	44	424	560	-1	3	0	1	93	72	1	65	0	0	1	93	72	1	65	0	0	12	5	5	0
August	1230	143	258	-5	6	0	132	274	364	4	6	0	287	274	314	3	1	0	0	409	409	0	0	0	0	74	58	0	81	0	0	0	74	58	0	81	0	0	12	7	7	0
September	1220	182	186	2	2	0																																				
October																																										
November																																										
December																																										
<b>Total</b>	<b>10633</b>	<b>1300</b>	<b>1115</b>	<b>19</b>	<b>35</b>	<b>0</b>	<b>132</b>	<b>2450</b>	<b>2619</b>	<b>90</b>	<b>85</b>	<b>0</b>	<b>287</b>	<b>2456</b>	<b>3922</b>	<b>93</b>	<b>107</b>	<b>0</b>	<b>0</b>	<b>3924</b>	<b>3847</b>	<b>8</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>447</b>	<b>421</b>	<b>8</b>	<b>81</b>	<b>22</b>	<b>22</b>	<b>12</b>	<b>34</b>	<b>34</b>	<b>0</b>							

**(\*) Adj / Notes:**  
**July 2018** - Includes a credit adjustment to Apparent Water Loss (AWL). AWL is attributed to system loss, meter discrepancies and change in water storage. COMB staff monitors trends for potential corrective action or accounting adjustment.

Total SC Storage at month end (AF): 419

Total Storage at month end (AF): 512

**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #175R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **Goleta Water District**  
 Last updated by C.O.M.B. 09/30/18

			CARRYOVER WATER			CURRENT YEAR ALLOCATION							
Month	Carryover Balance Prior Yr	Approved Allocation Curr Yr	TOTAL WATER USED			WATER USE CHARGED			WATER USE CHARGED				
			Acre-feet			Evap	Used	Total	Allocation		Allocation		Total
			M & I	Agr	Total				M & I	Agr	M & I	Agr	
Oct	3,088.0	3,728.0	570.6	170.4	741.1	45.1	741.1	786.2	605.4	180.8	0.0	0.0	0.0
Nov			434.3	160.6	595.0	17.8	595.0	612.8	447.3	165.5	0.0	0.0	0.0
Dec			102.2	35.9	138.1	11.2	138.1	149.3	110.5	38.8	0.0	0.0	0.0
Jan			0.0	42.6	42.6	10.4	42.6	53.0	0.0	53.0	0.0	0.0	0.0
Feb			0.0	98.0	98.0	12.2	98.0	110.2	0.0	110.2	0.0	0.0	0.0
Mar			0.0	11.6	11.6	9.6	11.6	21.2	0.0	21.2	0.0	0.0	0.0
Apr			0.0	79.2	79.2	16.1	79.2	95.2	0.0	95.2	0.0	0.0	0.0
May			0.0	126.0	126.0	19.4	126.0	145.4	0.0	145.4	0.0	0.0	0.0
Jun			0.0	117.2	117.2	19.9	117.2	137.0	0.0	137.0	0.0	0.0	0.0
Jul			0.0	155.3	155.3	21.4	155.3	176.7	0.0	176.7	0.0	0.0	0.0
Aug			389.4	144.0	533.4	12.2	533.4	545.7	398.3	147.3	0.0	0.0	0.0
Sep			436.9	130.5	567.5	2.3	282.9	285.2	219.6	65.6	219.1	65.4	284.5
<b>Total</b>	<b>3,088.0</b>	<b>3,728.0</b>	<b>1,933.5</b>	<b>1,271.5</b>	<b>3,205.0</b>	<b>197.5</b>	<b>2,920.5</b>	<b>3,118.0</b>	<b>1,781.2</b>	<b>1,336.8</b>	<b>219.1</b>	<b>65.4</b>	<b>284.5</b>

Month	CONVERSIONS (M&I AND AG SPLIT)			
	CARRYOVER WATER		CURR YR ALLOCATION	
	M & I	Agr	M & I	Agr
Oct	-	-	-	-
Nov	-	-	-	-
Dec	-	-	-	-
Jan	-	-	-	-
Feb	-	-	-	-
Mar	-	-	-	-
Apr	-	-	-	-
May	-	-	-	-
Jun	-	-	-	-
Jul	(5.4)	5.4	-	-
Aug	(147.3)	147.3	-	-
Sep	(65.6)	65.6	-	-

Month  
Oct  
Nov  
Dec  
Jan  
Feb  
Mar  
Apr  
May  
Jun  
Jul  
Aug  
Sep

	SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS		
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Begin Bal	3,088.0	1,976.0	1,112.0	2,609.0	1,119.0	3,728.0
Bishop Ranch Exch (+100AF)				100.0	-	100.0
ID #1 Exch (+ 26AF)				11.2	14.8	26.0
ID#1 Exch (+104AF), Evap Adj (1)	30.0	23.6	6.4	48.9	55.1	104.0
ID #1 Exch (+134AF)				61.6	72.4	134.0
ID #1 Exch (+100AF)				43.0	57.0	100.0
SB Overlap (-136.19AF)				(136.2)	-	(136.2)

Month	BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC		
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Oct	2,301.8	1,370.6	931.2	2,609.0	1,119.0	3,728.0
Nov	1,689.0	923.3	765.7	2,609.0	1,119.0	3,728.0
Dec	1,539.7	812.8	726.9	2,609.0	1,119.0	3,728.0
Jan	1,486.7	812.8	673.9	2,609.0	1,119.0	3,728.0
Feb	1,376.5	812.8	563.7	2,609.0	1,119.0	3,728.0
Mar	1,355.3	812.8	542.5	2,609.0	1,119.0	3,728.0
Apr	1,260.1	812.8	447.3	2,709.0	1,119.0	3,828.0
May	1,114.7	812.8	301.9	2,720.2	1,133.8	3,854.0
Jun	1,007.7	836.4	171.3	2,769.1	1,188.9	3,958.0
Jul	830.9	830.9	-	2,830.7	1,261.3	4,092.0
Aug	285.2	285.2	-	2,873.7	1,318.3	4,192.0
Sep	-	(0.0)	-	2,518.4	1,252.9	3,771.3

**TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) = 3,771.3**

(1) June Schedules and Revisions includes adjustment for November/December 2016 Evaporation Amount charged in error (+30AF).

**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #I75R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **City of Santa Barbara**  
 Last updated by C.O.M.B. 09/30/18

Month	Carryover Balance Prior Yr	Approved Allocation Curr Yr
Oct	3,988.0	3,311.0
Nov		
Dec		
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
<b>Total</b>	<b>3,988.0</b>	<b>3,311.0</b>

TOTAL WATER USED			WATER USE CHARGED					WATER USE CHARGED			
Acre-feet			Allocation					Allocation			
M & I	Agr	Total	Evap	Used	Total	M & I	-----	M & I	-----	Total	
0.0	0.0	0.0	58.3	0.0	58.3	58.3	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	30.4	0.0	30.4	30.4	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	25.9	0.0	25.9	25.9	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	26.1	0.0	26.1	26.1	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	31.5	0.0	31.5	31.5	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	26.5	0.0	26.5	26.5	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	45.0	0.0	45.0	45.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	60.5	0.0	60.5	60.5	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	69.3	0.0	69.3	69.3	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	83.3	0.0	83.3	83.3	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	62.3	0.0	62.3	62.3	0.0	0.0	0.0	0.0	
136.5	0.0	136.5	54.9	136.5	191.4	191.4	0.0	0.0	0.0	0.0	
<b>136.5</b>	<b>-</b>	<b>136.5</b>	<b>573.9</b>	<b>136.5</b>	<b>710.4</b>	<b>710.4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	

CONVERSIONS (M&I AND AG SPLIT)				
Month	CARRYOVER WATER		CURR YR ALLOCATION	
	M & I	Agr	M & I	Agr
Oct	-	-	-	-
Nov	-	-	-	-
Dec	-	-	-	-
Jan	-	-	-	-
Feb	-	-	-	-
Mar	-	-	-	-
Apr	-	-	-	-
May	-	-	-	-
Jun	-	-	-	-
Jul	-	-	-	-
Aug	-	-	-	-
Sep	-	-	-	-

SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS		
	Total	Allocation		Allocation	
		M & I	-----	M & I	-----
Begin Bal	3,988.0	3,988.0		3,311.0	3,311.0
					-
					-
					-
					-
					-
ID #1 Exchange (+17AF)				17.0	17.0
ID #1 Exchange (+70AF)				70.0	70.0
ID #1 Exchange (+89AF)				89.0	89.0
ID #1 Exchange (+67AF)				67.0	67.0
GWP Overlap (+136.19 AF) / MWD Juncal Transfer (+296.37 AF)				432.6	432.6

BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC		
Month	Total	Allocation		Allocation	
		M & I	-----	M & I	-----
Oct	3,929.7	3,929.7	-	3,311.0	3,311.0
Nov	3,899.3	3,899.3	-	3,311.0	3,311.0
Dec	3,873.4	3,873.4	-	3,311.0	3,311.0
Jan	3,847.4	3,847.4	-	3,311.0	3,311.0
Feb	3,815.8	3,815.8	-	3,311.0	3,311.0
Mar	3,789.3	3,789.3	-	3,311.0	3,311.0
Apr	3,744.4	3,744.4	-	3,311.0	3,311.0
May	3,683.9	3,683.9	-	3,328.0	3,328.0
Jun	3,614.6	3,614.6	-	3,398.0	3,398.0
Jul	3,531.3	3,531.3	-	3,487.0	3,487.0
Aug	3,469.0	3,469.0	-	3,554.0	3,554.0
Sep	3,277.6	3,277.6	-	3,986.6	3,986.6

TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) 7,264.2

**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #175R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **Carpinteria Valley Water District**  
 Last updated by C.O.M.B. 09/30/18

Month	Carryover Balance Prior Yr	Approved Allocation Curr Yr
Oct	800.0	1,125.0
Nov		
Dec		
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
<b>Total</b>	<b>800.0</b>	<b>1,125.0</b>

TOTAL WATER CHARGED			WATER USE CHARGED				WATER USE CHARGED			
Acre-feet			Allocation				Allocation			
M & I	Agr	Total	Evap	Used	Total	M & I	Agr	M & I	Agr	Total
85.9	121.2	207.1	11.7	207.1	218.8	90.7	128.1	0.0	0.0	0.0
125.0	155.3	280.3	4.5	280.3	284.8	127.0	157.8	0.0	0.0	0.0
115.4	158.4	273.7	2.0	273.7	275.7	116.2	159.5	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.0	0.0
0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.0
0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.0	0.0
0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.4	0.0	0.0	0.0
0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.0
0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.0
<b>326.3</b>	<b>434.9</b>	<b>761.1</b>	<b>20.6</b>	<b>761.1</b>	<b>781.8</b>	<b>334.0</b>	<b>447.8</b>	<b>-</b>	<b>-</b>	<b>-</b>

CONVERSIONS (M&I AND AG SPLIT)			
CARRYOVER WATER		CURR YR ALLOCATION	
M & I	Agr	M & I	Agr
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS			
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Begin Bal	800.0	340.0	460.0	518.0	607.0	1,125.0
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	ID #1 Exchange (+12AF)			5.2	6.8	12.0
Jun	ID #1 Exchange (+46AF)			21.6	24.4	46.0
Jul	ID #1 Exchange (+60AF)			27.6	32.4	60.0
Aug	ID #1 Exchange (+44AF)			18.9	25.1	44.0
Sep	-	-	-	-	-	-

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BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC			
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Oct	581.2	249.3	331.9	518.0	607.0	1,125.0
Nov	296.4	122.2	174.2	518.0	607.0	1,125.0
Dec	20.7	6.0	14.7	518.0	607.0	1,125.0
Jan	20.6	6.0	14.5	518.0	607.0	1,125.0
Feb	20.4	6.0	14.4	518.0	607.0	1,125.0
Mar	20.3	6.0	14.2	518.0	607.0	1,125.0
Apr	20.0	6.0	14.0	518.0	607.0	1,125.0
May	19.7	6.0	13.7	523.2	613.8	1,137.0
Jun	19.3	6.0	13.3	544.8	638.2	1,183.0
Jul	18.9	6.0	12.8	572.4	670.6	1,243.0
Aug	18.5	6.0	12.5	591.3	695.7	1,287.0
Sep	18.2	6.0	12.2	591.3	695.7	1,287.0

TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) 1,305.2

**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #175R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **Montecito Water District**  
 Last updated by C.O.M.B. 09/30/18

Month	Carryover Balance Prior Yr	Approved Allocation Curr Yr
Oct	1,011.0	1,060.0
Nov		
Dec		
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
<b>Total</b>	<b>1,011.0</b>	<b>1,060.0</b>

TOTAL WATER USED			WATER USE CHARGED				WATER USE CHARGED			
Acre-feet			Allocation				Allocation			
M & I	Agr	Total	Evap	Used	Total	M & I	Agr	M & I	Agr	Total
0.0	0.0	0.0	14.8	-	14.78	11.6	3.2	0.0	0.0	0.0
0.0	0.0	0.0	7.7	-	7.7	6.0	1.7	0.0	0.0	0.0
0.0	0.0	0.0	6.6	-	6.6	5.2	1.4	0.0	0.0	0.0
0.0	0.0	0.0	6.6	-	6.6	5.2	1.4	0.0	0.0	0.0
0.0	0.0	0.0	8.0	-	8.0	6.3	1.7	0.0	0.0	0.0
0.0	0.0	0.0	6.7	-	6.7	5.3	1.4	0.0	0.0	0.0
0.0	0.0	0.0	11.4	-	11.4	9.0	2.4	0.0	0.0	0.0
0.0	0.0	0.0	15.3	-	15.3	12.1	3.3	0.0	0.0	0.0
0.0	0.0	0.0	17.6	-	17.6	13.8	3.8	0.0	0.0	0.0
0.0	0.0	0.0	21.1	-	21.1	16.6	4.5	0.0	0.0	0.0
0.0	0.0	0.0	15.8	-	15.8	12.4	3.4	0.0	0.0	0.0
0.0	0.0	0.0	21.9	-	21.9	17.2	4.7	0.0	0.0	0.0
-	-	-	153.5	-	153.5	120.6	33.0	-	-	-

CONVERSIONS (M&I AND AG SPLIT)					
CARRYOVER WATER			CURR YR ALLOCATION		
Month	M & I	Agr	M & I	Agr	
Oct	-	-	-	-	
Nov	-	-	-	-	
Dec	-	-	-	-	
Jan	-	-	-	-	
Feb	-	-	-	-	
Mar	-	-	-	-	
Apr	-	-	-	-	
May	-	-	-	-	
Jun	-	-	-	-	
Jul	-	-	-	-	
Aug	-	-	-	-	
Sep	-	-	-	-	

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SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS			
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Begin Bal	1,011.0	794.0	217.0	986.0	74.0	1,060.0
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
ID #1 Exchange (+17AF)				7.3	9.7	17.0
ID #1 Exchange (+70AF)				32.9	37.1	70.0
ID #1 Exchange (+89AF)				40.9	48.1	89.0
ID #1 Exchange (+67AF)				28.8	38.2	67.0
Juncal Transfer (-296.37 AF)				(296.4)	-	(296.4)

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BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC			
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Oct	996.2	782.4	213.8	986.0	74.0	1,060.0
Nov	988.5	776.3	212.2	986.0	74.0	1,060.0
Dec	982.0	771.2	210.8	986.0	74.0	1,060.0
Jan	975.3	766.0	209.3	986.0	74.0	1,060.0
Feb	967.4	759.7	207.6	986.0	74.0	1,060.0
Mar	960.6	754.4	206.2	986.0	74.0	1,060.0
Apr	949.2	745.5	203.7	986.0	74.0	1,060.0
May	933.9	733.4	200.5	993.3	83.7	1,077.0
Jun	916.3	719.7	196.7	1,026.2	120.8	1,147.0
Jul	895.2	703.1	192.1	1,067.1	168.9	1,236.0
Aug	879.4	690.7	188.8	1,095.9	207.1	1,303.0
Sep	857.5	673.4	184.0	799.6	207.1	1,006.6

TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) **1,864.1**



**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #175R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **Santa Ynez River Water Conservation District, ID#1**  
 Last updated by **C.O.M.B. 09/30/18**

Month	Carryover Balance Prior Yr	Approved Allocation Curr Yr
Oct	16.0	1,060.0
Nov		
Dec		
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
<b>Total</b>	<b>16.0</b>	<b>1,060.0</b>

Month	TOTAL WATER USED			WATER USE CHARGED			WATER USE CHARGED			Total	
	M & I	Agr	Total	Evap	Used	Total	Allocation		Allocation		
							M & I	Agr	M & I		Agr
Oct	2.4	0.0	2.4	0.2	2.4	2.6	2.6	0.0	0.0	0.0	0.0
Nov	1.2	0.0	1.2	0.1	1.2	1.3	1.3	0.0	0.0	0.0	0.0
Dec	2.4	0.0	2.4	0.1	2.4	2.4	2.4	0.0	0.0	0.0	0.0
Jan	0.9	0.0	0.9	0.1	0.9	1.0	1.0	0.0	0.0	0.0	0.0
Feb	1.3	0.0	1.3	0.1	1.3	1.4	1.4	0.0	0.0	0.0	0.0
Mar	0.2	0.0	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Apr	1.9	0.0	1.9	0.1	1.9	2.0	2.0	0.0	0.0	0.0	0.0
May	2.0	0.0	2.0	0.1	2.0	2.1	2.1	0.0	0.0	0.0	0.0
Jun	2.0	0.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
Jul	3.1	0.0	3.1	0.0	1.0	1.0	1.0	0.0	2.1	0.0	2.1
Aug	3.3	0.0	3.3	0.0	0.0	0.0	0.0	0.0	3.3	0.0	3.3
Sep	2.2	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	2.2
<b>Total</b>	<b>22.8</b>	<b>0.0</b>	<b>22.8</b>	<b>0.8</b>	<b>15.2</b>	<b>16.0</b>	<b>16.0</b>	<b>0.0</b>	<b>7.6</b>	<b>0.0</b>	<b>7.6</b>

CONVERSIONS (M&I AND AG SPLIT)			
CARRYOVER WATER		CURR YR ALLOCATION	
M & I	Agr	M & I	Agr
2.6	(2.6)	-	-
1.3	(1.3)	-	-
2.4	(2.4)	-	-
1.0	(1.0)	-	-
1.4	(1.4)	-	-
0.2	(0.2)	-	-
2.0	(2.0)	-	-
2.1	(2.1)	-	-
2.0	(2.0)	-	-
1.0	(1.0)	(40.7)	40.7
-	-	(158.5)	158.5
-	-	-	-
-	-	-	-

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Month	SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS		
	Total	Allocation		Allocation		Total
		M & I	Agr	M & I	Agr	
Begin Bal	16.0	0.0	16.0	710.0	350.0	1,060.0
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	ID #1 Exchange (-72AF)			(36.0)	(36.0)	(72.0)
Jun	ID #1 Exchange (-290AF)			(136.3)	(153.7)	(290.0)
Jul	ID #1 Exchange (-372AF)			(171.0)	(201.0)	(372.0)
Aug	ID #1 Exchange (-278AF)			(119.5)	(158.5)	(278.0)
Sep	-	-	-	-	-	-

\*NOTE:

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Month	BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC			
	County Parks Usage (AF)	Total	Allocation		Allocation		Total
			M & I	Agr	M & I	Agr	
Oct	2.4	13.4	-	13.4	710.0	350.0	1,060.0
Nov	1.2	12.0	-	12.0	710.0	350.0	1,060.0
Dec	2.4	9.6	-	9.6	710.0	350.0	1,060.0
Jan	0.9	8.6	-	8.6	710.0	350.0	1,060.0
Feb	1.3	7.2	-	7.2	710.0	350.0	1,060.0
Mar	0.2	7.0	-	7.0	710.0	350.0	1,060.0
Apr	1.9	5.1	-	5.1	710.0	350.0	1,060.0
May	2.0	3.0	-	3.0	674.0	314.0	988.0
Jun	2.0	1.0	-	1.0	537.7	160.3	698.0
Jul	3.1	-	-	-	323.9	-	323.9
Aug	3.3	-	-	-	42.6	-	42.6
Sep	-	-	-	-	40.4	-	40.4

**TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) 40.4**

**SUMMARY OF WATER USED**  
**CACHUMA PROJECT - CONTRACT #175R-1802**

Contract Year: 10/1/17 to: 9/30/18

Contract Entity: **Santa Barbara Co. Water Agency**  
 Last updated by C.O.M.B. 09/30/18

Month	Carryover		CARRYOVER WATER							CURRENT YEAR ALLOCATION				
	Balance Prior Yr	Approved Allocation Curr Yr	TOTAL WATER USED				WATER USE CHARGED			WATER USE CHARGED				
			Acre-fee:				Allocation			Allocation				
			Use %	M & I	Agr	Total	Evap	Div	Total	M & I	Agr	M & I	Agr	Total
Oct	8,903.0	10,284.0	0.1	658.9	291.7	950.6	130.2	950.6	1,080.8	768.7	312.1	0.0	0.0	0.0
Nov			0.0	560.6	315.9	876.5	60.5	876.5	937.0	612.1	324.9	0.0	0.0	0.0
Dec			0.0	219.9	194.3	414.2	45.7	414.2	459.9	260.1	199.7	0.0	0.0	0.0
Jan			0.0	0.9	0.0	43.5	43.3	43.5	86.8	32.2	54.5	0.0	0.0	0.0
Feb			0.0	1.3	98.0	99.3	52.0	99.3	151.3	39.2	112.1	0.0	0.0	0.0
Mar			0.0	0.2	11.6	11.8	42.9	11.8	54.7	32.0	22.8	0.0	0.0	0.0
Apr			0.0	1.9	79.2	81.0	72.8	81.0	153.8	55.9	97.9	0.0	0.0	0.0
May			0.0	2.0	126.0	128.1	95.6	128.1	223.7	74.7	149.0	0.0	0.0	0.0
Jun			0.0	2.0	117.2	119.1	107.1	119.1	226.2	85.1	141.2	0.0	0.0	0.0
Jul			0.0	3.1	155.3	158.4	126.3	156.3	282.6	100.8	181.7	2.1	-	2.1
Aug			0.0	392.7	144.0	536.7	90.7	533.4	624.1	473.0	151.1	3.3	-	3.3
Sep			0.0	575.6	130.5	706.1	79.4	419.4	498.9	428.2	70.6	221.2	65.4	286.7
<b>Total</b>	<b>8,903.0</b>	<b>10,284.0</b>	<b>0.3</b>	<b>2,419.1</b>	<b>1,706.3</b>	<b>4,125.4</b>	<b>946.4</b>	<b>3,833.3</b>	<b>4,779.7</b>	<b>2,962.1</b>	<b>1,817.5</b>	<b>226.6</b>	<b>65.4</b>	<b>292.1</b>

Month	CONVERSIONS (M&I AND AG)			
	CARRYOVER WATER		CURR YR ALLOCATION	
	M & I	Agr	M & I	Agr
Oct	2.6	(2.6)	-	-
Nov	1.3	(1.3)	-	-
Dec	2.4	(2.4)	-	-
Jan	1.0	(1.0)	-	-
Feb	1.4	(1.4)	-	-
Mar	0.2	(0.2)	-	-
Apr	2.0	(2.0)	-	-
May	2.1	(2.1)	-	-
Jun	2.0	(2.0)	-	-
Jul	(4.5)	4.5	(40.7)	40.7
Aug	(147.3)	147.3	(158.5)	158.5
Sep	(65.6)	65.6	-	-

Month  
 Oct  
 Nov  
 Dec  
 Jan  
 Feb  
 Mar  
 Apr  
 May  
 Jun  
 Jul  
 Aug  
 Sep

Month	SCHEDULE AND REVISIONS				SCHEDULE AND REVISIONS		
	Begin Bal	Total	Allocation		Allocation		Total
			M & I	Agr	M & I	Agr	
Oct		8,903.0	7,098.0	1,805.0	8,134.0	2,150.0	10,284.0
Nov		-	-	-	-	-	-
Dec		-	-	-	-	-	-
Jan		-	-	-	-	-	-
Feb		-	-	-	-	-	-
Mar		-	-	-	-	-	-
Apr		-	-	-	100.0	-	100.0
May		-	-	-	4.7	(4.7)	-
Jun		30.0	23.6	6.4	37.1	(37.1)	-
Jul		-	-	-	48.1	(48.1)	-
Aug		-	-	-	38.2	(38.2)	-
Sep		-	-	-	-	-	-

Month	BALANCE - CARRYOVER WATER			BALANCE - CURR YR ALLOC			
	County Parks Usage (AF)	Total	Allocation		Allocation		Total
			M & I	Agr	M & I	Agr	
Oct	2.4	7,822.2	6,332.0	1,490.3	8,134.0	2,150.0	10,284.0
Nov	1.2	6,885.3	5,721.1	1,164.1	8,134.0	2,150.0	10,284.0
Dec	2.4	6,425.4	5,463.4	961.9	8,134.0	2,150.0	10,284.0
Jan	0.9	6,338.6	5,432.2	906.4	8,134.0	2,150.0	10,284.0
Feb	1.3	6,187.3	5,394.3	792.9	8,134.0	2,150.0	10,284.0
Mar	0.2	6,132.6	5,362.6	770.0	8,134.0	2,150.0	10,284.0
Apr	1.9	5,978.8	5,308.7	670.1	8,234.0	2,150.0	10,384.0
May	2.0	5,755.1	5,236.1	519.0	8,238.7	2,145.4	10,384.0
Jun	2.0	5,558.8	5,176.6	382.2	8,275.8	2,108.3	10,384.0
Jul	3.1	5,276.3	5,071.3	205.0	8,281.0	2,100.9	10,381.9
Aug	3.3	4,652.2	4,450.9	201.3	8,157.5	2,221.1	10,378.6
Sep	-	4,153.3	3,957.1	196.3	7,936.2	2,155.7	10,091.9

TOTAL CACHUMA PROJECT BALANCE (CARRYOVER + CURRENT YR ALLOCATION) 14,245.2

# CACHUMA DAILY OPERATIONS

Month & Year: **October 2018**  
 Time of Observations: **0830**      Evaporation Pan Factor: **75%**

Day	Beginning Storage: 61,273			Surface Area acres	Rainfall		Evaporation		CCWA Inflow acre-feet	Releases					Computed Inflow acre-feet	
	Elevation ft	Storage acre-feet	Change acre-feet		inches	acre-feet	inches	acre-feet		Park Diversion acre-feet	South Coast acre-feet	Hilton Creek acre-feet	WR 89-18 acre-feet	Outlet acre-feet		Spillway acre-feet
1	692.78	61,200	(73)	1,443	-		0.170	15.3	41.3		75.6	7.4		3.0	(12.7)	
2	692.75	61,157	(43)	1,442	-		0.160	14.4	41.3		73.8	7.4		1.0	12.3	
3	692.71	61,099	(58)	1,441	0.03	3.6	0.160	14.4	36.2		75.6	6.6		2.0	0.8	
4	692.70	61,084	(15)	1,441	0.14	16.8	0.110	9.9	40.3		58.7	4.7		3.3	4.5	
5	692.67	61,040	(44)	1,440	-		0.050	4.5	41.4		57.2	5.4		1.4	(16.9)	
6	692.66	61,026	(14)	1,440	-		0.080	7.2	41.4		48.6	7.7		1.0	9.1	
7	692.64	60,997	(29)	1,440	-		0.370	33.3	41.4		44.5	8.4		1.0	16.8	
8	692.63	60,982	(15)	1,440	-		0.150	13.5	41.4		38.1	8.5		2.0	5.7	
9	692.60	60,939	(43)	1,439	-		0.140	12.6	39.2		63.4	8.5		1.0	3.3	
10	692.57	60,896	(43)	1,438	-		0.170	15.3	41.4		61.5	8.4		1.0	1.8	
11	692.55	60,868	(28)	1,438	-		0.090	8.1	41.4		54.8	8.4		1.0	2.9	
12	692.53	60,839	(29)	1,438	-		0.140	12.6	41.4		53.8	8.1		1.0	5.0	
13	692.51	60,811	(28)	1,437	-		0.170	15.3	41.4		52.3	8.6		1.0	7.8	
14	692.49	60,782	(29)	1,437	-		0.140	12.6	41.4		53.9	8.7		1.0	5.8	
15	692.46	60,739	(43)	1,436	-		0.080	7.2	41.4		52.8	8.6		1.0	(14.8)	
16	692.43	60,696	(43)	1,436	-		0.310	27.8	41.4		68.7	8.6		1.0	21.7	
17	692.38	60,625	(71)	1,435	-		0.180	16.1	41.4		77.9	8.6		1.0	(8.8)	
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<b>TOTALS</b>			<b>(648)</b>		0.17	20.4	2.670	240.1	695.1	-	1,011.1	132.6	-	23.7	-	44.3

Park Usage       Rain %      Yr. Total



**Santa Barbara County Parks Division,  
Cachuma Lake Recreation Area**



**Summary of Aquatic Invasive Species Vessel Inspection Program  
and Early Detection Monitoring Program: **September 2018****

<b>Cachuma Lake Recreation Area Launch Data -- August 2018</b>		
<b>Inspection Data</b>		
Total Vessels entering Park	221	
Total Vessels launched	211	
Total Vessels Quarantined	10	
Returning with Boat Launch Tag	146	68%
New: Removed from Quarantine		
Kayak/Canoe: Inspected, launched	65	32%
4-stroke Engines		
2-strokes, w/CARB star ratings		
2-strokes, NO emissions ratings		
<b>Quarantine Data</b>		
Total Vessels Quarantined	10	
Quarantined 7 days	*	
Quarantined 14 days	*	
Quarantined 30 days	10	
<b>Quarantine Cause</b>		
Water on vessel*	*	
Debris on hull*	*	
Plug installed*	*	
From infected county	1	
Ballast tanks*	*	
Boat longer than 24 feet*	*	
Out-of-state	0	
Unspecified*	*	
Mandatory Quarantine All Untagged Boats	10	
<b>Demographic Data</b>		
Quarantined from infected county	1	
Quarantined from SB County	9	
Quarantined from uninfected co	0	

Boat Launch Tags: Boats with Cachuma Lake Boat Launch Tags attach boat to trailer.

No mussel species have been located on any vessel entering Cachuma Lake as of the last day of this month.

\* These conditions are no longer being tracked.

**EARLY DETECTION MONITORING PROGRAM SUMMARY**

**Summary:** No Dreissenid mussels were detected  
 Inspection Site: Cachuma Lake, Santa Barbara County, California  
 Inspection Date and Time: 2018.09.30; 12:00 2:00 PDT  
 Method: 10 PVC/Cement Sampling Stations; 52 linear feet of line  
 Surveyors: SBCO Parks  
 Lake elevation: Max feet: 753.00, current 692.9; Max acre-feet: 193,305, current: 61,374;  
 Current capacity: 31.7%