

**REGULAR MEETING
OF
CACHUMA OPERATION AND MAINTENANCE BOARD**

held at

**3301 Laurel Canyon Road
Santa Barbara, CA 93105**

Monday, June 26, 2017

2:00 P.M.

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 May 22, 2017 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:
 - Operations Committee Meeting – June 14, 2017
 - Administrative Committee Meeting – June 14, 2017
 - Fisheries Committee Meeting – June 15, 2017
5. **PROPOSED COMB BOARD GOVERNANCE POLICY**
Action: Recommend approval by motion and roll call vote of the Board
6. **FISCAL YEAR 2017-18 ELECTIONS AND APPOINTMENTS OF CACHUMA OPERATION & MAINTENANCE BOARD**
Action: Elections for President and Vice-President by nomination and roll call vote of the Board:
 - a. Election of President
 - b. Election of Vice-PresidentAction: Appointment by motion and roll call vote of the Board for each appointment:
 - c. Appointment of ACWA/JPIA Representative and Alternate
 - d. Appointment of General Counsel
 - e. Appointment of Secretary of the Board
 - f. Appointment of Treasurer and Auditor-Controller

7. **DIRECTOR COMPENSATION**
Action: Receive Draft Ordinance No. 3 and authorize publication of the required Public Notices regarding Director Compensation by motion and roll call vote of the Board

8. **CACHUMA PROJECT TRUST FUND / RENEWAL FUND MEETING AND SANTA BARBARA COUNTY'S PUBLIC MEETING ON CACHUMA PROJECT BETTERMENT FUND, MAY 16, 2017**
Action: Recommend approval by motion and roll call vote of the Board
 - a. Approval of Plan and Program Expenditure of Trust Fund for FY 2017-2018
 - b. Approval of Program Expenditure of Santa Barbara County Water Agency's Betterment Fund for FY 2017-2018

9. **SCOPES OF WORK FOR FISHERIES DIVISION CONSULTANTS FOR FISCAL YEAR 2017-18**
Action: Receive Scopes of Work and authorize execution of the corresponding Professional Services Agreements by motion and roll call vote of the Board

10. **RESOLUTION NO. 633 – APPROVING EXPENDITURES FOR THE CONSTRUCTION OF THE FISH PASSAGE IMPROVEMENT AT QUIOTA CREEK CROSSING NUMBER 5**
Action: Recommend approval by motion and roll call vote of the Board

11. **GENERAL MANAGER REPORT**
Receive information from the General Manager on topics pertaining to COMB, including but not limited to the following:
 - Meetings
 - Administration
 - Operations Division Activities
 - Fisheries Division Activities

12. **OPERATIONS DIVISION REPORT**
Receive information regarding Operations Division, including but not limited to the following:
 - Lake Cachuma Operations
 - Operation and Maintenance Activities

13. **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

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. **WATER SYSTEMS OPTIMIZATION, INC. PRESENTATION ON MASS BALANCES AND SYSTEM METER EVALUATION REPORT (Time Certain - 4PM)**
Receive information on Water Systems Optimization (WSO) Mass Balances and System Meter Evaluation Report

16. **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

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

18. **[CLOSED SESSION]: CONFERENCE WITH LEGAL COUNSEL: POTENTIAL LITIGATION**
 - a. [Government Code Section 54956.9(d)(4)]
Name of matter: Protest of Member Agency re: Payment of Quarterly Assessments

19. **[CLOSED SESSION]: CONFERENCE WITH LABOR NEGOTIATORS**
Agency designated representatives: Board President
Unrepresented Employee: General Manager

20. **RECONVENE INTO OPEN SESSION**
[Government Code Section 54957.7]
Disclosure of actions taken in closed session, as applicable
[Government Code Section 54957.1]

21. **MODIFICATION OF GENERAL MANAGER'S COMPENSATION**
Action: At Board discretion, consideration and approval of modification to General Manager compensation

22. **MEETING SCHEDULE**
 - **July 24, 2017 at 2:00 P.M., COMB Office**
 - **Board Packages Available on COMB Website www.cachuma-board.org**

23. **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.

Public Comment: Any member of the public may address the Board on any subject within the jurisdiction of the Board that is not scheduled for an agenda item before the Board. The total time for this item will be limited by the President of the Board. The Board is not responsible for the content or accuracy of statements made by members of the public. No action will be taken by the Board on any Public Comment item.

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, May 22, 2017

1. Call to Order, Roll Call

The meeting was called to order at 2:00 p.m. by President Morgan who chaired the meeting. Those in attendance were:

Directors Present:

W. Douglas Morgan, Montecito Water District
Harwood 'Bendy' White, City of Santa Barbara (Delayed arrival @ 3:30pm)
Polly Holcombe, Carpinteria Valley Water District
Lauren Hanson, Goleta Water District

Staff Present:

Janet Gingras, General Manager	William Carter, General Counsel
Edward Lyons, Administrative Manager/CFO	Adriane Passani, Admin Asst III/Bookkeeper
Tim Robinson, Fisheries Division Manager	Evangeline Bencheck, Admin Asst II
Dave Stewart, Operations Division Manager	

Others Present:

Philip Walker, Santa Barbara resident	Fray Crease, SB County Water Agency
Bob McDonald, Carpinteria Valley Water District	Kelley Dyer, City of SB Public Works

2. Public Comment

Mr. Walker made comments in regard to Lauro Reservoir and inquired about potential FEMA funding for the rehabilitation of Glen Annie Reservoir.

Mr. McDonald asked the Board to reconsider its policy of excluding General Managers during COMB Board closed session discussions.

3. Consent Agenda

a. Minutes

April 24, 2017 Regular Board Meeting

b. Investment of Funds

- Financial Reports
- Investment Reports

c. Review of Paid Claims

Ms. Gingras presented the Consent Agenda items as provided in the Board packet and noted there were no extraordinary expenditures to report. Director Hanson moved to approve the consent agenda with no changes, seconded by Director Holcombe, the motion passed by 4/0/3 vote:

Ayes: Holcombe, Hanson, Morgan

Nays: None

Absent/Abstain: Walsh, White

4. Verbal Reports From Board Committees

- ***Administrative Committee Meeting – May 19, 2017:*** President Morgan reported on items from the Committee agenda, highlighting the proposed Director Compensation, the CalPERS Pension Plan Unfunded Liability and Employer Paid Member Contributions, and the proposed draft COMB Fiscal Year 2017-18 Operating Budget. President Morgan noted the Committee agreed the proposed draft budget was well prepared and it should be forwarded to the Board for review, discussion and possible approval, if warranted.
- ***Fisheries Committee Meeting – May 19, 2017:*** Director Holcombe reported on the items from the Committee agenda, highlighting the Quiota Creek Fish Passage Improvement Project Crossing 5 and 8, the draft 5-Year Habitat Improvement Plan and the Annual Monitoring Reports/Summary Update, to be further discussed in today's agenda.

5. Resolution No. 630 – Director Compensation

Mr. Carter requested this agenda item be postponed pending further review. President Morgan requested that Mr. Carter contact Ms. Gingras to discuss and bring this item back to the Board at a later date.

6. Resolution No. 631 – CalPERS Employers Paid Member Contributions – Classic Employees

Ms. Gingras presented Resolution No. 631 – CalPERS Employer Paid Member Contributions (EPMC) for Classic Employees. Ms. Gingras explained that staff reviewed its current EPMC policy in comparison with other agencies.. The proposed Resolution calls for COMB employees hired prior to July 1, 2017 and who are considered “Classic” employees, as defined by CalPERS Miscellaneous Plan, to begin contributing toward their retirement benefit using a five year, phased-in approach starting with the first pay period in fiscal year 2017. For individuals hired after July 1, 2017, and who are considered “Classic” employees as defined by CalPERS Miscellaneous Plan, the policy shall consist of COMB paying 0% of the normal member contribution as EPMC.

Director Hanson suggested that the salary structure be revisited going forward. Ms. Gingras reported that the Administrative Committee recommended staff complete a parity study to further review COMB salaries and benefits.

Director Holcombe moved to pass Resolution No. 631 – CalPERS Employers Paid Member Contributions – Classic Employees, seconded by Director Hanson; the motion carried 4/0/3 as follows:

Ayes: Holcombe, Hanson, Morgan

Nays: None

Absent/Abstain: Walsh, White

7. COMB Proposed Draft Fiscal Year 2017-18 Operating Budget

Ms. Gingras presented the COMB Fiscal Year 2017-18 Proposed Draft Operating Budget to the Board for their review and consideration. Mr. Lyons presented a recap of the COMB Draft Operating Budget which offered a comparison between Fiscal Years 2016-17 and 2017-18.

Mr. Stewart outlined the 5-Year Infrastructure Improvement Plan (IIP) and scoring matrix, and offered to field any questions regarding the anticipated list of projects. Director Hanson inquired if the Member Unit General Managers (MUGM) participated in prioritizing the IIP projects. Ms. Gingras commented that the MUGM's were informed and provided comments in a prior meeting.

Mr. Robinson presented the Habitat Improvement Plan (HIP) and answered questions pertaining to the Fisheries Division proposed budget. Ms. Gingras then highlighted the projected offsetting Trust Fund and grant revenues and fielded questions from the Board.

Following a lengthy discussion, Director Hanson requested that the budget be modified to properly reflect the storage and maintenance of the emergency pumping facility project components and the use of carryover funds towards the costs.

Director Hanson also suggested that the IIP and HIP are both documents that inform the Board in consideration of the budget and should not be considered included as approved in the budget. It was further clarified Board policy requires all projects to be submitted through the Committee process and approved by the Board prior to commencement in accordance with the COMB Procurement Policy. Director Hanson further requested to modify the language in the IIP, (Exh.5, Pg.4, Sec. 1.1) to read as follows, "*Following Committee review, the Infrastructure Improvement Plan will be presented to the Board to inform its consideration of the Annual Operating Budget.*", rather than "for approval". Director Hanson moved to receive and approve the Fiscal Year 2017-18 COMB Draft Operating Budget alone with modification as aforementioned without the accompanying documents. Seconded by Director Holcombe, the motion carried 4/0/3 as follows:

Ayes: Holcombe, Hanson, Morgan

Nays: None

Absent/Abstain: Walsh, White

Director Hanson recommended a second motion to receive and file the Infrastructure Improvement Plan and Habitat Improvement Plan with the language in the IIP to be modified as aforementioned. Seconded by Director Holcombe, the motion carried 4/0/3 as follows:

Ayes: Holcombe, Hanson, Morgan

Nays: None

Absent/Abstain: Walsh, White

8. Resolution No. 632 – Acceptance of Grant Agreement with California Department of Fish and Wildlife for Fish Passage Improvement at Quiota Creek Crossing Number Five

Ms. Gingras stated the Draft Grant Agreement regarding Quiota Creek Crossing Number Five has been received and forwarded to the General Counsel for review. Resolution No. 632 provides for the Acceptance of the Grant Agreement with the condition to provide a \$50,000 match. Director Holcombe commented the topic was discussed and reviewed at the Fisheries Committee Meeting and was pending Mr. Carter's confirmation of the Final Grant Agreement. Director Holcombe moved to approve, seconded by Director Hanson, the motion carried 4/0/3 as follows:

Ayes: Holcombe, Hanson, Morgan

Nays: None

Absent/Abstain: Walsh, White

9. General Manager Report

- Meetings
- Contract Administration
- Operations Division Activities
- Fisheries Division Activities

Ms. Gingras presented topics within her report and notified the Board that Mr. Stewart is scheduled to meet with FEMA to discuss the Sycamore Canyon Slide Project. Ms. Gingras provided the Board with an update of the Renewal of Transfer of O&M Contract with the Bureau of Reclamation and fielded questions from the Board. Mr. Stewart reported on staff's participation in a Water Outage Table Top Exercise hosted by the Santa Barbara County Office of Emergency Management. Mr. Robinson informed the Board of current Fisheries Division activities, highlighting the Hilton Creek watering system, and fielded questions from the Board.

10. Operations Division Report

- Lake Cachuma Operations
- Operation and Maintenance Activities

Mr. Stewart, presented topics within his report which was included in the Board packet and fielded questions from the Board Fisheries Division Report.

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

Mr. Robinson provided highlights from his report as presented in the Board packet and gave details about the condition of Hilton Creek and the status of the fish habitat. Mr. Robinson was pleased to report that signs of reproduction have been seen in El Jaro, Salsipuedes and Hilton Creek. Mr. Robinson fielded questions from the Board in regards to the Tributary Project updates, specifically the status of the Quiota Creek Crossing 8.

11. Progress Report on Lake Cachuma Oak Tree Program

- Maintenance and Monitoring

Mr. Robinson updated the Board on the progress of the Oak Tree Program, noting that approximately 300 trees have been planted by COMB staff this year. Mr. Robinson also reported that they are presently working on the irrigation of trees planted during the last three years. He further added that they have finished the oak tree inventory and will be compiling the annual report for committee review.

12. Monthly Cachuma Project Reports

- Cachuma Water Reports
- Cachuma Reservoir Current Conditions
- Lake Cachuma Quagga Survey

Ms. Gingras reviewed the monthly water reports, as included in the board packet. She highlighted the 40% allocation approved by the Bureau of Reclamation effective April 1st. Ms. Gingras offered to field questions from the Board.

13. Directors' Requests for Agenda Items for Future Meeting

No requests for additional Agenda Items for June 26th Meeting.

14. [CLOSED SESSION]: Conference with Legal Counsel: Existing and Potential Litigation

The Board went into closed session at 3:45 p.m.

- a. [Government Code Section 54956.9(d)(4)]
Name of matter: Protest of Member Agency Regarding Payment of Quarterly Assessments

15. [CLOSED SESSION]: ANNUAL PERFORMANCE REVIEW

- b. [Government Code Section 54957(b)]
Title: General Manager

16. Reconvene into Open Session

[Government Code Section 54957.7]
Disclosure of actions taken in closed session, as applicable
[Government Code Section 54957.1]

- a. Protest of Member Agency Regarding Payment of Quarterly Assessments
- b. Annual Performance Review

17. The Board came out of closed session at 4:50 p.m.

There was no reportable action.

18. Meeting Schedule

- June 26, 2017, 2:00 p.m. at COMB Offices
- Board Packages Available on COMB Website www.cachuma-board.org

19. COMB Adjournment

There being no further business, the meeting adjourned at 4:55 p.m.

Respectfully submitted,

Janet Gingras, Secretary of the Board

APPROVED:

Doug Morgan, President of the Board

	Approved
√	Unapproved

COMB
Statement of Net Assets

As of May 31, 2017
UNAUDITED FINANCIALS

ASSETS

Current Assets

Checking/Savings

TRUST FUNDS

1210 · WARREN ACT TRUST FUND 1,053,980.52

1220 · RENEWAL FUND 63,087.61

Total TRUST FUNDS 1,117,068.13

1050 · GENERAL FUND 2,437,112.34

1100 · REVOLVING FUND 208,478.47

Total Checking/Savings 3,762,658.94

Other Current Assets

1010 · PETTY CASH 500.00

1200 · LAIF 817,183.44

1303 · Bradbury SOD Act Assmnts Rec 184,938.00

1304 · Lauro Dam SOD Assesmnt Rec 25,930.00

1400 · PREPAID INSURANCE 27,269.72

Total Other Current Assets 1,055,821.16

Total Current Assets 4,818,480.10

Fixed Assets

1500 · VEHICLES 436,876.93

1505 · OFFICE FURN & EQUIPMENT 440,652.20

1510 · MOBILE OFFICES 97,803.34

1515 · FIELD EQUIPMENT 559,852.38

1525 · PAVING 38,351.00

1550 · ACCUMULATED DEPRECIATION -1,367,626.55

Total Fixed Assets 205,909.30

Other Assets

1910 · LT Bradbury SOD Act Assess Rec 5,065,821.07

1920 · LT Lauro SOD Act Assess Rec 914,412.00

1922 · Deferred Outflows of Resources (GASB 68) 148,586.00

Total Other Assets 6,128,819.07

TOTAL ASSETS 11,153,208.47

COMB
Statement of Net Assets

As of May 31, 2017
UNAUDITED FINANCIALS

LIABILITIES & NET ASSETS

Liabilities

Current Liabilities

Accounts Payable

2200 · ACCOUNTS PAYABLE

78,936.98

Total Accounts Payable

78,936.98

Other Current Liabilities

ACCRUED BENEFITS PAYABLE

682.56

2505 · ACCRUED WAGES

37,117.79

2550 · VACATION/SICK

159,283.55

2561 · BRADBURY DAM SOD ACT

184,948.66

2563 · LAURO DAM SOD ACT

25,930.00

2565 · ACCRUED INTEREST SOD ACT

87,008.00

2567 · Loan Payable current EPFP

442,932.00

2590 · DEFERRED REVENUE

1,117,068.13

Total Other Current Liabilities

2,054,970.69

Total Current Liabilities

2,133,907.67

Long Term Liabilities

2602 · LT SOD Act Liability-Bradbury

5,065,811.07

2603 · LT SOD Act Liability - Lauro

914,412.00

2604 · OPEB LT Liability

907,923.00

2605 · Loan Payable - EPFP

1,331,962.22

2610 · Net Pension Liability (GASB 68)

1,160,030.00

2611 · Deferred Inflows of Resources (GASB 68)

224,052.00

Total Long Term Liabilities

9,604,190.29

Total Liabilities

11,738,097.96

NET POSITION

3000 · Opening Bal Equity

-1,357,356.05

3901 · Retained Net Assets

-631,271.21

Net Income

1,403,737.77

Total Net Assets

-584,889.49

TOTAL LIABILITIES & NET POSITION

11,153,208.47

Cachuma Operation & Maintenance Board
Statement of Revenues and Expenditures
 Budget vs. Actuals July 2016 - Jun 2017

	Fisheries				Operations				TOTAL			
	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget
Income												
3000 REVENUE												
3001 - O&M Budget (Qtrly Assessments)	1,112,897.00	1,305,904.00	-193,007.00	85.22%	3,918,104.03	4,417,789.00	-499,684.97	88.69%	5,031,001.03	5,723,693.00	-692,691.97	87.9%
3006 - Warren Act	0.00	238,306.00	-238,306.00	0.0%	0.00				0.00	238,306.00	-238,306.00	0.0%
3007 - Renewal Fund	0.00	52,872.00	-52,872.00	0.0%	0.00				0.00	52,872.00	-52,872.00	0.0%
3009 - Pmts - Member Agencies - EPPF	0.00				804,813.03				804,813.03	0.00	804,813.03	100.0%
3010 - Interest Income	0.00				7,072.09				7,072.09	0.00	7,072.09	100.0%
3015 - Watershed Sanitary Survey	0.00				7,258.99				7,258.99	0.00	7,258.99	100.0%
3020 - Misc Income	0.00				5,351.33				5,351.33	0.00	5,351.33	100.0%
3033 - Grant-QC Crossing # 0 (a&b)	604,637.61	671,635.00	-66,997.39	90.03%	0.00				604,637.61	671,635.00	-66,997.39	90.03%
3034 - Grant-QC Crossing #4	937,837.95	938,295.00	-457.05	99.95%	0.00				937,837.95	938,295.00	-457.05	99.95%
3035 - Cachuma Project Betterment Fund	77,517.78	90,000.00	-12,482.22	86.13%	0.00				77,517.78	90,000.00	-12,482.22	86.13%
3036 - Landowner Match-QC Crossing 0a	50,000.00				0.00				50,000.00	0.00	50,000.00	100.0%
Total 3000 REVENUE	2,782,890.34	3,297,012.00	-514,121.66	84.41%	4,742,599.47	4,417,789.00	324,810.47	107.35%	7,525,489.81	7,714,801.00	-189,311.19	97.55%
Total Income	2,782,890.34	3,297,012.00	-514,121.66	84.41%	4,742,599.47	4,417,789.00	324,810.47	107.35%	7,525,489.81	7,714,801.00	-189,311.19	97.55%
Gross Profit	2,782,890.34	3,297,012.00	-514,121.66	84.41%	4,742,599.47	4,417,789.00	324,810.47	107.35%	7,525,489.81	7,714,801.00	-189,311.19	97.55%
Expense												
3100 - LABOR - OPERATIONS	0.00				583,557.56	812,375.00	-228,817.44	71.83%	583,557.56	812,375.00	-228,817.44	71.83%
3200 VEH & EQUIPMENT												
3201 - Vehicle/Equip Mtce	0.00				42,475.47	30,000.00	12,475.47	141.59%	42,475.47	30,000.00	12,475.47	141.59%
3202 - Fixed Capital	0.00				3,048.74	15,000.00	-11,951.26	20.33%	3,048.74	15,000.00	-11,951.26	20.33%
3203 - Equipment Rental	0.00				2,076.98	5,000.00	-2,923.02	41.54%	2,076.98	5,000.00	-2,923.02	41.54%
3204 - Miscellaneous	0.00				3,784.50	5,000.00	-1,215.50	75.69%	3,784.50	5,000.00	-1,215.50	75.69%
Total 3200 VEH & EQUIPMENT	0.00				51,385.69	55,000.00	-3,614.31	93.43%	51,385.69	55,000.00	-3,614.31	93.43%
3300 - CONTRACT LABOR												
3301 - Conduit, Meter, Valve & Misc	0.00				26,987.48	20,000.00	6,987.48	134.94%	26,987.48	20,000.00	6,987.48	134.94%
3302 - Buildings & Roads	0.00				26,637.10	27,257.00	-619.90	97.73%	26,637.10	27,257.00	-619.90	97.73%
3302-1 - UF FY 15/16 Ortega Underdrain	0.00				0.00	-7,257.00	7,257.00	0.0%	0.00	-7,257.00	7,257.00	0.0%
3303 - Reservoirs	0.00				45,268.99	87,983.00	-42,714.01	51.45%	45,268.99	87,983.00	-42,714.01	51.45%
3303-1 - UF FY-15/16 Ortega Underdrain	0.00				0.00	-57,983.00	57,983.00	0.0%	0.00	-57,983.00	57,983.00	0.0%
3304 - Engineering, Misc Services	0.00				35,531.57	25,000.00	10,531.57	142.13%	35,531.57	25,000.00	10,531.57	142.13%
Total 3300 - CONTRACT LABOR	0.00				134,425.14	95,000.00	39,425.14	141.5%	134,425.14	95,000.00	39,425.14	141.5%
3400 - MATERIALS & SUPPLIES												
3401 - Conduit, Meter, Valve & Misc	0.00				1,745.18	65,000.00	-63,254.82	2.69%	1,745.18	65,000.00	-63,254.82	2.69%
3402 - Buildings & Roads	0.00				3,031.06	15,000.00	-11,968.94	20.21%	3,031.06	15,000.00	-11,968.94	20.21%
3403 - Reservoirs	0.00				1,833.90	10,000.00	-8,166.10	18.34%	1,833.90	10,000.00	-8,166.10	18.34%
Total 3400 - MATERIALS & SUPPLIES	0.00				6,610.14	90,000.00	-83,389.86	7.35%	6,610.14	90,000.00	-83,389.86	7.35%
3500 - OTHER EXPENSES												
3501 - Utilities	0.00				6,341.15	7,000.00	-658.85	90.59%	6,341.15	7,000.00	-658.85	90.59%
3502 - Uniforms	0.00				1,046.84	5,000.00	-3,953.16	20.94%	1,046.84	5,000.00	-3,953.16	20.94%
3503 - Communications	0.00				16,268.94	18,000.00	-1,731.06	90.38%	16,268.94	18,000.00	-1,731.06	90.38%
3504 - USA & Other Services	0.00				1,443.37	4,000.00	-2,556.63	36.08%	1,443.37	4,000.00	-2,556.63	36.08%
3505 - Miscellaneous	0.00				5,837.37	8,000.00	-2,162.63	72.97%	5,837.37	8,000.00	-2,162.63	72.97%
3506 - Training	0.00				1,350.76	3,000.00	-1,649.24	45.03%	1,350.76	3,000.00	-1,649.24	45.03%
Total 3500 - OTHER EXPENSES	0.00				32,288.43	45,000.00	-12,711.57	71.75%	32,288.43	45,000.00	-12,711.57	71.75%
4100 - LABOR - FISHERIES	588,204.44	623,119.00	-34,914.56	94.4%	0.00				588,204.44	623,119.00	-34,914.56	94.4%
4200 - VEHICLES & EQUIP - FISHERIES												
4270 - Vehicle/Equip Mtce	20,530.68	13,000.00	7,530.68	157.93%	0.00				20,530.68	13,000.00	7,530.68	157.93%
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	4,248.81	2,500.00	1,748.81	169.95%	0.00				4,248.81	2,500.00	1,748.81	169.95%
Total 4200 - VEHICLES & EQUIP - FISHERIES	24,779.49	30,500.00	-5,720.51	81.24%	0.00				24,779.49	30,500.00	-5,720.51	81.24%
4220 - CONTRACT LABOR - FISHERIES												
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	10,562.76	25,000.00	-14,437.24	42.25%	0.00				10,562.76	25,000.00	-14,437.24	42.25%
Total 4220 - CONTRACT LABOR - FISHERIES	10,562.76	28,000.00	-17,437.24	37.72%	0.00				10,562.76	28,000.00	-17,437.24	37.72%
4300 - MATERIALS/SUPPLIES - FISHERIES												
4390 - Miscellaneous	3,501.43	7,000.00	-3,498.57	50.02%	0.00				3,501.43	7,000.00	-3,498.57	50.02%
Total 4300 - MATERIALS/SUPPLIES - FISHERIES	3,501.43	7,000.00	-3,498.57	50.02%	0.00				3,501.43	7,000.00	-3,498.57	50.02%

Cachuma Operation & Maintenance Board
Statement of Revenues and Expenditures
 Budget vs. Actuals July 2016 - Jun 2017

	Fisheries				Operations				TOTAL			
	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget
4500 · OTHER EXPENSES - FISHERIES												
4502 · Uniforms	1,068.43	2,500.00	-1,431.57	42.74%	0.00				1,068.43	2,500.00	-1,431.57	42.74%
Total 4500 · OTHER EXPENSES - FISHERIES	1,068.43	2,500.00	-1,431.57	42.74%	0.00				1,068.43	2,500.00	-1,431.57	42.74%
4999 · GENERAL & ADMINISTRATIVE												
5000 · Director Fees												
5001 · Director Mileage	0.00				473.82	2,000.00	-1,526.18	23.69%	473.82	2,000.00	-1,526.18	23.69%
5000 · Director Fees - Other	0.00				7,155.20	11,000.00	-3,844.80	65.05%	7,155.20	11,000.00	-3,844.80	65.05%
Total 5000 · Director Fees	0.00				7,629.02	13,000.00	-5,370.98	58.69%	7,629.02	13,000.00	-5,370.98	58.69%
5100 · Legal	0.00				49,450.13	75,000.00	-25,549.87	65.93%	49,450.13	75,000.00	-25,549.87	65.93%
5101-1 · Audit	0.00				13,891.15	20,000.00	-6,108.85	69.46%	13,891.15	20,000.00	-6,108.85	69.46%
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				43,764.50	45,955.00	-2,190.50	95.23%	43,764.50	45,955.00	-2,190.50	95.23%
5310 · Postage/Office Exp	0.00				6,017.81	5,000.00	1,017.81	120.36%	6,017.81	5,000.00	1,017.81	120.36%
5311 · Office Equip/Leases	0.00				8,045.48	8,000.00	45.48	100.57%	8,045.48	8,000.00	45.48	100.57%
5312 · Misc Admin Expenses	0.00				13,203.21	7,150.00	6,053.21	184.66%	13,203.21	7,150.00	6,053.21	184.66%
5313 · Communications	0.00				7,789.88	8,500.00	-710.12	91.65%	7,789.88	8,500.00	-710.12	91.65%
5314 · Utilities	0.00				7,356.42	9,737.00	-2,380.58	75.55%	7,356.42	9,737.00	-2,380.58	75.55%
5315 · Membership Dues	0.00				8,113.97	8,000.00	113.97	101.43%	8,113.97	8,000.00	113.97	101.43%
5316 · Admin Fixed Assets	0.00				1,933.98	3,000.00	-1,066.02	64.47%	1,933.98	3,000.00	-1,066.02	64.47%
5317 · Admin Contract Labor AAll	0.00				18,803.75	22,000.00	-3,196.25	85.47%	18,803.75	22,000.00	-3,196.25	85.47%
5318 · Computer Consultant	0.00				10,141.55	15,000.00	-4,858.45	67.61%	10,141.55	15,000.00	-4,858.45	67.61%
5325 · Emp Training/Subscriptions	0.00				1,216.31	2,000.00	-783.69	60.82%	1,216.31	2,000.00	-783.69	60.82%
5330 · Admin Travel/Conferences	0.00				885.64	2,000.00	-1,114.36	44.28%	885.64	2,000.00	-1,114.36	44.28%
5331 · Public Information	0.00				80.84	1,000.00	-919.16	8.08%	80.84	1,000.00	-919.16	8.08%
5391 · Admin Contract Labor AA I	0.00				12,965.97	19,600.00	-6,634.03	66.15%	12,965.97	19,600.00	-6,634.03	66.15%
Total 4999 · GENERAL & ADMINISTRATIVE	0.00				211,289.61	269,942.00	-58,652.39	78.27%	211,289.61	269,942.00	-58,652.39	78.27%
5299 · ADMIN LABOR	0.00				410,018.83	484,222.00	-74,203.17	84.68%	410,018.83	484,222.00	-74,203.17	84.68%
5400 · GENERAL & ADMIN - FISHERIES												
5407 · Legal - FD	8,728.50	20,000.00	-11,271.50	43.64%	0.00				8,728.50	20,000.00	-11,271.50	43.64%
5410 · Postage / Office Supplies	3,583.19	2,000.00	1,583.19	179.16%	0.00				3,583.19	2,000.00	1,583.19	179.16%
5411 · Office Equipment / Leases	4,332.12	5,218.00	-885.88	83.02%	0.00				4,332.12	5,218.00	-885.88	83.02%
5412 · Misc. Admin Expense	5,333.82	4,870.00	463.82	109.52%	0.00				5,333.82	4,870.00	463.82	109.52%
5413 · Communications	4,797.11	4,305.00	492.11	111.43%	0.00				4,797.11	4,305.00	492.11	111.43%
5414 · Utilities	3,961.12	5,243.00	-1,281.88	75.55%	0.00				3,961.12	5,243.00	-1,281.88	75.55%
5415 · Membership Dues	4,333.65	4,000.00	333.65	108.34%	0.00				4,333.65	4,000.00	333.65	108.34%
5416 · Admin Fixed Assets	1,041.38	3,000.00	-1,958.62	34.71%	0.00				1,041.38	3,000.00	-1,958.62	34.71%
5417 · Admin Contract Labor AAll	10,125.11	12,000.00	-1,874.89	84.38%	0.00				10,125.11	12,000.00	-1,874.89	84.38%
5418 · Computer Consultant	5,460.82	5,000.00	460.82	109.22%	0.00				5,460.82	5,000.00	460.82	109.22%
5425 · Employee Education/Subsription	1,573.22	2,500.00	-926.78	62.93%	0.00				1,573.22	2,500.00	-926.78	62.93%
5426 · Director Fees	3,852.80	6,000.00	-2,147.20	64.21%	0.00				3,852.80	6,000.00	-2,147.20	64.21%
5427 · Director Mileage	255.10	1,000.00	-744.90	25.51%	0.00				255.10	1,000.00	-744.90	25.51%
5430 · Travel	960.17	2,500.00	-1,539.83	38.41%	0.00				960.17	2,500.00	-1,539.83	38.41%
5431 · Public Information	543.53	1,500.00	-956.47	36.24%	0.00				543.53	1,500.00	-956.47	36.24%
5441 · Audt	7,479.85	6,300.00	1,179.85	118.73%	0.00				7,479.85	6,300.00	1,179.85	118.73%
5443 · Liab & Property Ins	23,565.50	24,745.00	-1,179.50	95.23%	0.00				23,565.50	24,745.00	-1,179.50	95.23%
5491 · Admin Contract Labor AA I	6,981.71	10,600.00	-3,618.29	65.87%	0.00				6,981.71	10,600.00	-3,618.29	65.87%
Total 5400 · GENERAL & ADMIN - FISHERIES	96,908.70	120,781.00	-23,872.30	80.24%	0.00				96,908.70	120,781.00	-23,872.30	80.24%
5499 · ADMIN LABOR-FISHERIES	150,249.97	202,112.00	-51,862.03	74.34%	0.00				150,249.97	202,112.00	-51,862.03	74.34%
5510 · Integrated Reg. Water Mgt Plan	0.00				1,343.00	5,000.00	-3,657.00	26.86%	1,343.00	5,000.00	-3,657.00	26.86%
6000 · SPECIAL PROJECTS												
6062 · SCADA	0.00				2,503.99	20,000.00	-17,496.01	12.52%	2,503.99	20,000.00	-17,496.01	12.52%
6090 · COMB Office Building	0.00				284.00	150,000.00	-149,716.00	0.19%	284.00	150,000.00	-149,716.00	0.19%
6096 · SCC Structure Rehabilitation	0.00				0.00	240,000.00	-240,000.00	0.0%	0.00	240,000.00	-240,000.00	0.0%
6097 · GIS and Mapping	0.00				6,647.00	10,000.00	-3,353.00	66.47%	6,647.00	10,000.00	-3,353.00	66.47%
6100 · Watershed Sanitary Survey	0.00				35,481.20	35,481.20	0.00	100.0%	35,481.20	35,481.20	0.00	100.0%
6100-1a · Watershed Sanitary Survey-C/O	0.00				0.00	-35,481.20	35,481.20	0.0%	0.00	-35,481.20	35,481.20	0.0%
6105 · ROW Management Program	0.00				1,440.00	20,000.00	-18,560.00	7.2%	1,440.00	20,000.00	-18,560.00	7.2%
6109 · NP Jet Flow Control Valve	0.00				0.00	50,000.00	-50,000.00	0.0%	0.00	50,000.00	-50,000.00	0.0%
6111 · Mission Crk Pipe Temp Repair	0.00				0.00	50,000.00	-50,000.00	0.0%	0.00	50,000.00	-50,000.00	0.0%

Cachuma Operation & Maintenance Board
Statement of Revenues and Expenditures
 Budget vs. Actuals July 2016 - Jun 2017

	Fisheries				Operations				TOTAL			
	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget	Jul '16 - May 17	Budget	\$ Over Budget	% of Budget
6118 - Repair Lateral 3 Structure	0.00				19,359.25	100,000.00	-80,640.75	19.36%	19,359.25	100,000.00	-80,640.75	19.36%
6120 - Emergency Pumping Fac Project	0.00				1,769,903.69	2,160,374.00	-390,470.31	81.93%	1,769,903.69	2,160,374.00	-390,470.31	81.93%
6120-1 - EPPF UF FY 2015-16	0.00				0.00	-314,124.00	314,124.00	0.0%	0.00	-314,124.00	314,124.00	0.0%
6130 - NP Slope Stabilization	0.00				8,973.75	82,668.20	-73,694.45	10.86%	8,973.75	82,668.20	-73,694.45	10.86%
6130-1 - NP Slope Stabil C/O Funds FY 16	0.00				0.00	-82,668.20	82,668.20	0.0%	0.00	-82,668.20	82,668.20	0.0%
6131 - Lauro Diversion Valve Install	0.00				70,750.00	75,000.00	-4,250.00	94.33%	70,750.00	75,000.00	-4,250.00	94.33%
Total 6000 - SPECIAL PROJECTS	0.00				1,915,342.88	2,561,250.00	-645,907.12	74.78%	1,915,342.88	2,561,250.00	-645,907.12	74.78%
6200 - FISHERIES ACTIVITIES												
6201 - FMP Implementation	3,136.77	58,800.00	-55,663.23	5.34%	0.00				3,136.77	58,800.00	-55,663.23	5.34%
6202 - GIS and Mapping	3,897.00	10,000.00	-6,103.00	38.97%	0.00				3,897.00	10,000.00	-6,103.00	38.97%
6203 - Grants Technical Support	0.00	0.00	0.00	0.0%	0.00				0.00	0.00	0.00	0.0%
6204 - SYR Hydrology Technical Support	0.00	8,000.00	-8,000.00	0.0%	0.00				0.00	8,000.00	-8,000.00	0.0%
6205 - USGS Stream Gauge Program	91,875.00	77,000.00	14,875.00	119.32%	0.00				91,875.00	77,000.00	14,875.00	119.32%
6206 - Tri County Fish Team Funding	5,000.00	5,000.00	0.00	100.0%	0.00				5,000.00	5,000.00	0.00	100.0%
6207 - Oak Tree Restoration Program	18,006.26	80,000.00	-61,993.74	22.51%	0.00				18,006.26	80,000.00	-61,993.74	22.51%
Total 6200 - FISHERIES ACTIVITIES	121,915.03	238,800.00	-116,884.97	51.05%	0.00				121,915.03	238,800.00	-116,884.97	51.05%
6300 - HABITAT ENHANCEMENT												
6303 - Tributary Projects Support	20,000.03	20,000.00	0.03	100.0%	0.00				20,000.03	20,000.00	0.03	100.0%
6312 - Quiota Creek Crossing 0 (a&b)	642,092.07	840,000.00	-197,907.93	76.44%	0.00				642,092.07	840,000.00	-197,907.93	76.44%
6313 - Quiota Creek Crossing 3	527.00				0.00				527.00	0.00	527.00	100.0%
6314 - Quiota Creek Crossing 4	1,020,929.06	1,120,000.00	-99,070.94	91.15%	0.00				1,020,929.06	1,120,000.00	-99,070.94	91.15%
6315 - Quiota Creek Crossing 8	11,560.00	24,200.00	-12,640.00	47.77%	0.00				11,560.00	24,200.00	-12,640.00	47.77%
6316 - Quiota Creek Crossing 5	16,245.54	30,000.00	-13,754.46	54.15%	0.00				16,245.54	30,000.00	-13,754.46	54.15%
6317 - Salsipuedes Fish Ladder Repair	3,608.62	10,000.00	-6,391.38	36.09%	0.00				3,608.62	10,000.00	-6,391.38	36.09%
Total 6300 - HABITAT ENHANCEMENT	1,714,962.32	2,044,200.00	-329,237.68	83.89%	0.00				1,714,962.32	2,044,200.00	-329,237.68	83.89%
7007 - INTEREST EXPENSE-EPPF	0.00				63,405.17				63,405.17	0.00	63,405.17	100.0%
Total Expense	2,712,152.87	3,297,012.00	-584,859.13	82.26%	3,409,599.17	4,417,789.00	-1,008,189.83	77.18%	6,121,752.04	7,714,801.00	-1,593,048.96	79.35%
Net Income	70,737.47	0.00	70,737.47	100.0%	1,333,000.30	0.00	1,333,000.30	100.0%	1,403,737.77	0.00	1,403,737.77	100.0%

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CACHUMA O&M BOARD

Local Agency Investment Fund
P.O. Box 942809
Sacramento, CA 94209-0001
(916) 653-3001

www.treasurer.ca.gov/pmia-laif/laif.asp
June 12, 2017

CACHUMA OPERATION AND MAINTENANCE BOARD

GENERAL MANAGER
3301 LAUREL CANYON ROAD
SANTA BARBARA, CA 93105-2017

PMIA Average Monthly Yields

Account Number:

Tran Type Definitions

May 2017 Statement

Account Summary

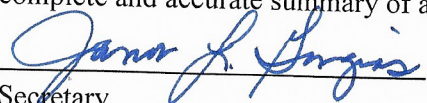
Total Deposit:	0.00	Beginning Balance:	817,183.44
Total Withdrawal:	0.00	Ending Balance:	817,183.44

MEMO TO: Board of Directors
Cachuma Operation & Maintenance Board

FROM: Janet Gingras, Secretary

SUBJECT: COMB INVESTMENT POLICY

The above statement of investment activity for the month of May, 2017, 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 LAIF investments of this agency for the period indicated.


Secretary

AMERICAN RIVIERA BANK

P.O. Box 329, Santa Barbara, California 93102
805-965-5942 www.americanrivierabank.com

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CACHUMA O & M BOARD

CACHUMA OPERATION AND MAINTENANCE BOARD
WARREN ACCT TRUST FUND
3301 LAUREL CANYON RD
SANTA BARBARA CA 93105-2017

ACCOUNT ANALYSIS CHECKING

ACCOUNT NO
STATEMENT DATE 05/31/2017
LAST STATEMENT DATE 04/28/2017

0 STATEMENT PERIOD

PREVIOUS BALANCE	895,869.52	# OF DAYS-STMT PERIOD	33
1 DEPOSITS/CREDITS	158,111.00		
0 CHECKS/WITHDRAWALS	0.00	AVERAGE BALANCE	991,694.37
ENDING BALANCE	1,053,980.52	YTD INTEREST	0.00
TOTAL SRV CHG TODAY	0.00		

DEPOSITS

DATE	DESCRIPTION	AMOUNT
05/12/17	CCWA 3rd QTR Jan-Mar WY 16-17	158,111.00

DAILY BALANCE SUMMARY

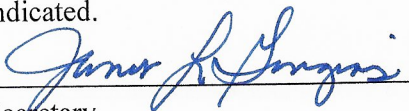
DATE	AMOUNT	DATE	AMOUNT
05/12/2017	1,053,980.52		

MEMO TO: Board of Directors
Cachuma Operation & Maintenance Board

FROM: Janet Gingras, Secretary

SUBJECT: COMB INVESTMENT POLICY

The above statement of investment activity for the month of May, 2017, 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 investments of this agency for the period indicated.


Secretary

AMERICAN RIVIERA BANK

P.O. Box 329, Santa Barbara, California 93102
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CACHUMA OPERATION AND MAINTENANCE BOARD
RENEWAL ACCOUNT
3301 LAUREL CANYON RD
SANTA BARBARA CA 93105-2017

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JUN 05 2017

CACHUMA O & M BOARD

ACCOUNT ANALYSIS CHECKING

ACCOUNT NO
STATEMENT DATE 05/31/2017
LAST STATEMENT DATE 04/28/2017

0	STATEMENT PERIOD		
PREVIOUS BALANCE	63,087.61	# OF DAYS-STMT PERIOD	33
0 DEPOSITS/CREDITS	0.00		
0 CHECKS/WITHDRAWALS	0.00	AVERAGE BALANCE	63,087.61
ENDING BALANCE	63,087.61	YTD INTEREST	0.00
TOTAL SRV CHG TODAY	0.00		

MEMO TO: Board of Directors
Cachuma Operation & Maintenance Board

FROM: Janet Gingras, Secretary

SUBJECT: COMB INVESTMENT POLICY

The above statement of investment activity for the month of May, 2017, complies with legal requirements for investment policy of government agencies, AB 1075. I hereby certify that it constitutes a complete and accurate summary of all American Riviera Bank investments of this agency for the period indicated.


Secretary

Cachuma Operation & Maintenance Board

Paid Claims

As of May 31, 2017

Date	Num	Name	Memo	Amount
1050 - GENERAL FUND				
05/02/2017	25322	A-OK Power Equipment-SB	Trimmer line for weed wacker (Ops Div)	-58.16
05/02/2017	25323	Business Card	Posi-track repair/Epoxy paint/GFOA Membership (Ops Div)	-852.99
05/02/2017	25324	Crop Production Services, Inc	Coveralls/Goggles/Mask/Safety glasses/Rodent bait (Ops Div)	-201.26
05/02/2017	25325	ECHO Communications	Monthly answering service	-66.23
05/02/2017	25326	Federal Express	Mailings (Fish Div)	-36.55
05/02/2017	25327	Harrison Hardware	Oscillating sprinkler/Hose/Seal tape/Tray roller/ Spray/Wire/Pipe/Faucet (Fish Div)	-220.14
05/02/2017	25328	HDR Engineering, Inc.	FMP Implementation/Tributary Projects services - Mar (Fish Div)	-5,606.62
05/02/2017	25329	Instrument & Valve Services Company	Calibration-pressure transmitters (5) (Ops Div)	-2,006.64
05/02/2017	25331	Nestle Pure Life Direct	Apr-5 gallon bottle deposit	-105.75
05/02/2017	25332	Orchard Business/SYNCB	Flashlight/Shoe Goo (Fish Div)	-57.30
05/02/2017	25333	PG&E	Tecolote Tunnel/North Portal electricity	-409.45
05/02/2017	25334	Powell Garage	Replaced rear brakes/Water Pump/Brake and engine fluid exchange - 06 Chevy Colorado (Fish Div)	-1,382.15
05/02/2017	25335	Praxair Distribution, Inc	Cylinder rental (acetylene for welder) (Ops Div)	-69.75
05/02/2017	25336	Salmonid Restoration Federation	35th Annual Salmonid Restoration Conference (Fish Div)	-500.00
05/02/2017	25337	Specialty Tool, LTD	Tool - Meter Tap (Ops Div)	-89.12
05/02/2017	25338	The Gas Company	Gas-main office	-34.30
05/02/2017	25339	Underground Service Alert of So. Calif.	57 Ticket charges (Ops Div)	-85.50
05/02/2017	25340	United States Geological Survey	2nd Qtr 2/1/17 -4/30/17 per agreement	-26,412.50
05/02/2017	25341	Wells Fargo Vendor Fin Serv	Copier (4550 & 3051) lease agmt	-488.11
05/02/2017	25342	Winema Industrial & Safety Supply	Calibration mix for equipment (mtce) (Ops Div)	-307.44
05/02/2017	25343	Water Systems Optimization, Inc.	Water efficiency & metering analysis-Jan/ Feb/March (Ops Div)	-12,500.00
05/05/2017	25344	HDR Engineering, Inc.	Engineering services-EPFP-Mar/Apr (Ops Div)	-102,392.75
05/12/2017	25347	City of Santa-Barbara	Trash/Recycle-April 2017	-218.67
05/12/2017	25348	City of Santa Barbara-Central Stores	Gloves/Hard hat (Ops Div)	-201.76
05/12/2017	25349	Cox Communications Santa Barbara	Business internet-Apr	-195.00
05/12/2017	25350	Culligan of Sylmar	Monthly RO system-May	-26.95
05/12/2017	25351	Dal Pozzo Tire Corp.	Tires-Trailer (2) (Ops Div)	-1,059.02
05/12/2017	25352	Frontier Communications	Telephone: Main office/outlying stations	-1,156.84
05/12/2017	25353	Harwood White	April mtg fees	-392.95
05/12/2017	25354	J&C Services	Ofc cleaning services-April	-420.00
05/12/2017	25355	Lauren W. Hanson	April mtg fees	-133.40
05/12/2017	25356	Milpas Rental	Vibra Plate rental (4 hrs) (Ops Div)	-83.92
05/12/2017	25357	Paychex, Inc.	4/07/17, 4/21/17 payrolls/taxes/deliveries	-349.54
05/12/2017	25358	Polly Holcombe	April mtg fees	-143.28
05/12/2017	25359	Prudential Overall Supply	Mats/scrapers-Apr	-100.56
05/12/2017	25360	SB Home Improvement Center	Stripping paint (Fish Div)	-73.59
05/12/2017	25361	Southern California Edison	Main office/Outlying stations	-1,106.20
05/12/2017	25362	Staples Credit Plan	Office supplies (Ops and Fish Div)	-263.21
05/12/2017	25363	Turenchalk Network Services, Inc.	IT services	-803.50
05/12/2017	25364	Verizon Wireless	Cellular/Modem's/USB's	-543.89
05/12/2017	25365	W. Douglas Morgan	April mtg fees	-405.60
05/12/2017	25366	Capitol Elevator Company, Inc.	NP Elevator brake repair (Ops Div)	-7,440.00
05/18/2017	25367	American Riviera Bank (ARB)	Principal/Interest-EPFP loans	-38,477.96
05/18/2017	25368	Association of Ca Water Agencies/JPIA	June Health Benefits coverage	-27,377.62
05/18/2017	25369	AT&T	Apr charges	-489.71
05/18/2017	25370	Bedrock Building Supplies	Sand-road mtce (Ops Div)	-103.44
05/18/2017	25371	Coastal Copy, LP	Copier (4550 & 3051) mtce agmts	-269.61
05/18/2017	25372	Cushman Contracting Corp.	Emerg Pumping System: Pay Req#36-Phase II	-67,950.00
05/18/2017	25373	Perry Ford	Service/Brakes/Coolant/Filters-2009 F-150 and Service/ Brakes/Coolant/Filters-2015 F-150 (Fish Div)	-1,212.61
05/18/2017	25374	Premiere Global Services	Conf calls-Apr	-100.99

Item #3c
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Cachuma Operation & Maintenance Board

Paid Claims

As of May 31, 2017

Date	Num	Name	Memo	Amount
05/18/2017	25375	Select Staffing	Admin Assistant/Board Secretary	-1,399.87
05/18/2017	25376	Southern California Edison	Outlying station	-52.05
05/18/2017	25377	COM3 Consulting Inc.	QC Xng 8 Project Mgmt services-Jan - Apr	-4,590.00
05/30/2017	25378	Business Card	LogMeIn Annual Renewal/GFOA Class Registration (Admin)	-334.99
05/30/2017	25379	Central Coast Salmon Enhancement, Inc.	Tri-County F.I.S.H. Team (Fish Div)	-5,000.00
05/30/2017	25380	Farm Supply Company	Wire rebar/Gloves/Panels/T-post (Fish Div)	-460.94
05/30/2017	25381	HDR Engineering, Inc.	BO/FMP Fish Monitoring/Quiota Crk Xng 5 Design-Apr (Fish Div)	-3,610.96
05/30/2017	25382	J&C Services	Ofc cleaning services-May	-420.00
05/30/2017	25383	Levi H. Miller	Travel-SYR berm monitoring WY 2016/2017 (Fish Div)	-1,044.90
05/30/2017	25384	Manzanita Nursery	Oak Trees (Fish Div)	-120.68
05/30/2017	25385	Orchard Business/SYNCB	Cobweb duster (Ops Div)	-14.31
05/30/2017	25386	Pacific Coast Jiffy Lube	Service/Oil change -2008 Ford Explorer (Ops Div)	-63.40
05/30/2017	25387	Paychex, Inc.	HR Essentials Set-up/Base Fee	-1,178.25
05/30/2017	25388	PG&E	Tecolote Tunnel/North Portal electricity	-297.79
05/30/2017	25389	Quinn Company	Service-North Portal and Lauro Generators (Ops Div)	-3,450.20
05/30/2017	25390	Sansum Clinic-Occupational Medicine	First Aid/Exam (Fish Div)	-360.00
05/30/2017	25391	Select Staffing	Admin Assistant/Board Secretary	-1,478.61
05/30/2017	25392	Southern California Edison	Outlying station	-23.73
05/30/2017	25393	The Gas Company	Gas-main office	-5.90
05/30/2017	25394	Water Systems Optimization, Inc.	Water efficiency & metering analysis-May (Ops Div)	-1,360.00
05/30/2017	25395	Wells Fargo Vendor Fin Serv	Copier (4550 & 3051) lease agmt	-488.11
05/30/2017	25396	Flowers & Associates, Inc.	Engineering services-Lat 3A Abandonment-Apr (Ops Div)	-555.00
Total 1050 - GENERAL FUND				<u>-331,292.22</u>
TOTAL				<u>-331,292.22</u>

APPROVED FOR PAYMENT

_____ Director

_____ Director

_____ Director

CACHUMA OPERATION & MAINTENANCE BOARD

Operations Committee Meeting

3301 Laurel Canyon Road
Santa Barbara, CA 93105

Wednesday, June 14, 2017
10:00 a.m.

AGENDA

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. Infrastructure Improvement Plan (IIP) Projects Update (*for information and possible recommendation*)
 - A. Sycamore Canyon Slide Repair
 - B. Lateral Structure No. 3 Repair
 - C. AVAR Valve / Blow-Off Replacement / Relocation
 - D. Water Efficiency and Metering Analysis
 - E. North Portal Slope Stabilization
4. Construction Projects within USBR Right-of-Way (*for information only*)
5. 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 569-1391 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

Administrative Committee Meeting

3301 Laurel Canyon Road
Santa Barbara, CA 93105

Wednesday, June 14, 2017
10:00 a.m.

***NOTE:** This committee meeting will occur following the conclusion of agenda items on the Operations Committee Meeting scheduled for Wednesday, June 14, 2017 at 10:00 am.

AGENDA

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. Director Compensation (*for information and possible recommendation*)
4. Transfer of the Operation & Maintenance of the Cachuma Transferred Project Works - Contract Renewal Process (*for information*)
5. 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 569-1391 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

Fisheries Committee Meeting

3301 Laurel Canyon Road
Santa Barbara, CA 93105

Thursday, June 15, 2017

10:00 AM

AGENDA

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. Renewal Fund/Cachuma Project Trust Fund/Betterment Fund Long-Term and Annual Plan (*for information and possible recommendation*)
4. Consultant Scopes of Work (SOW) for Fiscal Year 2017-18 (*for information and possible recommendation*)
5. Quiota Creek Fish Passage Improvement Project Updates (*for information*)
6. Annual Monitoring Reports Update (AMRs) (*for information*)
7. Update on Recent Fisheries Division Activities (*for information*)
8. 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 569-1391 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:	June 26, 2017
Submitted by:	Janet Gingras

SUBJECT: **COMB Proposed Board Governance Policy**

SUMMARY:

The attached proposed Board Governance Policy was presented in draft form to the Administrative Committee and subsequently to the Board of Directors for review, discussion and proposed changes. Incorporated in the final draft are the suggestions discussed by the Directors during the April regular Board meeting. A red-lined version has been provided to the Directors under separate cover. This policy is intended to be included as a sub-section in a larger, comprehensive Administrative and Board Policy and Procedures Manual currently under development for COMB.

LEGAL CONCURRENCE:

Legal Counsel has reviewed the proposed Board Governance Policy.

COMMITTEE STATUS:

The Administrative Committee forwards the proposed Board Governance Policy to the Board with a recommendation to approve.

RECOMMENDATION:

The Board approve the attached proposed Board Governance Policy.

LIST OF EXHIBITS:

1. Proposed Board Governance Policy



**POLICY AND PROCEDURE
CACHUMA OPERATION & MAINTENANCE BOARD**

Approval Date:	POLICY TITLE	Policy No.: 1.0
June 26, 2017	BOARD GOVERNANCE POLICY	Page 1 of 14

1.0 BOARD GOVERNANCE POLICY

PURPOSE AND SCOPE

This Policy applies to the Governing Board of Directors (Board) of the Cachuma Operation and Maintenance Board (COMB), and is specifically designed and intended to promote and maintain the highest ethical and professional standards for its members. The effective operation of COMB mandates that all decisions and policy be lawfully made within the authorized government structure, and in a manner preventing this public office from being used for personal gain. More importantly, in carrying out their duties and responsibilities, Board members must remain objective and responsive to the needs of the public and communities that they serve. Accordingly, it is the policy of COMB that Board members and COMB employees shall maintain the highest standard of personal and professional honesty, ethics and fairness in carrying out their duties.

This Policy sets forth the basic professional and ethical standards to be followed by the Board. The objectives of this Policy are to (1) provide guidance for dealing with ethical issues; (2) outline the function, role and responsibility of the Board; (3) heighten awareness of these ethical issues and values as critical elements in Board members' conduct and governing practices; and (4) improve effective and timely decision-making.

This Policy is being adopted pursuant to Section 1.7 of 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 (COMB JPA),

RESPONSIBILITIES OF PUBLIC OFFICE

As set forth in Section 1.3 of the COMB JPA, COMB shall be governed by a Board of Directors (Board), which shall conduct the business and policy-making affairs of COMB, and in that capacity, shall determine all provisions of COMB policy. All powers of COMB are exercised through the Board.

Members of the Board are obligated to uphold both the Constitution of the United States and the Constitution of the State of California. Board members will also comply with all applicable laws regulating their conduct, including conflict of interest, financial disclosure and open government laws. Board members will further strive to work in cooperation with other public officials, unless prohibited from so doing by law or officially-recognized confidentiality of their work. (California Government Code Section 1360; and Article 20, Section 3 of the California Constitution.)

FUNCTION OF THE BOARD OF DIRECTORS

As set forth in Sections 1.3 et seq. and 1.7, and Articles II and III of the COMB JPA, the Board has numerous enumerated powers, including, among other things, adopting resolutions and policies, appropriating funds, adhering to contractual agreements, and performing such other duties and responsibilities as are required of it or otherwise allowed by law. The Board

establishes policy through broad policy directive and general task assignments. The Board also has the authority to appoint a General Manager as well as review the General Manager's performance and establish his/her compensation level annually.

1.1 POWER VESTED IN THE BOARD OF DIRECTORS

The Board shall exercise and control or authorize the exercise and control of all the business and affairs of COMB, subject to the limitations of this document, the State Constitution, and other applicable state and federal laws.

1.2 CODE OF CONDUCT AND DECORUM

In adopting this Policy, the Board finds it critically important to include the following Code of Conduct and Decorum for members of the Board in order to promote and maintain the highest standards of personal and professional conduct in governance. While recognizing that conflict and disagreement are at times part of the public decision-making process, the Board acknowledges and values its duty to serve, at all times, as a model of ethical and civil behavior for all members of the Board, the public and for all COMB employees. Board decisions and actions must therefore, comport with the highest ethical and professional standards and strictly adhere to the provisions of this Policy.

As noted in Section 1.7 of the COMB JPA, except as otherwise provided for by any other law, rule or regulation, the latest edition of Robert's Rules of Order shall be used in the conduct of COMB meetings and other proceedings.

1.2.1 Conduct of Public Meetings

Each member of the Board has a duty to:

- (A) Thoroughly and diligently prepare for Regular Board, Special Board and Committee meetings by reviewing and understanding the background, purpose, and available materials relating to the noticed agenda items prior to the meeting.
- (B) When necessary, seek relevant information about agenda items and operational matters by contacting the General Manager prior to a Board or Committee Meeting.
- (C) Respect confidences and information designated as "confidential," including any such confidential information received during any closed session of the Board held under applicable state law. Do not disclose any information received during any closed session of the Board.
- (D) Recuse oneself from any discussion or agenda item where a possible conflict of interest or lack of impartiality exists.
- (E) Treat all persons with respect by actively listening to other viewpoints, and do not interrupt, ignore, or degrade the contributions of others. Members of the Board will at all times use professional language and avoid abusive and/or discourteous or disrespectful gestures or actions.
- (F) State one's views concisely and clearly during Board and Committee meetings. Refrain from discussing non-agenda items.
- (G) Refrain from abusive conduct, personal charges, or verbal attacks upon the character, motives, ethics, morals, or comments of other Members of the Board, COMB staff, or the public.

- (H) Make impartial decisions that are consistent with COMB's mission statement, the requirements of the Political Reform Act, Regulations of the Fair Political Practices Commission, and any and all applicable federal, state and local laws.
- (I) Provide fair and equal treatment of all persons and matters coming before the Board.

1.2.2 Conduct in Office

Each member of the Board has a duty to:

- (A) Strive to work in cooperation with other public officials, unless prohibited from so doing by law or officially-recognized confidentiality of their work.
- (B) Abide by and defend all applicable laws and policies, especially the political campaign, lobbying, and conflict of interest laws enforced by the Fair Political Practices Commission, state laws, and COMB's Policies and Procedures Manual.
- (C) Safeguard the obligation to make independent, objective, fair, and impartial judgments by scrupulously avoiding financial relationships and transactions that may compromise, or give the appearance of compromising, objectivity, independence, and honesty.
- (D) Carefully consider whether an action exceeds, or appears to exceed, the authority of office for personal or financial gain. When in doubt, avoid actions that create, in the mind of a reasonable observer, the appearance of impropriety, ethical lapses, legal violations, or actions inconsistent with this Policy.
- (E) Respond to requests from media in a manner consistent with the approved and established COMB Media Relations Policy.
- (F) Refrain from making any unauthorized commitments or promises of any kind purporting to bind COMB. Refrain from any gratuitous comments that may harm or prejudice COMB's position in litigation or potential litigation.
- (G) Refrain from using one's status as a COMB Board member to influence the outcome of any non-COMB community meeting.
- (H) When attending non-COMB community meeting as a private citizen, indicate when expressing personal opinions, and refer any questions relating to COMB policies to COMB's General Manager.
- (I) Utilize resources, including, but not limited to, equipment, supplies, staff time, telephones, computers, and fax machines, in a manner consistent with COMB policies, the Fair Political Practices Commission regulations, and any other applicable state laws.
- (J) Correspondence paid for with public funds or on COMB stationery shall relate to bona fide COMB business and must not purport to advance or advocate a policy not previously approved by the Board.
- (K) Report COMB activities to his or her respective Member agency.

1.2.3 Violation of Code of Conduct and Decorum Policy

The President of the Board shall request that any Board member, who is breaching the rules of decorum, immediately refrain from such conduct, and should be orderly and comply with this Policy. After receiving such a warning, the President may agendaize an item for the next meeting of the Board to discuss the conduct and ask the Board to determine whether the conduct at issue is in violation of this Policy. In the event a majority of the Board determines that the conduct at issue was in violation of this Policy, the Board majority, as provided under Section 1.3(g) of the COMB JPA, may impose any of the following remedial actions:

- (a) Issue a letter of warning from the Board;
- (b) Adopt a Resolution expressing disapproval of the conduct of the Board member and censure by the Board;
- (c) Remove the Board member from his/her position on any committees or officer status;
- (d) Deny or reduce payment of per diem and/or expense reimbursement for the Board meetings at which the violation(s) occurred.

If the President of the Board fails to enforce the rules set forth above, any Board member may move the Board to require the President to do so, and an affirmative vote of the majority of the Board, as provided under Section 1.3(g) of the COMB JPA, shall require him/her to do so. In the event the President of the Board fails to carry out the will of a majority of the Board, the majority may designate another member of the Board to act as President for the limited purpose of enforcing any rule of this Policy that it wishes enforced.

1.3 FAIR AND EQUAL TREATMENT

Board members, in the performance of their official duties and responsibilities, shall not discriminate against or harass any person on the basis of race, religion, color, creed, age, marital status, national origin, ancestry, gender, sexual orientation, gender identity or expression, genetic information, military service status, medical condition or physical or mental disability. A Board member shall not grant any special consideration, treatment or advantage to any person or group beyond that which is available to every other person or group in similar circumstances. (See, e.g., Article 1, Section 31 of the California Constitution; Age Discrimination Employment Act of 1967 (29 U.S.C., Section 621-634); Americans with Disabilities Act of 1990 (42 U.S.C., Section 12101 et. Seq.); Fair Employment and Housing Act (Government Code, Section 12900 et. Seq.); Rehabilitation Act of 1973 (29 U.S.C., Section 701 et. Seq.); Title VII of the Civil Rights Act of 1964 (42 U.S.C., Section 2000e et. Seq.); Labor Code Section 1102.)

1.4 OFFICIAL COMMUNICATION

Correspondence paid for with public funds or on COMB stationery must relate to bona fide COMB business and shall not purport to advance or advocate a policy not previously approved by the Board. No individual Board member, except as otherwise authorized by the Board, shall sign and send correspondence on COMB letterhead purporting to be official COMB communication without authorization from the Board. When otherwise signing correspondence using their title as a member of the Board and presenting their individual opinions and positions, members of the Board shall explicitly state they do not represent COMB on that particular matter.

1.5 USE OF CONFIDENTIAL INFORMATION

- (A) A Board member is not authorized, without approval of the Board, to disclose information that qualifies as confidential information under applicable provisions of law to any person not authorized to receive such information, that (1) has been received for, or during, a closed session meeting of the Board, or (2) is protected

from disclosure under the attorney/client, attorney work product or other evidentiary privilege.

- (B) This section does not prohibit any of the following: (1) making a confidential inquiry or complaint to a district attorney or grand jury concerning a perceived violation of law, including disclosing facts to a district attorney or grand jury that are necessary to establish the alleged illegality of an action taken by COMB, an elected official or employee, (2) expressing an opinion concerning the propriety or legality of actions taken by COMB in closed session, including disclosure of the nature and extent of the allegedly unlawful action, or (3) disclosing information acquired by being present in a closed session that is not confidential information. Prior to disclosing any confidential information pursuant to (1) or (2) above, however, a Board member should immediately first bring the matter to the attention of either the President of the Board or the full Board, to provide the Board an opportunity to timely cure any alleged violation.
- (C) A Board member who willfully and knowingly discloses for pecuniary gain confidential information received by him or her in the course of his or her official duties may be guilty of a misdemeanor under California Government Code Section 1098. (See also California Government Code Section 54963.)

1.6 ETHICS

The conduct of COMB's Board members, officers, and employees shall be consistent with the laws of the State of California, including, but not limited to, the California Public Officers' and Employees' Ethics Act, California Government Code Section 53235.

1.7 VIOLATION OF ETHICS POLICY

A perceived violation of this policy by a Board member should be referred to the President of the Board or the full Board for investigation. If the conduct is found to be a violation of COMB's policy by an affirmative vote of a majority of the Board in an open and public meeting, as provided under Section 1.3(g) of the COMB JPA, the violation may be addressed by the use of such remedies as are available by law to COMB, including, but not limited to: (a) adoption of a resolution expressing disapproval of the conduct of the Board member who has violated this policy, (b) injunctive relief, or (c) referral of the violation to the District Attorney and/or the County Grand Jury.

1.8 CONFLICT OF INTEREST

- (A) A Board member shall not have a financial interest in a contract with COMB, or be a purchaser at a sale by COMB or a vendor at a purchase made by COMB, unless the Board member's participation was authorized under Government Code Sections 1091 or 1091.5, or other provisions of law. (See COMB Conflict of Interest Code under separate cover.)
- (B) A Board member shall not recommend the employment of a relative by COMB. A Board member will not recommend the employment of a relative to any person known by the Board member to be bidding for or negotiating a contract with COMB.
- (C) A Board member who knowingly asks for, accepts or agrees to receive any gift, reward or promise thereof for doing an official act, except as may be authorized by law, may be guilty of a criminal violation. (See California Government Code Section 1090 et seq. and California Penal Code Sections 67 through 70.)

1.9 COMPLIANCE WITH THE BROWN ACT

The members of the Board, and persons elected, but who have not yet assumed office as members of the Board, shall fully comply with the provisions of the state's open meeting law for public agencies, commonly referred to as the "Ralph M. Brown Act" or "Brown Act". (California Government Code Sections 54950 et seq., including 54952.1 and 54959.)

1.10 INCOMPATIBLE OFFICES

A Board member shall not hold a public office, the duties of which may require action contradictory or inconsistent with his or her duties as a Board member (as determined under applicable law). (See, generally, 73 Cal.Op.Atty. Gen. 357 (1990); and California Government Code Section 53227.)

1.11 IMPROPER ACTIVITIES AND THE REPORTING OF SUCH ACTIVITIES; PROTECTION OF "WHISTLE BLOWERS"

- (A) The General Manager has the primary responsibility for (1) ensuring compliance with COMB's Policies and Procedures Manual and Employee Handbook; and ensuring that COMB employees do not engage in improper activities; (2) investigating allegations of improper activities; and (3) taking appropriate and timely corrective and disciplinary actions.

Board members are encouraged to fulfill their obligation to the public and COMB by disclosing to the General Manager, to the extent not expressly prohibited by law, improper activities within their knowledge. Board members shall not interfere with the General Manager's responsibilities in identifying, investigating, abating and correcting improper activities, unless the full Board determines that the General Manager is not properly or timely carrying out these responsibilities.

- (B) A Board member shall not directly or indirectly use or attempt to use the authority or influence of his or her position for the purpose of intimidating, threatening, coercing, commanding or influencing any other person for the purpose of preventing such person from acting in good faith to report or otherwise bring to the attention of the General Manager or the Board any information that, if true, would constitute: a work-related violation by a Board member or COMB employee of any law or regulation, gross waste of COMB funds, gross abuse of authority, a specified and substantial danger to public health or safety due to an act or omission of a COMB official or employee, use of a COMB office or position or of COMB resources for personal gain, or a conflict of interest with a COMB Board member or COMB employee.
- (C) A Board member shall not use or threaten to use any official authority or influence to effect any action as a reprisal against a COMB Board member or COMB employee who reports or otherwise brings to the attention of the General Manager any information regarding the subjects described in this section. (California Labor Code Section 1102.5 et seq.; Government Code Sections 53298 and 53298.5.)

1.12 PROPER USE AND SAFEGUARDING OF AGENCY PROPERTY AND RESOURCES

Except as specifically authorized, a Board member shall not use or permit the use of COMB-owned vehicles, equipment, telephones, materials or property for personal benefit or profit. A Board member shall not ask or require a COMB employee to perform services for the personal benefit or profit of a Board member or employee. Each Board member must protect and properly

use any COMB asset within his or her control including information recorded on paper or in electronic form. (Not sure why deleted, especially the legal citations. At a minimum, I would suggest leaving in the legal citations – which we can further discuss).

1.13 TERM OF APPOINTMENT

As set forth in Section 1.2 of the COMB JPA, COMB was created as a separate public Joint Powers Authority pursuant to California Government Code Section 6500 et seq., wherein the Board serves as the Governing Body appointed by its respective Member Agencies of which the members are elected representatives.

- (A) Each Board member shall serve until a successor is duly appointed and qualified, unless the member earlier is removed from office or resigns or otherwise leaves office.

1.14 BOARD OFFICERS

As provided in Section 2.1 of the COMB JPA, the Board shall elect by vote, one of its members as President and one of its members as Vice President. A Board member can elect not to serve in those offices. The President and Vice President shall serve a one-year term and shall serve at the pleasure of the Board. Elections shall be held during the last month of each fiscal year. At the meeting at which such an election is held, the Board shall also appoint both a Secretary to the Board and an Assistant Secretary to the Board. (See Section 2.1 of the COMB JPA). The Board shall also appoint a Treasurer/Auditor-Controller. (See Section 2.2 of the COMB JPA).

In electing these offices, the President of the Board shall call for nominations from members of the Board. . No second shall be required. Once all nominations have been made, the President of the Board shall call for a roll call vote. A majority vote of the Board, as provided under Section 1.3(g) of the COMB JPA, shall be required for election. If only one person should be nominated for an office, the Board may act by motion and roll call vote to elect such nominee.

1.15 VACANCIES IN BOARD OF DIRECTORS

- (A) Events Creating Vacancies. A vacancy in a Board member's term of office shall be deemed to exist in the case of death, resignation, disqualification of the member, or if a member has been declared of unsound mind by order of a court or if a member has been convicted of a felony.
- (B) Replacement. Whenever a vacancy occurs on the Board, a replacement to serve out the unexpired term shall be appointed by the COMB Member Agency from which the vacancy was generated.

1.16 RESIGNATION

Any officer elected pursuant to Section 1.12 (check numbering – should this be 1.14?) above may resign at any time by giving verbal or written notice to the Board or to the Secretary of the Board. Any resignation shall take effect upon receipt of such notice or at any later time specified therein. Unless otherwise specified in the notice, acceptance of the resignation shall not be necessary to make it effective.

1.17 REMOVAL OF OFFICERS

Any officer elected pursuant to Section 1.12 (same as above) above may be removed by a majority vote of the Board, as provided under Section 1.3(g) of the COMB JPA, whenever in its judgment; the best interests of COMB would be served.

1.18 VACANCIES IN OFFICES

A vacancy in any elected office under Section 1.13 (same) above, because of death, resignation, removal, disqualification, or otherwise, may be filled by the Board for the unexpired portion of the officer's term, pursuant to the selection provisions of Section 1.13 (same) above. In case of the Secretary or Treasurer, the President may appoint a new Secretary or Treasurer to serve until such time as the Board shall appoint a successor and the person or persons so appointed have qualified.

1.19 DUTIES OF PRESIDENT OF THE BOARD

The President of the Board shall serve as Chair of the Board and preside over and conduct the meetings of the Board according to the Ralph M. Brown Act, and maintain order and decorum. The latest edition of Robert's Rules of Order shall be used as a general guideline for meeting protocol. The President shall have the same rights as the other members of the Board in voting, introducing motions, resolutions, and any discussion questions that follow said actions. The President shall carry out duties as required or imposed by law or a majority vote of the Board, as provided in Section 1.3(g) of the COMB JPA. In so doing, the President shall have the following powers and responsibilities:

- (A) To assure that business of the Board is conducted in an orderly and businesslike manner and to enforce reasonable rules of decorum.
- (B) To appoint committees as soon as practical following an election and modify appointments to internal committees at any time.
- (C) To follow the prepared and noticed agenda, unless the Board concurs to any changes.
- (D) To set reasonable limits upon the length of time a member of the public may speak at open meetings.
- (E) To recognize Board Members who wish to be heard and allow them the opportunity to speak without interruption, in order to completely convey their position.
- (F) To restate, where necessary, and to put to a vote all questions properly before the Board and to announce the result of each vote.
- (G) To request termination of debate after there has been reasonable opportunity for full discussion of any issue and further debate would be needlessly repetitive or otherwise not useful, and where proper, to put the matter to a vote.
- (H) To rule out-of-order any comment by Board members, staff, or members of the public not germane to the issue before the Board.
- (I) To declare the meeting adjourned, if in his/her judgment, an emergency exists requiring adjournment.
- (J) To authenticate by signature official records of COMB and to sign letters of support or opposition regarding legislation or make other COMB position statements upon receiving direction from the Board.

- (K) To be granted the authority by the full Board to officially represent the Board in any public announcements, and can thereby, speak on behalf of the Board in *support of the formal decisions of the full Board.*
- (L) When representing the Board at meetings or events other than ceremonial and those assigned as a committee representative, the President shall notify the full Board prior to the meeting or event.
- (M) Execute on behalf of COMB, all of the following Board-approved actions:
 - (1) All bonds and instruments creating debt against COMB.
 - (2) All Board resolutions.
 - (3) Agreements with the United States, State of California, or any other governmental entity, department or political subdivision, unless delegated in writing to the General Manager by the President or allowed the General Manager by other sections in this manual.
 - (4) The countersigning of disbursement checks.
 - (5) Agreements specifically authorized and directed by the Board.
 - (6) Real estate leases, and all deeds and conveyance documents in which COMB is a grantor of any interest.
 - (7) Contracts and agreements authorized by the Board which cause COMB to incur extraordinary expenditures not described within COMB's annual budget.
 - (8) All other contracts and agreements specifically required of the President by applicable law.
- (N) Represent the will of the Board.

1.20 DUTIES OF VICE PRESIDENT OF THE BOARD

- (A) The Vice President shall act only in cases of the inability or refusal to act by the President of the Board, or in the absence of the President, and shall assume those powers and duties granted the President. The determination as to the inability or refusal to act by the President shall be made by a vote of the Board, as provided under Section 1.3(g) of the COMB JPA.
- (B) The President may request any member of the Board to represent COMB outside of the Board meetings. When no designee is appointed by the President, the Vice President shall represent COMB.

1.21 SUCCESSION OF AUTHORITY

In the event that the offices of President and Vice President are vacant or the members of the Board occupying those offices are absent or otherwise unavailable, a designated member of the Board shall serve as Acting President of the Board, with all the power and authority of the President.

If no member of the Board is able to represent the President (other than in Board meetings) the General Manager or his/her designated staff member shall do so.

1.22 DUTIES OF THE SECRETARY

As set forth in Section 2.1(c) of the COMB JPA, the Secretary shall take and prepare minutes of the Board, and attest to the minutes, resolutions, and other documents of the Board. The Secretary shall also prepare, post, and publish notices as required by law. The Secretary shall declare a meeting adjourned to a stated time and place if there is a lack of quorum. The Secretary shall maintain official records of the Board and carry out other duties as required or imposed by law or a majority vote of the Board. The Assistant Secretary shall exercise the duties of the Secretary if the Secretary is absent or unable to act. The Secretary shall have the following powers and responsibilities:

- (A) Serve as custodian of the records of COMB and of its seal; cause minutes of all meetings of the Board to be kept and the minutes shall not be "final" or "official" until they have been formally approved by the Board; assist the Board in such particulars as it may direct in the performance of its duties; and perform those duties authorized by the California Government Code, or by this manual.
- (B) Attest, under the seal of COMB, all certified copies of the official records and files of COMB.
- (C) Serve as Treasurer of COMB, unless a Treasurer is otherwise provided for by the Board.
- (D) The Board may appoint an Assistant Secretary to function in the absence of the Secretary with all the power and authority of the Secretary.

1.23 APPOINTMENT OF TREASURER/AUDITOR-CONTROLLER

As set forth in Section 2.2 of the COMB JPA, the Board shall appoint a Treasurer/Auditor-Controller. The Treasurer/Auditor-Controller shall implement and maintain a system of auditing and accounting that will completely and at all times show the financial condition of COMB in accordance with generally accepted accounting principles and legal requirements. The Board will retain and periodically review the work of an auditor as an independent contractor of COMB (other than the Treasurer/Auditor-Controller), who shall conduct an annual audit of COMB's books, records and financial affairs, and report its findings to the Board.

1.24 DUTIES OF TREASURER/AUDITOR CONTROLLER

The Treasurer/Auditor-Controller shall have the following powers and responsibilities:

- (A) Serve as custodian of all money, bonds, or other securities of COMB.
- (B) Determine the cash requirements of COMB and provide for the deposit and investment of all money in accordance with COMB's investment policy.
- (C) Receive all public funds and money payable to COMB, including all assessments, grant funds, and intergovernmental revenue, and keep an accurate, detailed account of those funds and money as required by law and as directed by the Board.
- (D) Collect all assessments as provided by law and the COMB JPA.
- (E) Sign all COMB checks. Prior to affixing the signature, the Treasurer shall determine that a sufficient amount is on deposit in the appropriate bank account of COMB to honor the check.

- (F) Promptly deposit all COMB funds in the appropriate bank accounts of COMB. COMB funds shall not be commingled with funds of another person or entity.
- (G) Monitor all expenditures during the fiscal year to determine compliance with COMB's Procurement Policy and adopted Budget.
- (H) Be subject to discipline, including, but not limited to, termination and referral to the District Attorney for possible criminal prosecution. if the Treasurer/Auditor-Controller, or any other employee or officer of COMB, is using COMB funds for personal profit or for any purpose not authorized by law.

1.25 FORMATION OF COMMITTEES

The President of the Board may form committees composed of its own members for such purposes as he/she deems appropriate, and consistent with applicable open meeting laws.

1.26 COMMITTEES

COMB has five standing committees: the Administrative Committee (financial, personnel and legal matters); the Operations Committee; the Fisheries Committee; the Public Outreach Committee; and the Lake Cachuma Oak Tree Committee. Each of these committees is composed of two Board members and one alternate Board member. Appointments to the committees are made by the President of the Board, typically during the first month of the fiscal year or as necessary. The committees meet with staff on an as-needed basis, and review and recommend proposed actions to the Board in regard to, among other things, capital improvements, finance, and other matters. On occasion, COMB utilizes ad-hoc committees that are temporary in nature.

- (A) Appointment of Committee Members. The President of the Board shall appoint members of the Board to various committees and shall designate the Chair and alternate for each committee.
- (B) Meetings of Committees. Meetings of committees shall be held at such time as the members of the individual committees agree. Notice of committee meetings shall be given to all Board members in a timely fashion, with meetings noticed as required by law. The Chair of the committee or designated replacement shall conduct all meetings of the committee.
- (D) Committee Reports. Committee reports shall be made by the Chair of the committee at the Regular Board meeting conducted each month.

1.27 TRAINING

Every two years, each member of the Board shall provide a certification of Code of Ethics training in order to maintain compliance with AB 1234.

1.28 BOARD MEMBERS' COMPENSATION

Each member of the Board will receive compensation for service on the Board and will be paid monthly, in a manner consistent with applicable state law and COMB's approved and established Ordinance.

1.29 CHANGES IN COMPENSATION

Changes in the compensation of Board members will require the approval of the Board during an open meeting of the Board held at least 60 days prior to the effective date of the change.

1.30 RELATIONSHIP BETWEEN COMB BOARD, BOARD MEMBERS AND GENERAL MANAGER

- (A) The Board is the governing body of COMB, and in that capacity, sets policy for COMB. The General Manager reports to the COMB Board. The Board shall act only at its regular, special or emergency meetings. All powers of COMB shall be exercised and performed by the Board as a body. Individual Board members, except as otherwise authorized by the Board, shall have no power to act on behalf of COMB, or the Board, or to direct the staff of COMB.
- (B) COMB's General Manager serves at the pleasure of the Board. The Board will provide policy direction to the General Manager on matters within the authority of the Board by majority vote of the Board during duly-convened Board meetings, as provided in Section 1.3(g) of the COMB JPA. Members of the Board shall make requests for information, analysis, or other work related activities through the General Manager, and will refrain, except in very rare circumstances, making such requests directly to COMB staff and employees.
- (C) COMB's General Manager is responsible for overall management of the day-to-day and long-term operations and activities of COMB; organizes and assigns responsibilities and directs and oversees the management provided by subordinate managers consistent with COMB policy and other provisions of law.
- (D) The General Manager shall devote his/her full attention to the performance of the assigned powers and duties and shall not engage in other outside employment without the consent of the Board.

1.31 ADMINISTRATIVE POWERS VESTED IN GENERAL MANAGER

The General Manager shall serve and act as the chief executive officer of COMB. The executive and administrative powers of COMB are vested in and exercised by and through the General Manager and his/her designees and/or employees.

1.32 APPOINTMENT OF GENERAL MANAGER

As set forth in Section 2.5 of the COMB JPA, the Board, by a majority vote, as provided in Section 1.3(g) of the COMB JPA, shall appoint the General Manager. The General Manager shall be appointed solely on the basis of his/her ability, integrity and prior experience relating to the duties of the office, including, but not limited to, abilities of public administration and leadership; and shall possess managerial capabilities as in the opinion of the Board benefit him/her to provide professional advice and recommendations to the Board and direction to COMB staff.

1.33 POWERS AND DUTIES OF THE GENERAL MANAGER

The powers and duties of the General Manager include, but are not limited to:

- Provides overall management of the day-to-day and long-term operations and activities of COMB; organizes and assigns responsibilities and directs and oversees the management provided by subordinate managers and employees.
- Interprets and ensures compliance with all COMB policies, procedures, and contractual obligations, standards of quality and safety, and all applicable local, state and federal laws and regulations; approves periodic updates of standard operating procedures, emergency action plans, and the employee handbook.

- Within a broad framework established by the Board, directs the establishment of overall strategic plans, long-term goals and objectives for the agency; guides departmental long- and short-term planning and the development of departmental goals and objectives.
- Coordinates the development and management of COMB's annual budget; reviews and approves expenditures and deposits; manages investments of excess revenue and reserve funds.
- Represents COMB in certain matters involving the U.S. Bureau of Reclamation, the County of Santa Barbara, the five Member Units of the Cachuma Project and all other public agencies and private groups; coordinates activities and schedules projects.
- Works with the COMB general counsel and other attorneys as needed to develop plans and strategies to resolve contractual and legal issues.
- Keeps the Board informed of COMB activities and of laws, issues or problems that may affect COMB operations; requests policy and related actions from the Board; directs the preparation of meeting materials for the Board and its committees and attends all Board meetings.
- Selects, supervises and evaluates the performance of subordinate managerial and support staff. Provides for appropriate training and professional/technical development for staff, and implements disciplinary action as appropriate.
- Directs COMB fiscal, administrative, engineering, construction and maintenance activities through subordinate personnel; provides guidance and direction to management staff on issues related to general management of their functions, policies and procedures, finance, inter-and intra-organizational coordination, and personnel management.
- Provides final authority on COMB personnel matters, including a safety program, benefits programs, payroll and other employee services, and employment/discharge of all staff.
- Implements risk management policies and manages insurance programs.
- Performs or oversees the monitoring and evaluation of legislation, trends and issues affecting the water industry, and directs the formulation of appropriate responses thereto.
- Receives and responds to inquiries, concerns and complaints regarding COMB projects, policies, programs, activities, subpoenas, Grand Jury requests, public record act requests, and media requests according to approved and established policy.
- Performs general administrative duties as required.

1.34 AGENDA PREPARATION AND DISTRIBUTION

- (A) The General Manager or his/her designee shall be responsible for developing the agenda for each Board meeting. Agenda items will be generated by the need to conduct COMB's business in a timely manner. Any member of the Board may place an item on the agenda of a Board meeting for initial discussion, provided the request meets the agenda posting requirements.
- (B) All agenda items shall have an accompanying written staff report that provides detailed objective information to sufficiently inform the Board and facilitate Board deliberations.

- (C) A member of the public has the right to present items to the Board under the agenda item "Public Comment," as long as those items are under the subject matter jurisdiction of the COMB Board. At that time, the Board may discuss placing the item on a future agenda.

In addition, a member of the public may request that a matter be placed on the Board agenda by making a written request to the General Manager, who will obtain the approval of the President of the Board before placing the item on an agenda for initial discussion.

- (D) The Board Secretary shall be responsible for the preparation and distribution of Board meeting agendas and shall coordinate the assembly of supporting documents.

1.35 APPOINTMENT OF GENERAL COUNSEL

The Board shall appoint, by a majority vote of the Board, as provided under Section 1.3(g) of the COMB JPA, a qualified person, who is a member in good standing of the California State Bar, to serve as General Counsel. He/She shall be engaged and act as the General Counsel for COMB and perform such other duties as assigned by the Board or by the General Manager.

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Submitted by:	Janet Gingras

SUBJECT: **Fiscal Year 2017-18 Elections and Appointments of Cachuma Operation and Maintenance Board**

SUMMARY:

Each year during this time, the Board of Directors conducts the annual election of new officers and votes on appointed positions to serve the Board for the upcoming fiscal year. The newly elected officers and appointed positions will become effective July 1, 2017 and will remain in effect until June 30, 2018. The list below outlines the Officers to be elected at this time and the current positions held by members of the Board.

- a. Election of President
 Currently Director Morgan

- b. Election of Vice-President
 Currently Director White

- c. Appointment of ACWA/JPIA Representative and Alternate
 Currently Director Morgan and Janet Gingras

- d. Appointment of General Counsel
 Currently William Carter - Musick, Peeler & Garrett LLP

- e. Appointment of Secretary of the Board
 Currently General Manager, Janet Gingras

- f. Appointment of Treasurer and Auditor-Controller
 Currently General Manager, Janet Gingras

RECOMMENDATION:

The Board shall elect by nomination and roll call vote one of its members to serve as President and one of its members to serve as Vice President.

The Board shall make each appointment by a motion and roll call vote of the Board.

LIST OF EXHIBITS:

N/A

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Approved by:	Janet Gingras

SUBJECT: Director Compensation

SUMMARY:

The Cachuma Operation and Maintenance Board (COMB) Directors are compensated for the service they provide in official capacities. Specifically, Ordinance No. 2 adopted in 2004 provides for Directors' fees and mileage allowance for attendance at COMB Board meetings and COMB Committee meetings. The current compensation amount is set at \$128 per meeting for each Director and his/her alternate. The current mileage allowance for a Director or his/her alternate is set at the adjusted Internal Revenue Service allowable travel expense reimbursement mileage rate as it may be set from time-to-time.

California Water Code (Water Code) Section 20202 provides for annual updates to Director compensation in an amount not to exceed 5% for each year that has elapsed since compensation was previously increased. The Water Code also limits compensation to ten (10) days per month. Accordingly, listed below are two options for consideration:

- **Option 1: No change to existing compensation.** Compensation would remain \$128 per meeting.
- **Option 2: Incremental increase up to 65%.** The maximum compensation increase is 5% for each year since the prior effective Ordinance. Because there have been no increases since 2004, the maximum increase allowed is 65% which equates to compensation of \$211 per meeting for 2017-18. An incremental percentage increase less than the maximum could be selected at the Board's discretion; however, the underutilized percentage increase allowable could not be factored into the Board's decision in future years.

No action is necessary to implement Option 1. Option 2 requires the Board to adopt an Ordinance (No. 3)(draft attached) amending the previous adopted Ordinance (No.2). Prior to considering the amended Ordinance, advance notice of a public hearing at which the Ordinance will be considered must be published in a newspaper for two successive weeks.

Should option 2 be chosen, advance notice requirements preclude consideration of the Ordinance at the regular June meeting of the Board of Directors. This item would be considered at the July Board meeting in order to comply with the notice requirements. In addition, a 60-day waiting period is required after the Ordinance is adopted by the Board for it to become effective. Consequently, if adopted at the July Board meeting, the increase to Director compensation would become effective September 25th, 2017.

To assist with the discussion, staff reached out to various COMB Member Units and inquired as to their respective policy. The following information was received.

Agency	Amount	Increment
Goleta	\$220	Per Day
Montecito	\$140	Per Day
Carpinteria	\$100	Per Day
Average	\$153	Per Day

Staff provides the following for Board discussion and possible approval:

1. Increase the allowance for Director compensation from \$128 to \$150 per meeting for each Director and his/her alternate;
2. The current mileage allowance, which is set at the adjusted Internal Revenue Service allowable travel expense reimbursement rate, is to remain unchanged. The mileage would be calculated from District office to the required meeting location;
3. Publicize the required Public notices prior to the July Governing Board meeting at which the Board may consider adopting the proposed draft Ordinance No. 3.

FISCAL IMPACTS:

COMB's budget provides \$20,000 for annual expenses related to Directors compensation. The proposed change to Director Compensation would not affect the budgeted line item.

LEGAL CONCURRENCE:

Legal Counsel has reviewed the necessary procedures to implement a change to Director compensation.

COMMITTEE STATUS:

The Administrative Committee forwards the proposed change to Director Compensation, the proposed draft Ordinance No. 3, and the authorization to publicize the required Public notices to the Board with a recommendation to approve.

RECOMMENDATION:

The Board receive the proposed draft Ordinance No. 3 and authorize the publication of the two required Notices of Public Hearing in advance of the Governing Board consideration of Ordinance No. 3 at the July Board meeting.

LIST OF EXHIBITS:

- 1) Proposed Draft Ordinance No. 3

ORDINANCE NO. 3

**ORDINANCE OF THE GOVERNING BOARD
OF THE CACHUMA OPERATION AND MAINTENANCE BOARD
AMENDING ORDINANCE NO. 2
FIXING THE COMPENSATION OF DIRECTORS OF THE BOARD
PURSUANT TO SECTIONS 20200 THROUGH 20207 OF THE WATER CODE**

RECITALS

- A. Sections 20200 through 20207 of the Water Code of the State of California provide for an alternate method by which members (Directors) of the Governing Board may be compensated for their work and services in carrying out their duties as Directors and in carrying out the business of the Cachuma Operation and Maintenance Board.
- B. The Governing Board has, by adoption of Ordinance No. 2 on January 26, 2004, elected to fix the compensation of its Directors pursuant to Water Code Sections 20200 through 20207.
- C. The Governing Board has by the adoption of this Ordinance elected to amend Ordinance No. 2.
- D. Notice of a Public Hearing as a part of the Governing Board's regular meeting held on July 24, 2017 was published pursuant to Section 6066 of the Government Code and Section 20207 of the Water Code.
- E. Proof of Publication of said Notice in the Santa Barbara News-Press on June 29, 2017 and July 6, 2017 has been filed with the records of the regular meeting held on July 24, 2017.
- F. The Public Hearing on the adoption of this Ordinance was held on July 24, 2017 prior to the adoption of this Ordinance as required by Section 20203 of the Water Code.

BE IT ORDAINED by the Governing Board of the Cachuma Operation and Maintenance Board, Paragraph 1 is amended to read as follows:

- 1. As provided in Water Code Section 20201, the compensation of each member of the Governing Board shall be the sum of \$_____ for each day of attendance at a regular or special meeting of the Board of Directors, or for each day's service rendered as a member of the Board by request of the Board.

The compensation fixed by this Ordinance shall be for no more than a total of ten (10) days in any calendar month.

- 2. As provided in Water Code Section 30507, each Director shall be reimbursed for any

expenses incurred in the performance of any duty required or authorized by the Governing Board, in addition to the compensation provided for in Section 1 above.

3. This Ordinance repeals any prior action of this Board providing for any automatic increases in the compensation of the Board, as of the effective date of this Ordinance.
4. This Ordinance shall be effective sixty (60) days following its adoption.
5. This Ordinance shall be published one time within ten (10) days following its adoption.

PASSED, APPROVED AND ADOPTED by the Governing Board of the Cachuma Operation and Maintenance Board on this 24th day of July, 2017 by the following vote:

AYES:

NAYS:

ABSTAIN:

ABSENT:

[SEAL]

APPROVED

President of the Board

ATTEST:

Secretary of the Board

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Submitted by:	Janet Gingras

SUBJECT: CACHUMA PROJECT TRUST FUND / RENEWAL FUND AND COUNTY BETTERMENT FUND USE OF FUNDS MEETING

SUMMARY:

Cachuma Project Trust Fund / Renewal Fund Meeting

The annual meeting of the Cachuma Project Trust Fund / Renewal Fund (Funds Committee), and County Betterment Fund was conducted on May 16, 2017. Those in attendance included Janet Gingras, COMB General Manager, appointed to represent the Cachuma Member Units; Edward Lyons, COMB Administrative Manager/CFO; Fray Crease and Matt Young, representing the Santa Barbara County Water Agency; Tim Robinson, COMB Fisheries Division Manager. Bruce Wales, SYRWCD (Parent District), was present by conference call and Mike Lebarre, Chief of Contracts Administration, Bureau of Reclamation, was unable to attend by conference call but subsequently provided written concurrence.

The Funds Committee met to discuss the Annual and Long Term Plan prepared as outlined in the Master Renewal Contract document. The Cachuma Project Trust Fund Revenues collected for calendar year 2016 totaled \$620,361 based on 14,427 AF of State Water delivered to the lake during the year. There will be no Renewal Funds collected for fiscal year 2018 due to the amount of Trust Fund revenues received.

The participating Committee members voted and agreed to apply the Warren Act Trust Fund monies for program expenditures (\$620,361) and activities related to the Fisheries Program during Fiscal Year 2017-18 as outlined in the plan. Specifically, these funds will provide revenue for a Quiota Creek Fish Passage Improvement Project (\$175,000), genetic analyses of LSYR *O. Mykiss* tissue samples (\$15,000), the Oak Tree Restoration Program (\$50,000), watershed protection (USFS), and fisheries program work in general (\$350,361).

Santa Barbara County Water Agency Cachuma Betterment Fund meeting

Article 8 (b) of the Cachuma Project Member Unit contracts with Santa Barbara County Water Agency requires the County Water Agency to provide \$100,000 annually for beneficial purposes consistent with the Water Agency Act and within the Santa Ynez River watershed or the Cachuma Project service area. All decisions relating to the expenditure of such funds must be agreed to by both the County Water Agency and COMB, acting by unanimous vote. Consistent with past years, COMB will receive \$90,000 to be used for the stream gauge program. The funds were allocated for the following activities for Fiscal Year 2017-18:

USGS Stream Gauging Program (Fisheries Division)	\$ 90,000
USGS Stream Gauging Program (County of SB)	<u>\$ 10,000</u>
Total	\$100,000

FISCAL IMPACTS:

The COMB FY 2017-18 Adopted Final Operating Budget reflects the Trust Fund and County Betterment Fund revenue offset for the Fisheries Division approved activities consistent with the Annual Plan.

COMMITTEE STATUS:

The Fisheries Committee reviewed the Cachuma Project Trust Fund/Renewal Fund Annual and Long Term Plan with the recommended program expenditures as well as the proposed program expenditures for the Santa Barbara County Betterment Fund and forwards to the Board with a recommendation to approve.

RECOMMENDATION:

- a. Board approve the Annual and Long Term Plan with the recommended program expenditures of Cachuma Project Trust Fund monies in the amount of \$620,361 for FY 2017-18 as approved by the Funds Committee.
- b. Board approve program expenditures of the Santa Barbara County Betterment Fund monies in the amount of \$90,000 for FY 2017-18 as agreed upon by the County and COMB representatives.

LIST OF EXHIBITS:

- 1) Cachuma Project Warren Act Trust Fund, Renewal Fund and County Betterment Fund Discussion meeting agenda
- 2) Santa Barbara County Notice of Public Workshop
- 3) 2017 Report with Annual and Long Term Plans
- 4) Santa Barbara County Cachuma Project Betterment Fund Letter

Meeting of the
**CACHUMA PROJECT WARREN ACT TRUST FUND AND
ADVISORY COMMITTEE**

CACHUMA PROJECT MASTER CONTRACT RENEWAL FUND DISCUSSION

To be held on
Tuesday, May 16, 2017 at 11:00 a.m.
Cachuma Operation and Maintenance Board
3301 Laurel Canyon Road
Santa Barbara, California

AGENDA

- A. Call to Order
- B. Public Comment (*See "Notice to the Public" below*)
- C. Explanation of Purpose and Procedures for Committee Activities
- D. Review of Expenditures for 2016 Annual Plan
 - 1. Amount Spent To Date
 - 2. Projected Amount of Carry Over and Accumulation of Funds
- E. Funds Available for 2017 Annual Work Plan
- F. Discussion and Working Session for Plan Development
 - 1. Draft 2017 Annual Work Plan
 - 2. Draft Updated Long Term (Five-Year) Plan
- G. Adjournment

Note: A Public Meeting for Use of the County Water Agency's \$100,000 Cachuma Betterment Fund Allocation will Immediately Follow the Trust Fund / Renewal Fund Meeting.

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 569-1391 at least 48 hours prior to the meeting to enable staff to make reasonable arrangements.

[This agenda was Posted at County of Santa Barbara offices, 123 East Anapamu Street, Santa Barbara, CA,
COMB, 3301 Laurel Canyon Road, Santa Barbara, CA and Noticed and Delivered
in Accordance with Section 54954.1 and .2 of the Government Code.]



Santa Barbara County Public Works Department

Flood Control ♦ Water Agency ♦ Project Clean Water
130 E. Victoria Street, Suite 200, Santa Barbara, CA 93101
PH (805) 568-3440 FAX (805) 568-3434
<http://cosb.countyofsb.org/pwd/water>

SCOTT D. MCGOLPIN
Director

THOMAS D. FAYRAM
Deputy Director

DATE: April 28, 2017
TO: Interested Parties
FROM: Fray A. Crease, Water Agency Manager
RE: Notice of Public Workshop, Uses of Fiscal Year 2017-18 Cachuma Project Allocation

A public workshop to discuss expenditure of \$100,000 during fiscal year 2017-18 pursuant to Cachuma Member Unit Contracts will be held:

Tuesday, May 16, 2017, 11:00 am at

Cachuma Operation and Maintenance Board

3301 Laurel Canyon Road
Santa Barbara, CA 93105

If you are unable to attend the workshop, you are welcome to provide written comments to:

Santa Barbara County Water Agency

130 E. Victoria St., Suite 200
Santa Barbara, CA 93101
Attn.: Fray A. Crease

Background and Discussion

Contracts between the County Water Agency and the Cachuma Member Units (approved in 1996) include a provision that states “the Water Agency shall provide \$100,000 per year during the term hereof for beneficial purposes consistent with the Water Agency Act and within the Santa Ynez River watershed and the Cachuma project service area.” As part of the original Member Unit Contracts, the Water Agency had provided \$100,000 per year for 40 years toward the cost of water purchases from the project by the Member Units.

During development of the renewed contracts, the Agency and the Member Units agreed to expand the potential uses of this \$100,000 per year so as to include a wide range of planning activities and potential projects in the Santa Ynez River watershed and within the Cachuma Project service area. Decisions

relating to expenditures of these funds require concurrence by both the Agency and the Cachuma Member Units.

Currently several resource evaluations are underway in the Santa Ynez River basin. They include: 1) steelhead/rainbow trout studies pursuant to a Memorandum of Understanding initiated in 1993 and renewed in 2001 to implement the Cachuma Project Biological Opinion (September 2000) and the Lower Santa Ynez Fish Management Plan (October 2000); and 2) groundwater and surface-water flow and quality monitoring pursuant to several cooperative agreements among local agencies and the United States Geological Survey.

The Agency spends approximately \$150,000 per year in these interagency studies. The Cachuma Member Units currently expend roughly \$900,000 per year on fisheries activities as well as an estimated \$50,000 per year on stream flow and water quality monitoring in the Santa Ynez River. Water Agency staff will consider information received in this workshop during development of budget recommendations to the Water Agency Board of Directors. Further information regarding any of these studies may be obtained from the Agency.

CACHUMA PROJECT WARREN ACT TRUST FUND AND CACHUMA PROJECT MASTER CONTRACT RENEWAL FUND

2017 REPORT WITH ANNUAL AND LONG-TERM PLANS

Background

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). These two funds have similar, but not identical purposes which are explained below.

Warren Act Trust Fund

The Warren Act Trust Fund is a requirement of the Cachuma Project Warren Act Contract that the Central Coast Water Authority (CCWA) negotiated with Reclamation for delivery and transport of State Water Project (SWP) water through the Cachuma Project facilities. A 1995 memorandum of understanding (MOU) 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 deliveries. The South Coast CCWA participants (City of Santa Barbara, Goleta Water District, Montecito Water District, and Carpinteria Valley Water District, plus La Cumbre Mutual Water Company, Morehart Land Company, and Santa Barbara Research Center), have a total entitlement of 13,750 AF per year (Y). These participants, except La Cumbre Mutual Water Company, Morehart Land Company and Santa Barbara Research Center, have an obligation to exchange their SWP water for Santa Ynez River Conservation District ID No. 1's (ID No. 1) Cachuma Project water on an annual basis. ID No. 1's current Cachuma entitlement is 2,651 AFY. ID No. 1 currently delivers approximately 80 AFY to Cachuma Lake County Park, which reduces the amount available for exchange to approximately 2,571 AFY. This makes the maximum annual amount under normal Cachuma yield conditions to be assessed for the Cachuma Project Trust Fund approximately 11,179 AF. SWP water was first delivered into Lake Cachuma (except for minor testing deliveries) in November 1997. From calendar year (CY) 1997 through CY 2016, a total of 78,163 AF has been delivered. Because the 1990s experienced an extended wet period, SWP water deliveries were modest. 2000 through 2004, 2007 through 2010, 2013, 2014, 2015, and 2016 saw an increase in SWP water deliveries due to dry weather conditions. SWP orders will, therefore, fluctuate according to varying rainfall patterns. In general, it is likely that full entitlements of SWP water will not be ordered this coming year.

CCWA and the Cachuma Project Authority (CPA) created the Warren Act Trust Fund through the 1995 MOU which establishes a two person Trust Fund Committee with one representative from Reclamation and one representative from the CPA. Article 3.c. of the MOU provides that CPA manages and administers the Trust Fund. Management of the Trust Fund and other obligations of CPA were assumed by the Cachuma Operation and Maintenance Board (COMB) when CPA and

COMB merged in October 1996 and further confirmed by COMB Board Resolution No. 249, 1997. Article 4 of the MOU provides for a creation of a Trust Fund Committee, which is comprised of one representative each from Reclamation and COMB, and an Advisory Committee comprised of one representative each from the Santa Barbara County Water Agency (Agency), U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and three additional public members. The Advisory Committee representative from the Santa Barbara County is appointed from the Water Agency by the County Board of Supervisors. The Trust Fund Committee is authorized to prepare and implement a Long Term Plan and Annual Work Plans for expenditure of Trust Fund monies for purposes consistent with the MOU. The Advisory Committee participates in discussions held at the Trust Fund Committee meetings but has no vote. CCWA can attend the Trust Fund Committee meetings but has no vote.

The Trust Fund Committee shall only take action by unanimous vote and meetings will be announced with reasonable notice. The Trust Fund Committee determines the use of the funds which shall only be expended consistent with the Long Term (5-Year) Plan and applicable Annual Plan, and approved by the Committee. Expenditures of the Trust Fund revenues as stated in the MOU are limited to the following:

- a. Environmental Restoration - *The restoration of any riparian and other habitat of the Santa Ynez River and its watershed which has been adversely affected by the Cachuma Project facilities, including (without limitation) restoration of habitat of rare, threatened or endangered species, fish habitat or populations, and plant and animal habitat.*
- b. Wastewater Reclamation - *Projects, whether new or existing, which will promote reclamation of wastewater within the service areas of the Cachuma Member Units.*
- c. Water Conservation - *Projects which will promote water conservation within the service areas of the Cachuma Member Units.*
- d. Innovative Water Management Techniques - *Other sound and innovative water management techniques which will benefit the Cachuma Member Units in assuring their water customers a reliable water supply of high quality and reasonable price.*
- e. Cachuma Project Betterment - *Capital outlays (other than routine repair and maintenance) which contribute to improvement of the Cachuma Project facilities, including project betterment for the purposes of safety or public recreation in the Santa Ynez River or on Lake Cachuma or adjacent federally-owned lands.*

Renewal 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. This charge escalates according to the Consumer Price Index with a May 1995 price level base. The Renewal Fund itself is capped at \$257,100, which is related to the current annual operational yield of 25,714 AF, at which yield the indexing is moot. However, at lower yields the indexing may have an effect. The Cachuma Project

member agencies are obligated to order (and pay for) the entire operational yield in every water year (WY), which is defined as October 1 through September 30 of the following water year.

Payments into the Renewal Fund are made prior to the beginning of each water year and are reduced by the prior full CY payments to the Trust Fund. For example in WY2016, the prior calendar year is 2014, because that is the nearest prior full calendar year to WY2016. Payments to the Renewal Fund are reduced *pro rata* based on the formula: 1 minus the ratio of the prior calendar year Trust Fund payment to \$300,000 ($RF = [1 - \text{prior CY TF payment}/\$300,000] \times \$257,100$). For example, if the prior CY Trust Fund payment was \$225,000, the ratio is 0.75; 1 minus 0.75 is 0.25; 0.25 times \$257,100 is \$64,275, which would be the Renewal Fund payment requirement for that water year. The combined total available funds would be the sum of those two amounts, or \$289,275. When the Trust Fund amount in the CY prior to a Cachuma Project water year is greater than \$300,000, the ratio would be greater than 1; 1 minus that amount is less than zero, so there would be no Renewal Fund payment required. This was the situation for WY2006, WY2016, and WY2018 which were the only years that this occurred.

The Cachuma Project 1995 Renewal Master Contract states that the contracting officer (Reclamation) and the Cachuma Member Units shall jointly develop a Long Term (5-year) Plan and an Annual Work Plan. Further in the Contract and COMB Board Resolution No. 249, Reclamation and the Cachuma Project Member Units agreed to merge the processes for implementation and administration of the Cachuma Project Warren Act Trust Fund and the Cachuma Project Master Contract Renewal Fund under a single committee (referred to as the "Funds Committee") directing the preparation and implementation of Long Term and Annual Work Plans. Resolution No. 249 also allowed the COMB Board to appoint a representative from the Cachuma Member Units to the Funds Committee that would represent the interests of and provide recommendations from the Cachuma Member Units, as well as work with Reclamation's committee member to develop joint Long Term and Annual Work Plans for the use of both Funds. Governing processes from the Funds Committee would apply to the decisions made for the use of the Renewal Funds, specifically that all uses of those funds are unanimous amongst the two representatives. The Cachuma Project Renewal Master Contract specified that five years after adoption of the first Annual Plan, the Contractor (Santa Barbara County) shall be substituted for the Contracting Officer (Reclamation) for the Renewal Fund discussions; this change in representation began in WY2003 and Santa Barbara County has been the representative ever since. This dictates that the voting members of the Funds Committee are Reclamation, COMB and Santa Barbara County. COMB manages and administers both the Trust Fund and the Renewal Fund accounts as stipulated in the Cachuma Project Renewal Master Contract and COMB Board Resolution No. 249.

Article 27(a) of the Cachuma Project Renewal Master Contract (MCA 27) describes the purposes of Renewal Fund, which include the following:

- a. Mitigation activities for the selected alternative in the Master Contract Renewal EIS/EIR. No mitigation activities were identified, so this section does not apply.
- b. Activities which may be required of the Contracting Officer by State Water Resources Control Board (SWRCB) orders affecting the Project Water Rights.

- c. Studies described in sub-article 7 (b) which are specific to conducting and preparing studies and reports that are required to be submitted by USBR to the SWRCB pursuant to Board WR94-5 paragraph 3, including fisheries studies and other related studies under the continuing jurisdiction of the SWRCB.
- d. Studies relating to modifications in the Cachuma Project operations pursuant to sub-article 9 (g), including to protect the environment and groundwater quality downstream of Bradbury Dam, conserve Project Water, and promote efficient water management.
- e. Restoration of riparian or other habitat of the Santa Ynez River and its watershed which has been adversely affected by the Project.
- f. Activities of USBR pursuant to sub-article 27 (i) that are required by law to be the Contractor, those shall be included in the Long Term Plan and Annual Work Plan and reimbursed by the Renewal Fund.

Aggregating the purposes of the two separate funds, money is available for three general categories:

1. Environmental studies and projects related to the fisheries and *O. mykiss* habitat enhancement within the Santa Ynez River and its tributaries downstream of Bradbury Dam. This includes Cachuma Project Biological Opinion (BiOp) proposed actions, EIR/EIS mitigation activities, SWRCB orders, and water rights-related studies.
2. Water management and conservation by Cachuma Project members.
3. Cachuma Project betterment to the extent that only the Trust Fund can be used for these certain activities.

Annual and Five-Year Plans

The contractual documents establishing the Trust Fund and Renewal Fund require preparation of an Annual Work Plan and a Five-Year Plan. Reclamation, the County Water Agency, and the Cachuma Project Member Units through COMB agreed to use the Funds Committee and Advisory Committee process for both funds to develop common Annual Work Plan and Five-year plans.

Objectives of the Funds

In past years, there has been general consensus reflected in each of the Annual Work Plan and Five-Year Plan to date, that the Renewal Fund and Trust Fund monies should be used for environmental studies or projects related to the Cachuma Project water rights hearings before the SWRCB and the Lower Santa Ynez River (LSYR) Fisheries Program. These studies, which investigate and document various environmental issues related to the Cachuma Project and the affects downstream in the LSYR, have been required by the SWRCB, or are believed by the parties to be helpful in addressing issues before the SWRCB. The BiOP for Cachuma Project operations, issued by the National Marine Fisheries Service (NMFS) in September 2000, has identified a number of fish programs and enhancement projects, and the SWRCB hearings (occurring in 1999 and late 2003 and a water rights decision expected in 2016) will likely identify other studies for which the funds may be used. In addition, Reclamation is in reconsultation with the NMFS for a new Cachuma Project BiOp which will contain a fisheries monitoring program and enhancement projects where the funds could be used. The Funds Committee may authorize revenues from the two funds for

these tasks pursuant to the Annual and 5-year Plans, or may agree to a broader use of the funds, including other purposes identified in the Cachuma Project Renewal Master Contract, the Cachuma Project BiOp and the LSYR Fish Management Plan (FMP) (2000), or Adaptive Management Committee studies and reports.

Revenue Estimates

Trust Fund revenues from Member Unit requested State Water Project (SWP) deliveries in CY2016 were \$620,361 based on 14,427 AF delivered, and Renewal Fund revenues derived from operational yield of the Cachuma Project deliveries in WY2018 will be \$0 for total available revenues of \$620,361 (Table 1). These available revenues will be fully used during the coming Water Year and there are no carryover funds from WY2017 or anticipated carryover from WY2018. A historical record since 1995 and projected revenues through WY2022 for both funds are shown in Table 2. Fund amounts through WY2018 are based on the actual prior calendar year SWP water deliveries; subsequent years' revenues are based on full usage of allotted SWP water deliveries (6,977 AF), hence reaching the Trust fund projected average of \$300,000 (6,977 AF) without any projected revenues from the Renewal Fund. If at the beginning of any water year the combined balance of the Cachuma Project Trust Fund and Renewal Fund is \$600,000 or more, then no contributions to the Renewal Fund are required for such water year. It is important to remember that SWP water orders can be changed on a monthly basis, so the actual amount delivered in any year may be quite different from what was ordered in advance. CY1998 is a good example of how orders can change where 3,888 AF of SWP water was ordered but no actual deliveries were made into the lake because Lake Cachuma was spilling into July. Deliveries were not possible after that time because fish releases were being made through the Bradbury Dam Outlet Works due to release constraints under the BiOp. Typically, advance orders will be greater than actual deliveries. The SWP water orders are first subject to an exchange with ID No. 1 as described above. The SWP water delivery amounts shown in Table 1 are after the subtraction of the ID No. 1 exchange amount. The Cachuma Project Member Units take and must pay for the entire supply available from the Cachuma Project each year, which is currently 25,714 AFY.

Table 1: Trust Fund and Renewal Fund calculation of contributions and assessments for WY2017.

TRUST FUND (T) (Warren Act) - State Water			
GIVEN:	Q = Acre-Feet of State Water Project Deliveries to Cachuma Reservoir in 2016		
	Q =	14,427	Acre-Feet used in 2016
	T = Warren Act Trust Fund Contribution = Q x \$43 per Acre-Foot		
THEN:	T =	14,427	x \$43
	T =	\$620,361	
WARREN ACT TRUST FUND REVENUE FOR CALENDAR YEAR 2016			
	CCWA PARTICIPANTS	USED	AMOUNT DUE
		(af)	(\$)
	GOLETA WATER DISTRICT	6078	\$261,354
	CITY OF SANTA BARBARA	5442	\$234,006
	CARPINTERIA VALLEY WD	955	\$41,065
	MONTECITO WATER DISTRICT	1456	\$62,608
	LA CUMBRE MUTUAL WATER COMPANY	426	\$18,318
	MOREHART LAND COMPANY	41	\$1,763
	SB RESEARCH CENTER (RAYTHEON)	29	\$1,247
	TOTAL	14,427	\$620,361
RENEWAL FUND (R) - Cachuma Water			
GIVEN:	W = Annual Operations Yield of 25,714 af x \$10 =	\$257,140	
	Renewal Fund cap:	\$257,100	
	R = Renewal Fund Contribution = [1 - (T/\$300,000)] x W		
THEN:	R = [1 - (\$620,361/\$300,000)] x \$257,100		
	R =	\$0	
RENEWAL FUND ALLOCATION FOR WATER YEAR 2017 - 2018 (PAYMENT DUE OCTOBER 1, 2017)			
	MEMBER UNIT	COST SHARE*	AMOUNT DUE
		(%)	(\$)
	GOLETA WATER DISTRICT	36.25	\$0
	CITY OF SANTA BARBARA	32.19	\$0
	CARPINTERIA VALLEY WD	10.94	\$0
	MONTECITO WATER DISTRICT	10.31	\$0
	SANTA YNEZ RWCD ID#1	10.31	\$0
	TOTAL	100.00	\$0
	* based on Cachuma Entitlement		
TOTAL FUNDS AVAILABLE FOR WATER YEAR 2017-2018:			\$620,361

Table 2: Trust Fund and Renewal Fund revenues based on requested SWP deliveries and constant Cachuma Project deliveries; the funds were initiated in 1997.

Trust Fund			Renewal Fund			Total		Expected
Calendar	SWP		Water	Cachuma		Water		
Year	Deliveries	Funds	Year	Deliveries	Funds	Year	Funds	Funds
	(AF)			(AF)				
1995	-	\$0	1997	25,714	\$257,100	1997	\$257,100	\$257,100
1996	-	\$0	1998	25,714	\$257,100	1998	\$257,100	\$257,100
1997	1,502	\$64,586	1999	25,714	\$201,750	1999	\$266,336	\$266,336
1998	0	\$0	2000	25,714	\$257,100	2000	\$257,100	\$257,100
1999	505	\$21,715	2001	25,714	\$238,490	2001	\$260,205	\$260,205
2000	2,334	\$100,362	2002	25,714	\$171,090	2002	\$271,452	\$271,452
2001	809	\$34,787	2003	25,714	\$227,288	2003	\$262,075	\$262,075
2002	6,708	\$288,444	2004	25,714	\$9,903	2004	\$298,347	\$298,347
2003	4,568	\$196,424	2005	25,714	\$88,765	2005	\$285,189	\$285,189
2004	8,836	\$379,948	2006	25,714	\$0	2006	\$379,948	\$379,948
2005	506	\$21,758	2007	25,714	\$238,453	2007	\$260,211	\$260,211
2006	759	\$32,637	2008	25,714	\$229,130	2008	\$261,767	\$261,767
2007	6,316	\$271,588	2009	25,714	\$24,349	2009	\$295,937	\$295,937
2008	3,694	\$158,842	2010	25,714	\$120,972	2010	\$279,814	\$279,814
2009	2,537	\$109,091	2011	25,714	\$163,609	2011	\$272,700	\$272,700
2010	1,788	\$76,884	2012	25,714	\$191,210	2012	\$268,094	\$268,094
2011	1,013	\$43,559	2013	25,714	\$219,770	2013	\$263,329	\$263,329
2012	385	\$16,555	2014	25,714	\$242,912	2014	\$259,467	\$259,467
2013	2,638	\$113,434	2015	25,714	\$159,887	2015	\$273,321	\$273,321
2014	13,296	\$571,728	2016	25,714	\$0	2016	\$571,728	\$571,728
2015	5,542	\$238,306	2017	25,714	\$52,872	2016	\$291,178	\$291,178
2016	14,427	\$620,361	2018	25,714	\$0	2017	\$620,361	\$620,361
2017	6,977	\$300,000	2019	25,714	\$0	2017	\$300,000	?
2018	6,977	\$300,000	2020	25,714	\$0	2018	\$300,000	?
2019	6,977	\$300,000	2021	25,714	\$0	2019	\$300,000	?
2020	6,977	\$300,000	2022	25,714	\$0	2019	\$300,000	?
2021	6,977	\$300,000	2023	25,714	\$0	2019	\$300,000	?
2022	6,977	\$300,000	2024	25,714	\$0	2019	\$300,000	?
78,163			CY1997-2016 total SWP Delivered					
Notes:								
- Calendar years 1998 through 2015 show actual State Water deliveries to Cachuma Reservoir; following years are requested deliveries.								
- State Water deliveries are based on calendar year.								
- Cachuma Project deliveries are based on water year (October 1 through September 30).								
- Trust Fund charge is \$43 per AF;								
- Renewal fund charge is \$10 per AF (in 1995 dollars).								
- Renewal Fund is reduced by prior full calendar year Trust Fund revenue, for example, 2002 Renewal Fund amount is reduced by 2000 Trust Fund revenue.								
- Total Available is current year Renewal Fund plus full prior year Cachuma Project Trust Fund (for example, 2002 Trust Fund plus 2004 Renewal Fund).								
- Total Available will be increased by any accrued interest in the fund accounts.								
(Please see Financial Statement attached.)								

Table 3 provides a summary of the activities for which the Trust Fund and Renewal Fund revenues have been used since 1997. See Table 2 for the calculation of annual revenues from each of the two funds. Activities are similar year to year and have focused on meeting the requirements in the BiOp and FMP specifically for the Fisheries Program (monitoring, reporting and public outreach), steelhead enhancement projects (tributary fish passage projects), Oak Tree Restoration Program (oak mitigation effort from surcharging Lake Cachuma), public outreach efforts (webpage, newsletters and brochures), conservation easements (as the opportunity arises), and Hilton Creek channel enhancements efforts (studies and implementation of identified projects).

Table 3: Use of the Trust Fund and Renewal Fund revenues from 1998 to 2018 by Fiscal Year.

Fiscal Year	<i>Activities:</i>							Total
	Fisheries Program	Steelhead Enhancement Projects	Oak Tree Restoration Program	Public Outreach Efforts	Conservation Easements	Watershed Protection (USFS)	Hilton Creek Channel Enhancement Efforts	
1998	\$257,100	\$0	\$0	\$0	\$0		\$0	\$257,100
1999	\$257,100	\$0	\$0	\$0	\$0		\$0	\$257,100
2000	\$266,336	\$0	\$0	\$0	\$0		\$0	\$266,336
2001	\$195,100	\$62,000	\$0	\$0	\$0		\$0	\$257,100
2002	\$99,005	\$123,200	\$0	\$0	\$10,000		\$28,000	\$260,205
2003	\$215,452	\$48,000	\$0	\$8,000	\$0		\$0	\$271,452
2004	\$187,075	\$75,000	\$0	\$0	\$0		\$0	\$262,075
2005	\$193,347	\$105,000	\$0	\$0	\$0		\$0	\$298,347
2006	\$263,189	\$0	\$0	\$22,000	\$0		\$0	\$285,189
2007	\$317,948	\$0	\$50,000	\$12,000	\$0		\$0	\$379,948
2008	\$198,211	\$0	\$50,000	\$12,000	\$0		\$0	\$260,211
2009	\$198,267	\$0	\$50,000	\$13,500	\$0		\$0	\$261,767
2010	\$241,437	\$0	\$42,000	\$12,500	\$0		\$0	\$295,937
2011	\$227,314	\$0	\$45,000	\$7,500	\$0		\$0	\$279,814
2012	\$222,700	\$0	\$45,000	\$0	\$0		\$5,000	\$272,700
2013	\$97,094	\$147,000	\$24,000	\$0	\$0		\$0	\$268,094
2014	\$91,329	\$147,000	\$25,000	\$0	\$0		\$0	\$263,329
2015	\$69,467	\$150,000	\$40,000	\$0	\$0		\$0	\$259,467
2016	\$146,728	\$375,000	\$50,000	\$0	\$0		\$0	\$571,728
2017	\$91,178	\$150,000	\$50,000	\$0	\$0		\$0	\$291,178
2018	\$365,361	\$175,000	\$50,000	\$0	\$0	\$30,000	\$0	\$620,361

Milestones

Below are important milestones associated with or having an effect on the LSYR Fisheries Program since the issuance of the 2000 Cachuma Project BiOp. Many of these activities have been partially funded by the Trust and Renewal Funds as well as the County's Cachuma Betterment Fund.

WY2000 (October 1999 – September 2000)

December 1999 - Completion of Hilton Creek Water Supply System* and Fish Management Plan Inaugural Ceremony

April 2000 - Lake Cachuma Spilled

September 2000 - Steelhead Biological Opinion for Cachuma Project Operations Issued by NMFS

WY2001 (October 2000 – September 2001)

October 2000 - Final LSYR Fish Management Plan
February 2001 - Lake Cachuma Spilled
November 2000 - SWRCB Hearings on Cachuma Project Water Rights Permits (Phase 1)

WY2002 (October 2001 – September 2002)

January 2002 - Completion of Salsipuedes Creek/Highway 1 Fish Passage Enhancement**
June 2002 - Administrative Draft EIR/EIS for Fish Management Plan and Biological Opinion

WY2003 (October 2002 – September 2003)

December 2002 - Cachuma Project Settlement Agreement between CCRB, ID#1, SYRWCD & City of Lompoc
April 2003 - Installation of Variable Depth Intake for Hilton Creek Watering System*
May 2003 - Pre-Hearing Conference for SWRCB Hearings on Cachuma Project Water Rights Permits
June 2003 - Draft EIR/EIS for Fish Management Plan and Biological Opinion
August 2003 - Draft SWRCB EIR on Cachuma Operations

WY2004 (October 2003 – September 2004)

Oct-Nov 2003 - SWRCB Hearings on Cachuma Project Water Rights Permits (Phase 2)
January 2004 - Cachuma Park Boat Launch Ramp Raised to Accommodate 1.8 ft Surcharge
January 2004 - Completion of Salsipuedes Creek/Jalama Road Fish Passage Enhancement*
February 2004 - Completion of El Jaro Creek Streambank Stabilization Projects**
February 2004 - MOU Regarding Surcharge of Lake Cachuma and Protection of Cachuma Park Facilities
March 2004 - Completion of Final EIR/EIS for Fish Management Plan and Biological Opinion
March 2004 - Reclamation ROD for Final EIS for Fish Management Plan and Biological Opinion
April 2004 - Installation of Bradbury Dam Gate Extensions for Cachuma Reservoir Surcharge Project
May 2004 - Revised Cachuma Project Fish Passage Supplementation Program (BiOp Term & Condition)
June 2004 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)
August 2004 - Upper Basin Analysis - initiated

WY2005 (October 2004 – September 2005)

November 2004 - COMB Certification of Final EIR for Fish Management Plan and Biological Opinion
November 2004 - Modeling Protocol for Target Flow Monitoring Approved and Implemented
December 2004 - Crawford-Hall Filed CEQA Lawsuit against COMB for Final FMP/BiOp EIR
December 2004 - Flow Capacity Modifications for Hilton Creek Watering System and Installation of Pump*
January 2005 - Lake Cachuma Spilled
March 2005 - Amended MOU Regarding Surcharge of Lake Cachuma and Protection of Park Facilities
April 2005 - Installation of Pumping System for Hilton Creek Watering System*
April 2005 - Surcharge Lake Cachuma by 2.5 feet (~7700 acre feet) for Steelhead Fishery Downstream
July 2005 - Summer 2005 (First) Santa Ynez River Fish Management Plan Newsletter
June 2005 - Completion of Year 1 Cachuma Oak Tree Restoration Program
September 2005 - Senior Resources Scientist Hired for Fisheries Program

WY2006 (October 2005 – September 2006)

October 2005 - Approval Letter from NMFS for Revised Cachuma Project Fish Passage Supplementation Program
November 2005 - Crawford-Hall Filed NEPA Lawsuit against United States for Final FMP/BiOp EIS

November 2005 - Fall 2005 Santa Ynez River Fish Management Plan Newsletter
December 2005 - Construction of Hilton Creek Cascade/Chute Fish Passage Enhancement (Reclamation Project) **
January 2006 - Completion of Year 2 Oak Tree Restoration Program – (375 oak trees planted)
February 2006 - Conducted passage supplementation during two storms
February 2006 - Distribution of Fish Projects Brochure
Feb-April 2006 - Supplemental Passage Flow Releases (from 2005 surcharge)
April 2006 - Lake Cachuma Spilled
April 2006 - Interim Agreement with County to Surcharge Lake Cachuma up to 3.0 feet
June 2006 - Preliminary Redesign of Quiota Creek Fish Passage Projects
July 2006 - Summer 2006 Santa Ynez River Fish Management Plan Newsletter
May 2006 - Preliminary Design of El Jaro San Julian Fish Passage
Sept 2006 - Preliminary Design of El Jaro Cross Creek Fish Passage

WY2007 (October 2006 – September 2007)

October 2006 - Development of GIS for Santa Ynez River Fisheries Program
January 2007 - Winter 2007 Santa Ynez River Fish Management Plan Newsletter
January 2007 - Completion of Year 3 Cachuma Oak Tree Restoration Program (375 oak trees planted)
February 2007 - Winter 2007 Santa Ynez River Fish Management Plan Newsletter
March-April 2007 - Crawford-Hall Petition to Add Caltrans to CEQA Lawsuit Against COMB for Final FMP/BiOp EIR and Hearing on Petition (unsuccessful – petition denied)
May 2007 - Completion of Quiota Creek Watershed Draft Report
June 2007 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)
July 2007 - SWRCB Revised Draft EIR on Cachuma Operation
September 2007 - Preliminary Design of El Jaro Cross Creek Fish Passage
September 2007 - Completion of Various AMC Reports to meet BiOp Terms & Conditions

WY2008 (October 2007 – September 2008)

December 2007 - Submitted to NMFS the 2006 Fish Passage Supplementation Report
December 2007 - Final Design of El Jaro San Julian Fish Passage
January 2008 - Completion of Year 4 Cachuma Oak Tree Restoration Program (375 oak trees planted)
January 2008 - Lake Cachuma Spilled
March 2008 - Draft Ramp-Down after Spill Protocol
April 2008 - Agreement with County to Surcharge Lake Cachuma up to 3.0 feet
June 2008 - Summer 2008 LSYR Fish Management Plan Newsletter
July 2008 - Construction of El Jaro San Julian Fish Passage Project**
August 2008 - NMFS Draft Recovery Plan Outline for Southern Steelhead
August 2008 - Completion of the Santa Ynez River Genetics Analysis (NOAA Research Lab at UCSC)
September 2008 - Draft Resource Management Plan EIS for Cachuma Recreation Area

WY2009 (October 2008 – September 2009)

March 2009 - Completion of El Jaro San Julian Fish Passage Project**
October 2008 - Construction of the Quiota Creek Fish Passage Bottomless Arched-Culvert at Crossing 6**
December 2008 - Completion of Draft 1993-2004 Santa Ynez River Fisheries Synthesis Report
January 2009 - Completion of Year 5 Cachuma Oak Tree Restoration Program (375 oak trees planted)
February 2009 - Completion of Management Report for Santa Ynez River Genetics Analysis
March 2009 - Completion of El Jaro San Julian Fish Passage Project**
March 2009 - Completion of the Quiota Creek Fish Passage Bottomless Arched-Culvert at Crossing 6**

August 2009 - Construction of Cross Creek Ranch Fish Passage Enhancement Project on El Jaro Creek
August 2009 - Negotiations of Conservation Easements on Salsipuedes and El Jaro Creeks
September 2009 - Completion of Various AMC Reports to meet BiOp Terms & Conditions

WY2010 (October 2009 – September 2010)

November 2009 - Completion of Cross Creek Ranch Fish Passage Enhancement Project on El Jaro Creek**
January 2010 - Completion of Year 6 Cachuma Oak Tree Restoration Program (375 oak trees planted)
February 2010 - Conducted passage supplementation during two storms
April 2010 - Completion of the Surcharge Operations Protocol
June 2010 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)
May 2010 - Completion of the 1.5 cfs Target Flow Operations Guidelines at Alisal Bridge
June 2010 - Submitted to NMFS the 2010 Fish Passage Supplementation Report

WY2011 (October 2010 – September 2011)

January 2011 - Completion of Year 7 of Cachuma Oak Tree Restoration Program (375 oak trees planted)
January 2011 - Submitted to NMFS the BiOp Compliance Binder
March 2011 - Winter 2011 LSYR Fish Management Plan Newsletter
March 2011 - Lake Cachuma Spilled
May 2011 - Submittal of the 2008 Annual Monitoring Report and Trend Analysis for 2005-2008
June 2011 - Completion of the Hilton Creek Channel Enhancement Study
June 2011 - Submitted Compliance Report on Target Flows at Hwy 154 Bridge
August 2011 - Summer 2011 LSYR Fish Management Plan Newsletter
August 2011 - Construction of a Fish Passage Project at Crossing 2 on Quiota Creek**

WY2012 (October 2011 – September 2012)

Oct-Dec 2011 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2012 - Maintenance of the Cachuma Oak Tree Restoration Program
November 2011 - Completion of a Fish Passage Project at Crossing 2 on Quiota Creek**
March 2012 - Submittal of the 2009 Annual Monitoring Report
May 2012 - Submitted Compliance Report on Target Flows at Hwy 154 Bridge
June 2012 - Submitted Guidance Document on Target Flows at Alisal Bridge
September 2012 - Construction of a Fish Passage Project at Crossing 7 on Quiota Creek**

WY2013 (October 2012 – September 2013)

Oct-Dec 2012 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2013 - Maintenance of the Cachuma Oak Tree Restoration Program
November 2012 - Completion of a Fish Passage Project at Crossing 7 on Quiota Creek**
March 2013 - Preliminary Design of Quiota Creek Crossing 0 Project
March 2013 - Preliminary Design of Quiota Creek Crossing 3 Project
June 2013 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)
Sept-Dec 2013- Construction of a Fish Passage Project at Crossing 1 on Quiota Creek**
June 2013 - Submittal of the 2011 Annual Monitoring Report (sent to NMFS 3/20/14)

WY2014 (October 2013 – September 2014)

Oct-Dec 2013 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2014 - Maintenance of the Cachuma Oak Tree Restoration Program
December 2013 - Completion of a Fish Passage Project at Crossing 1 on Quiota Creek**
March 2014 - Submittal of CDFG/FRGP Grant for Quiota Creek Crossing 0 Project

March 2014 - Submittal of CDFG/FRGP Grant for Quiota Creek Crossing 3 Project
June 2014 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)

WY2015 (October 2014 – September 2015)

Oct-Dec 2014 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2015 - Maintenance of the Cachuma Oak Tree Restoration Program
March 2015 - Submittal of CDFG/FRGP Grant for Quiota Creek Crossing 4 Project
June 2015 - Submittal of the 2012 Annual Monitoring Report for review
June 2015 - WR 89-18 Releases Monitoring Plan (BiOp Term & Condition)
September 2015 - Construction of a Fish Passage Project at Crossing 3 on Quiota Creek**

WY2016 (October 2015 – September 2016) (dates after April are projected)

Oct-Dec 2015 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2016 - Maintenance of the Cachuma Oak Tree Restoration Program
January 2016 - Completion of a Fish Passage Project at Crossing 3 on Quiota Creek
February 2016 - Submittal of the 2012 Annual Monitoring Report to NMFS
March 2016 - Submittal of CDFG/FRGP Grant for Quiota Creek Crossing 5 Project
June 2016 - Submittal of CalTrans Grant for Quiota Creek Crossing 8 Project
April 2016 - Submittal of the 2013 Annual Monitoring Report for review
September 2016 - Construction of a Fish Passage Project at Crossing 0 on Quiota Creek**
September 2016 - Construction of a Fish Passage Project at Crossing 4 on Quiota Creek**

WY2017 (October 2016 – September 2017) (dates after April are projected)

Oct-Dec 2016 - Maintenance of the Cachuma Oak Tree Restoration Program
Jan-Sept 2017 - Maintenance of the Cachuma Oak Tree Restoration Program
December 2016 - Completion of a Fish Passage Project at Crossing 0A on Quiota Creek
December 2016 - Completion of a Fish Passage Project at Crossing 4 on Quiota Creek
April 2017 - Submittal of the 2013 Annual Monitoring Report for final review
May 2017 - Submittal of CDFG/FRGP Grant for Quiota Creek Crossing 9 Project
May 2017 - Submittal of the 2014 Annual Monitoring Report for review
May 2017 - Submittal of the 2013 Annual Monitoring Report to NMFS
June 2017 - Submittal of the 2015 Annual Monitoring Report for review
June 2017 - Initiation of CalTrans Grant spending for the Quiota Creek Crossing 8 Project
June 2017 - Submittal of the 2016 Annual Monitoring Report for review
July 2017 - Submittal of the 2014, 2015 and 2016 Annual Monitoring Reports to NMFS
September 2017 - Construction of a Fish Passage Project at Crossing 5 on Quiota Creek**
September 2017 - Construction of a Fish Passage Project at Crossing 8 on Quiota Creek**

* Funded from Federal Safety of Dams Program for Bradbury Dam Seismic Retrofit.

** Full or partial grants were/are in place for these projects.

**FIVE YEAR PLAN
WY2018 TO WY2022**

The Funds Committee, with suggestions from the Advisory Committee, develops a long-term or Five-Year Plan for use of the revenues from both the Trust Fund and Renewal Fund. The Five-Year Plan (Table 4) is a dynamic document that is updated every year to reflect revised projected work as projects and monitoring efforts are added that directly benefit the Cachuma Project, the LSYR Fisheries Program, and other obligations of the Cachuma Member Units on behalf of Reclamation. These projected activities are called for in the Cachuma Project Biological Opinion (BiOp) and further described in the LSYR Fish Management Plan (FMP). Projected annual revenues are calculated based on environmental fees charged for Cachuma and State water deliveries into Lake Cachuma, and have historically ranged from a minimum of \$250,000 to a maximum of \$620,361. The Five-Year Plan should be a long-term, forward thinking, planning tool to coordinate the use of Trust and Renewal fund revenues, LSYR Fisheries Program budgets, and grant income.

Table 4 summarizes activities and expenditures based on actual revenues from WY2017 and projected revenues and expenses for WY2018-WY2022. The Oak Tree Restoration Program (at Lake Cachuma) was calculated using 50% of the estimated fund amount for that task. The estimated amount for Quiota Creek Fish Passage Projects was determined using the estimated construction cost for the Crossing 5 and Crossing 8 projects as well as the estimated design cost in preparation for construction or submitting grant applications for the Quiota Creek Crossing 9 project; all of these expenditures are / will be part of matching funds for State and/or Federal grants that fund the majority of the construction costs of the project. Any remaining costs are funded by the Cachuma Member Units and grant funding. A big concern is fire prevention across the entire Santa Ynez River watershed which is of particular concern for the *O. mykiss* fishery below and above Lake Cachuma and water supply in general. The largest land holder in the watershed is the U.S. National Forest Service (USFS) to which a small portion of this year's fund revenues will be directed to the USFS for watershed protection (specifically for fire prevention) efforts in key areas within the watershed. Fisheries Program activities were calculated based on whatever fund amount remained, and reflects only a portion of the entire annual cost for those efforts.

Year 1 activities are developed in more detail in the WY2017 Annual Plan (Table 7) below because these are specifically included in the COMB budget for Fiscal Year 2017-18 (July 1, 2017 through June 30, 2018). In Years 1 and 2 (WY2018 and WY2019), the Oak Tree Restoration program will continue maintenance of the trees planted during the previous 10 years, and will be planting additional oak trees in the fall of each year. There are tributary restoration projects on Quiota Creek and the Fisheries Program will continue with the longstanding monitoring, analysis, reporting and outreach efforts. Fire prevention across the Santa Ynez River watershed through the USFS will also be addressed. Any funds not used in the Oak Tree Restoration Program or the Quiota Creek Fish Passage Projects will revert to the Fisheries Program. During the remaining years (WY2020-WY2022), a similar level of effort for the Oak Tree Restoration and Fisheries Programs is included, as well as one or two fish passage projects on Quiota Creek or fish passage barriers associated with the South Coast Conduit (SCC). Table 5 lists planned but unfunded tributary restoration projects plus estimated costs for the Quiota Creek fish passage projects that should to be constructed over

the next five years in compliance with the 2000 BiOp, as well as the planned Jalama Bridge weir fix slated for WY2018. The estimated costs for the Fisheries Program, tributary projects, and the Oak Tree Restoration Program in relation to the use of the Trust and Renewal Funds are presented in Table 6. As noted previously, the allocated revenues from the Trust Fund and Renewal Fund cover only a portion of the total estimated cost of those items as is presented in Tables 5 and 6.

Table 4: The Five-Year Plan (WY2018-2022).

Year 1: WY2018 (October 2017 - September 2018)		
Estimated Funds Available:		\$620,361
Possible Expenditures:		
Oak Tree Restoration Program		\$50,000
Quiota Creek Fish Passage Projects**		\$175,000
Genetic Analyses of LSYSR <i>O. Mykiss</i> Tissue Samples		\$15,000
Watershed Protection (USFS)		\$30,000
Fisheries Program Work - general		\$350,361
		\$620,361
Year 2: WY2019 (October 2018 - September 2019)		
Estimated Funds Available:		\$300,000
Possible Expenditures:		
Oak Tree Restoration Program		\$50,000
Quiota Creek Fish Passage Projects**		\$75,000
South Coast Conduit Fish Passage Projects**		\$75,000
Genetic Analyses of LSYSR <i>O. Mykiss</i> Tissue Samples		\$15,000
Watershed Protection (USFS)		\$30,000
Fisheries Program Work - general		\$55,000
		\$300,000
Year 3: WY2020 (October 2019 - September 2020)		
Estimated Funds Available:		\$300,000
Possible Expenditures:		
Oak Tree Restoration Program		\$40,000
Quiota Creek Fish Passage Projects**		\$50,000
South Coast Conduit Fish Passage Projects**		\$100,000
Genetic Analyses of LSYSR <i>O. Mykiss</i> Tissue Samples		\$15,000
Watershed Protection (USFS)		\$30,000
Fisheries Program Work - general		\$65,000
		\$300,000
Year 4: WY2021 (October 2020 - September 2021)		
Estimated Funds Available:		\$300,000
Possible Expenditures:		
Oak Tree Restoration Program		\$40,000
Quiota Creek Fish Passage Projects**		\$50,000
South Coast Conduit Fish Passage Projects**		\$100,000
Genetic Analyses of LSYSR <i>O. Mykiss</i> Tissue Samples		\$15,000
Watershed Protection (USFS)		\$30,000
Hilton Creek Channel Enhancement		\$65,000
		\$300,000
Year 5: WY2022 (October 2021 - September 2022)		
Estimated Funds Available:		\$300,000
Possible Expenditures:		
Oak Tree Restoration Program		\$40,000
South Coast Conduit Fish Passage Projects**		\$150,000
Genetic Analyses of LSYSR <i>O. Mykiss</i> Tissue Samples		\$15,000
Hilton Creek Channel Enhancement		\$95,000
		\$300,000
* Estimated available carryover funds from the previous water year - \$0.		
** For project operating expenses, construction match, and design and technical support.		

Table 5: Estimated costs and construction dates for tributary fish passage projects along Quiota Creek.

Tributary Projects	Estimated:	
	Construction Date	Cost
Quiota Creek Projects designs	WY2018	\$120,000
Quiota Creek Crossing 5	WY2018	\$980,000
Quiota Creek Crossing 8	WY2018	\$1,200,000
Jalama Bridge Weir Fix	WY2019	\$30,000
Quiota Creek Crossing 9	WY2019	\$990,000
South Coast Conduit Mission Creek	WY2020	\$2,000,000
Quiota Creek Crossing 0B	WY2021	\$840,000
South Coast Conduit Maria Ignacio Creek	WY2022	\$800,000

Table 6: Estimated future costs for the Fisheries Program, Tributary Projects (Santa Ynez River watershed and SCC) and the ongoing Oak Tree Restoration Program from WY2018 through WY2022 in relation to the use of the Trust and Renewal fund estimated revenues.

Water Year	Estimated Program Costs:				Total
	Fisheries	Tributary Projects	Oak Tree Restoration	Watershed Protection	
WY2018	\$365,361	\$175,000	\$50,000	\$30,000	\$620,361
WY2019	\$70,000	\$150,000	\$50,000	\$30,000	\$300,000
WY2020	\$80,000	\$150,000	\$40,000	\$30,000	\$300,000
WY2021	\$80,000	\$150,000	\$40,000	\$30,000	\$300,000
WY2022	\$110,000	\$150,000	\$40,000	\$0	\$300,000

**ANNUAL PLAN
WY2018**

Table 7 lists the activities in the WY2018 Annual Plan that will be funded through the Trust Fund and Renewal Fund revenues. The Cachuma Project Biological Opinion (BiOp) and LSYR Fish Management Plan (FMP) provide guidance on likely activities or projects for the use of the Trust Fund and Renewal Fund revenues. Even though some of the fish enhancement projects will be grant funded, the sum of these activities is still greater than the funding available from the Trust Fund and Renewal Fund. Tasks listed take into consideration restricted usage of the two Funds as stated in the Cachuma Project Warren Act Contract and Cachuma Project Renewal Master Contract, plus activities funded by the Santa Barbara County Water Agency Cachuma Betterment Fund. The Trust and Renewal Funds may also provide matching funds for other sources of money to fund the fish passage enhancement projects through grants. All items listed in Table 7 are mandated BiOp activities that are further described in the FMP.

Table 7: The Annual Plan for WY2018.

2017 Revenues:	
Trust Fund (CY2016)	\$620,361
Renewal Fund (WY2018)	\$0
Total Funds Available:	\$620,361
Fiscal Year 2017 Expenditures for the Cachuma Project BO & FMP:	
Oak Tree Restoration Program	\$50,000
Quiota Creek Fish Passage Projects (X-5, X-8, X-9)	\$175,000
Genetic Analyses of LSYR <i>O. Mykiss</i> Tissue Samples	\$15,000
Watershed Protection (USFS)	\$30,000
Fisheries Program Work - general	\$350,361
Total Expenditures:	\$620,361

The Oak Tree Restoration Program is a multi-year planting and maintenance effort to replace oak tree losses around Cachuma Reservoir due to saturation and inundation of trees near the shore resulting from the fish conservation surcharge pool. The program will continue until the mitigation ratio of 2:1 (planted to lost) has been accomplished after 20 years in 2025. The allocation for the Oak Tree Restoration Program is about half of the actual cost. Funds for the tributary project (construction, designs, and technical support) on Quiota Creek are only a fraction of the total cost of those restoration projects planned to initiate construction WY2018 onward.

Six tributary fish passage projects on Quiota Creek are required to be completed by Reclamation per the BiOp. Three additional Quiota Creek projects were expected to be constructed by others, and all nine projects are described in the FMP and 2004 Cachuma Project EIR/EIS. Seven Quiota Creek projects have been completed to date; Crossing 6 in 2008, Crossing 2 in 2011, Crossing 7 in 2012, Crossing 1 in 2013, Crossing 3 in 2015, Crossing 0A in 2016, and Crossing 4 in 2016. Grants have been secured for Crossing 5 and Crossing 8 projects with an estimated construction schedule for the

fall of WY2018. A grant has been submitted for Quiota Creek Crossing 9 that would be estimated for construction in WY2019. Grants will continue to be applied for every year until all projects are completed. The type of fix proposed for the fish passage impediments is a full span bridge (bottomless arched culvert) that allows for complete juvenile and adult fish passage for *O. mykiss*. The estimated amount for the fish passage projects was determined by using the COMB project operating expenses, the COMB construction match, and a portion of the estimated cost for design and technical support.

Wild fires are a continuous concern throughout the Santa Ynez River watershed and along the South Coast. Funds have been dedicated to watershed protection (fire prevention) within those areas through a cooperative effort with the USFS. Tasks include but are not limited to forest fuel reduction and road side clearing. This is a new collaborative effort that will be of benefit to the *O. mykiss* fishery within the management area as well as water supply.

The Fisheries Program encompasses a wide range of field and analytical activities to comply with the 15 Reasonable and Prudent Measures outlined in the 2000 Cachuma Project BiOp and the monitoring plan described in the 2000 Biological Assessment and FMP. These efforts include monitoring steelhead migration throughout the LSYR basin, dry-season snorkel surveys, redd surveys, habitat mapping, water quality monitoring, GIS database development, beaver dam monitoring, stream discharge measurements, integrated multivariate database development, report writing, and public outreach both locally and at professional fisheries meetings. The estimated total expenditures listed in Table 7 for these items was simply the remainder of the Trust Fund and Renewal Fund revenues after subtracting the allocated expenses from the Oak Tree Restoration Program spread across several required compliance tasks. These funds will be specifically used for: design work for pending Fish Passage Projects; required tributary project maintenance, monitoring and reporting; and genetic analyses of LSYR *O. mykiss* tissue samples. Any funds not used in the Oak Tree Restoration Program or the Quiota Creek Fish Passage Projects will revert to the Fisheries Program.

BETTERMENT FUND

For reference only, the Santa Barbara Water Agency shall provide \$100,000 per year into the Cachuma Betterment Fund that must be used for Cachuma Project related activities as specified in the 1996 Cachuma Project Member Unit Contracts between the County of Santa Barbara Water Agency and the Cachuma Project Member Units. The Cachuma Project Member Units and the Water Agency must mutually agree on the use of these funds. Representatives of the Betterment Fund convene an annual meeting not in association with the Trust and Renewal Funds annual meeting. Usage of the Betterment Funds since WY2012 and proposed usage in WY2018 are presented in Table 8.

Table 8: Betterment Fund usage since WY2012 and proposed usage in WY2018.

WY2012 (October 2011 - September 2012)		
Carryover from WY2011:		\$0
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2013 (October 2012 - September 2013)		
Carryover from WY2012:		\$0
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2014 (October 2013 - September 2014)		
Carryover from WY2013:		\$0
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2015 (October 2014 - September 2015)		
Carryover from WY2014:		\$0
Possible Expenditures:		
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2016 (October 2015 - September 2016)		
Carryover from WY2015:		\$0
Possible Expenditures:		
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2017 (October 2016 - September 2017)		
Carryover from WY2016:		\$0
Possible Expenditures:		
COMB USGS Santa Ynez River Gauging Program		\$75,000
BiOp and FMP Implementation Activities		\$15,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000
WY2018 (October 2017 - September 2018)		
Carryover from WY2017:		\$0
Possible Expenditures:		
COMB USGS Santa Ynez River Gauging Program		\$90,000
Santa Barbara County USGS Santa Ynez River Gauging Program		\$10,000
		\$100,000



Santa Barbara County Public Works Department
Flood Control  Water Agency

May 17, 2017

Janet Gingras, General Manager
Cachuma Operation and Maintenance Board
3301 Laurel Canyon Road
Santa Barbara, CA 93105

RE: Expenditure of County Water Agency's Cachuma Project Betterment Fund \$100,000 Annual Contribution for Fiscal Year 2017-2018

Dear Ms. Gingras,

At yesterday's Public Meeting regarding the County Water Agency's \$100,000 Cachuma Betterment Fund, you and I agreed, acting on behalf of the Cachuma Member Units and the County Water Agency respectively, that the funds should be allocated toward the following activities for Fiscal Year 2017-18:

COMB USGS Santa Ynez River Gauging Program	\$90,000
Santa Barbara County USGS Santa Ynez River Gauging Program	\$10,000
Total	\$100,000

The Betterment Fund has been included in recommendations for the Water Agency 2017-18 Budget to be adopted by the Board of Supervisors on June 14, 2017. It is our understanding that COMB's Board of Directors will also consider and approve the expenditures at an upcoming meeting.

Regards,

A handwritten signature in blue ink that reads "Fray A. Crease".

Fray A. Crease
Water Agency Manager

cc: Tim Robinson, Cachuma Operation and Maintenance Board

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Submitted by:	Tim Robinson
Approved by:	Janet Gingras

SUBJECT: **Scopes of Work for Fisheries Division Consultants for Fiscal Year 2017-18**

SUMMARY:

Scopes of Work for Fisheries Division consultants are drafted, reviewed and incorporated into the annual COMB budget prior to execution of the corresponding Professional Services Agreements. Consultants assist COMB staff to implement compliance measures within the Cachuma Project Biological Opinion (2000), Lower Santa Ynez River Fish Management Plan (2000), and Biological Assessment (1999 and 2000) and EIR/EIS (2004). Consultant tasks are developed in the Scopes of Work and carefully managed to assure timely delivery of the requested work product. Scopes of Work for Fiscal Year 2017-18 are attached for review; the associated financial obligation has been incorporated in the approved COMB Operating Budget for this fiscal year.

Specified consultants were chosen due to their expertise, legacy knowledge of the Cachuma Project and associated Biological Opinion, long-term and excellent service, completed engineering and design work where annual monitoring and reporting are required, or in-depth project specific design knowledge. Per the newly established COMB procurement policy, consultant sole-source justifications have been provided as supporting documentations.

The Scope of Work for a hydrology consultant has been provided and incorporated in the Fiscal Year 2017-2018 COMB budget without a specific consultant identified. When those services are needed, staff will bring the Scope of Work and associated justification for review and approval by the Fisheries Committee prior to Board consideration.

FINANCIAL IMPACT:

The Scopes of Work projected expenditures for the Fisheries Division are reflected in the adopted Fiscal Year 2017-18 COMB Operating Budget.

COMMITTEE STATUS:

The Fisheries Committee reviewed the Fiscal Year 2017-18 Scopes of Work and sole-source justifications for identified consultants which support execution of the corresponding Professional Services Agreements for Fisheries Division Consultants and forwards to the Board with a recommendation to approve.

RECOMMENDATION:

The Board approve the Fiscal Year 2017-18 Scopes of Work and sole-source justifications for identified consultants and authorize execution of the corresponding Professional Services Agreements for the Fisheries Division Consultants as presented.

LIST OF EXHIBITS:

1. Scopes of Work for Fisheries Division Consultants - Fiscal Year 2017-18
2. Consultant Sole-Source Justifications

**com3 consulting
Cachuma Project Fisheries Assistance**

Exhibit A

**Period of Performance and Scope of Work
Fiscal Year 2017-2018
July 1, 2017 through June 30, 2018**

I. Period of Performance

The following scope of work is to be completed by com3 consulting within the Fiscal Year beginning July 1, 2017 and ending June 30, 2018 (FY 2017-2018, or FY18).

II. Scope of Work FY 2017-2018

Task 1: General Ongoing Services

Task Estimated Cost: \$ 5,000

Prepare and maintain implementation plans, budget and project schedule in regards to the pending Quiota Creek Crossing 8 Project. Coordinate with Caltrans District 5 Local Assistance, the County of Santa Barbara and COMB.

Task 2: Preliminary Engineering Services

Task Estimated Cost: \$ 12,000

Assist COMB with the drafting, review and approval of the Request For Qualifications (RFQ) for the Quiota Creek Crossing 8 Project. Attend the Field Review meeting with Caltrans, COMB and the County. Review and provide recommendations to COMB on the selection of consultants from the RFQ. Assist COMB in negotiating for the project consultant, their scope cost and schedule. Ensure all Federal requirements and provisions are included in the consultant contracts and scopes. Coordinate with Caltrans and the County regarding environmental review and approvals. Ensure CEQA and NEPA approvals.

Task 3: Design, Right of Way and Permitting

Task Estimated Cost: \$ 7,000

Prepare the Request for Authorization (RFA) to precede for Right of Way acquisition and submit to Caltrans. Assist COMB as needed to interface with the resource agencies and secure all permits. Assist COMB as needed to interface with property owners and define the right of way needs. Assist COMB and the Right of Way consultants in acquiring all right of way needs for the project.

TOTAL ESTIMATED TASK ORDER COST:

\$ 24,000

HDR Engineering, Inc.
Cachuma Project Fisheries Assistance

Exhibit A

Period of Performance and Scope of Work
Fiscal Year 2017-2018
July 1, 2017 through June 30, 2018

I. Period of Performance

The following scope of work is to be completed by HDR Engineering within the Fiscal Year beginning July 1, 2017 and ending June 30, 2018 (FY 2017-2018, or FY18).

II. Scope of Work FY 2017-2018

Task 1: BO/FMP implementation and technical support Task Estimated Cost: \$ 4,000

This task provides support for actions outlined in the Cachuma Project Biological Opinion (BO) and Lower Santa Ynez River Fish Management Plan (FMP).

Task 1.1 BO/FMP Compliance Tasks and Support *Estimated Cost: \$ 1,000*

HDR Engineering will provide assists as needed with the ongoing BO/FMP compliance and implementation efforts. This may include technical and analytical support and review of the fisheries monitoring programs and any proposed study plans.

Task 1.2 Fisheries monitoring program support *Estimated Cost: \$ 3,000*

HDR Engineering will review, evaluate, and develop technical elements of fish passage and fisheries related monitoring programs being implemented by COMB. Activities are anticipated to include: background research; program monitoring and design descriptions; and concept schematics. Data review, synthesis, and meeting attendance will be performed as directed by COMB.

Task 2: Project Operation and Maintenance Task Estimated Cost: \$ 11,800

This task provides technical assistance with operation, maintenance and performance reporting of completed tributary fish passage projects designed by HDR.

Task 2.1 Quiota Creek Crossing 0A – O&M technical *Estimated Cost: \$ 1,400*

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 0A restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and

rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.2 Quiota Creek Crossing 1 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 1 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.3 Quiota Creek Crossing 2 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 2 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.4 Quiota Creek Crossing 3 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 3 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.5 Quiota Creek Crossing 4 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 4 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.6 Quiota Creek Crossing 6 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 6 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the four grade control rock weirs; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.7 Quiota Creek Crossing 7 – O&M technical

Estimated Cost: \$ 1,400

HDR Engineering will provide technical assistance to COMB corresponding to the performance evaluation of the Quiota Creek Crossing 7 restoration project. Tasks are anticipated to include: one to two site visits per year to survey the facility; refinement of monitoring methods and procedures; hydraulic review of the grade control structures and rock weir; review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 2.8 El Jaro Creek at Rancho San Julian project –O&M technical

Estimated Cost: \$ 2,000

HDR Engineering will provide technical assistance to COMB corresponding to the operation, maintenance, and performance review of the Rancho San Julian fish passage project. Tasks are anticipated to include: refinement of monitoring methods and procedures; hydraulic review of fishway performance; troubleshooting of general operation and maintenance issues; one to two site visits per year to survey the facility, review of technical data collected by COMB; and assistance in preparation of an annual performance evaluation (engineering and fisheries) report. Activities will be performed by an Engineer as directed by COMB.

Task 3: Habitat Improvements

Task Estimated Cost: \$ 140,000

This task provides design support and engineering oversight for specific proposed or in construction tributary fish passage projects designed by HDR.

Task 3.1 Tributary Projects – technical support

Estimated Cost: \$ 20,000

HDR Engineering will support COMB in the implementation of fish passage projects along Quiota creek synonymous with the results presented in the Quiota Creek Watershed Fish Passage Enhancement Plan. Activities conducted under this task and as directed by COMB shall include: support of grant proposal development; preparation of concept level Engineer’s construction drawings and cost opinions; preparation of project descriptions and development of technical data; and coordination with agencies and local governments in regards to fish passage guidelines.

Task 3.2 Quiota Creek Fish Passage Project at Crossing 5

Estimated Cost: \$ 80,000

HDR Engineering will finalize all design and bid documentation then oversee the construction of the project. This will include review and reporting of any requested Requests-For-Information and Change-Orders. Upon completion of the project, the ENGINEER will develop As-Built drawings.

Task 3.3 Quiota Creek Fish Passage Project at Crossing 9

Estimated Cost: \$ 30,000

HDR Engineering will work towards final design documents from the current design level to 85% with Santa Barbara County and regulatory agency approval. Upon completion, final design documents will be wet sealed by a California Registered Professional Engineer and submitted to COMB for project grant proposal writing and construction bidding.

Task 3.4 Salsipuedes Creel Jalama Road Fish Ladder

Estimated Cost: \$ 10,000

HDR Engineering will finalize all design and bid documentation then oversee the construction of the Salsipuedes Creek Jalama road fish Ladder Project. This will include review and reporting of any requested Requests-For-Information and Change-Orders. Upon completion of the project, the ENGINEER will develop As-Built drawings.

TOTAL ESTIMATED TASK ORDER COST:

\$ 155,800

Hydrology Consultant Cachuma Project Fisheries Assistance

Exhibit A

Period of Performance and Scope of Work Fiscal Year 2017-2018 July 1, 2017 through June 30, 2018

I. Period of Performance

The following scope of work is to be completed by a Hydrology Consultant within the Fiscal Year beginning July 1, 2017 and ending June 30, 2018 (FY 2017-2018, or FY18).

II. Scope of Work FY 2017-2018

TASK 1: BO/FMP IMPLEMENTATION/ TECHNICAL SUPPORT \$10,000

The task provides support for actions outlined in the Cachuma Project Biological Opinion (BO) and Lower Santa Ynez River Fish Management Plan (FMP).

- a) **Task 1.1 – BO/FMP Compliance Tasks and Technical Support (\$3,000)**
The consultant will provide support for ongoing BO/FMP compliance and implementation efforts, specifically regarding technical and analytical support and review of the fisheries monitoring program and any proposed study plans. This may require participation on a science advisory committee to obtain consensus on the recommendations. This estimate includes conference calls plus limited preparation and follow-up per call as needed.

- b) **Task 1.2 – Review of Fisheries Monitoring Reports (\$7,000)**
Consultant will review as requested any fisheries monitoring reports that are prepared by the Cachuma Project Biology Staff. These reports would be compliance measures for terms and conditions presented in the BO/FMP and would include the Annual Monitoring Report and technical memos prepared for Reclamation as well as the AMC, CC or COMB Board. This may include participation on a science advisory committee to discuss comments on the reports under review.

TASK 2: SANTA YNEZ RIVER HYDROLOGY SUPPORT \$8,000

- a) **Task 2.1 – Hydrologic Support for the Fisheries Program (\$8,000)**
This task provides hydrologic support for analyzing operations in the SYR basin and operations for the Fisheries Program. Tasks include any technical

refinements for miscellaneous studies involving hydrologic compliance with the BO/FMP specifically regarding Bradbury Dam operating criteria and meeting target flows. Hence, this task includes making sure current releases are meeting BO target flows at Alisal and Highway 154 bridges, and evaluation for possible passage releases, and possible revisions to passage supplementation and 1.5 cfs target flow protocols.

TOTAL TASK ORDER COST: \$18,000

**ICF International
Cachuma Project Fisheries Assistance**

Exhibit A

**Period of Performance and Scope of Work
Fiscal Year 2017-2018
July 1, 2017 through June 30, 2018**

I. Period of Performance

The following scope of work is to be completed by ICF International within the Fiscal Year beginning July 1, 2017 and ending June 30, 2018 (FY 2017-2018, or FY18).

II. Scope of Work FY 2017-2018

TASK 1000

BO/FMP Implementation and Technical Support

Task Budget: \$19,000

This task provides support for actions outlined in the Cachuma Project Biological Opinion (BO) and Lower Santa Ynez River Fish Management Plan (FMP). The tasks that are authorized under this budget are outlined below.

1301: BO/FMP Compliance Tasks and Support \$6,000

ICF International will provide assistance as needed with the ongoing BO/FMP compliance and implementation efforts. Tasks include providing technical and analytical support and review of the fisheries monitoring program and any proposed study plans. This may require participation on a science advisory committee to obtain consensus on the recommendations. This estimate includes conference calls plus limited preparation and follow-up per call.

1302: AMC and CC Participation and Technical Support \$4,000

Ms. Baldrige will assist COMB by overseeing of the Adaptive Management Committee (AMC) and the Consensus Committee (CC). This task includes time for Ms. Baldrige to support and participate in AMC meetings as needed. The task is scoped for conference calls, plus preparation and follow-up per call as well as Ms. Baldrige’s participation in face-to-face meetings of the AMC and CC as necessary and up to the budgeted amount.

1307: Review of Fisheries Monitoring Reports

\$9,000

ICF International will review as requested any fisheries monitoring reports that are prepared by the Cachuma Project Biology Staff. These reports would be compliance measures for terms and conditions presented in the BO and would include the Annual Monitoring Report and technical memos prepared for Reclamation as well as the AMC, CC or COMB Board. This may include participation on a science advisory committee to discuss comments on the reports under review.

Table 1: Summary of Estimated Fiscal Year 2017-18 ICF International Budget from July 1, 2017 to June 30, 2018.

COMB SOW FY 2017-2018 (7/1/17-6/30/18)		
Task 1000 - BO/FMP implementation and technical support:		
Task 1301	BO compliance tasks and support	\$6,000
Task 1302	AMC and CC participation and technical support	\$4,000
Task 1307	Review of fisheries monitoring reports	\$9,000
Subtotal - Task 1000		\$19,000
TOTAL PROJECT COST		\$19,000

**Kenneth A. Knight Consulting, LLC
Oak Tree Restoration Specialist
Cachuma Project Fisheries Assistance**

Exhibit A

**Period of Performance and Scope of Work
Fiscal Year 2017-2018
July 1, 2017 through June 30, 2018**

I. Period of Performance

The following scope of work is to be completed by Kenneth A. Knight Consulting LLC, within the Fiscal Year beginning July 1, 2017 and ending June 30, 2018 (FY 2017-2018, or FY18).

II. Scope of Work FY 2017-2018

Cachuma Operation and Maintenance Board (COMB) with assistance from the U.S. Bureau of Reclamation (Reclamation) Bradbury Dam staff will perform all of the irrigation, maintenance, monitoring, mapping and surveying of oak trees in and around Lake Cachuma that were planted for mitigation due to the Lake Surcharge Project. Oak trees have been planted at three locations: Storke Flats and four locations below Bradbury Dam. Guidance with this effort will be conducted by Kenneth Knight, a registered consulting Arborist with a specialization in oak trees, who will assure that the maintenance, monitoring and reporting are carried out to the best of our collective abilities and knowledge. The consultant will be required to visit the site as needed and participate in site visits with COMB management and Reclamation personnel. Specific tasks are as follows:

Task 1: Cachuma Oak Tree Restoration Program Plan Task Estimated Cost: \$1,000

Assist the COMB staff and COMB Board Lake Cachuma Oak Tree Program Committee in developing the Cachuma Lake Oak Tree Restoration Program 10-Year Plan that will evolve with time, experience, and identified tasks.

Task 2: Oak Tree General Maintenance Task Estimated Cost: \$2,000

Continue to guide as needed the COMB staff on general maintenance tasks for the mitigated oak trees at Bradbury Dam and Storke Flats that includes watering (irrigation), weeding, cage maintenance, mulching, base of tree maintenance, and predator management.

Task 3: Oak Tree Inventory, Mapping and Reporting Task Estimated Cost: \$3,000

Continue to give guidance on inventory and mapping of the planted oak trees at all locations. Also, the consultant will co-author the Annual Progress Report for the Lake Cachuma Oak Tree Restoration Program

Task 4: Additional Oak Tree Planting Plan

Task Estimated Cost: \$1,000

Assist in developing and implementing a plan for planting of additional oak trees within a designated restoration areas as prescribed by the COMB Lake Cachuma Oak Tree Program Committee and described in the 2-Year Plan that would be planted in the Fiscal Year 2017-2018 and Fiscal Year 2018-2019, depending on weather conditions and availability of funds.

Task 5: General Arborist Services

Task Estimated Cost: \$3,000

Perform general arborist services associated with restoration, maintenance and cleanup projects.

TOTAL TASK ORDER COST: \$10,000

**Sole Source Contract Justification
Fisheries Division Consultant Work**

June 12, 2017

To: Cachuma Operation and Maintenance Board

From: Janet Gingras (General Manager, COMB) and Timothy H. Robinson (Fisheries Division Manager, COMB)

Contract: com3 consulting Inc., Scope of Work

A. Factors of Consideration

Gerald Comati, a registered California engineer, is the president and lead consultant for com3 consulting Inc. Mr. Comati has extensive experience working with Caltrans on road and bridge projects on public and private right of ways. The County of Santa Barbara (County) strongly recommended working with Mr. Comati due to his unique expertise navigating the path through a Caltrans supported project. COMB has committed to work with the County to assist them in obtaining a Caltrans Bridge Replacement Grant (which has been required) and to be the agent for the County on constructing the Quiota Creek Crossing 8 Project. COMB has been working closely with com3 and the County on this project for two years. Now that the funding for the project has been secured, COMB requests the continued assistance of Mr. Comati to obtain a project consultant that will conduct the design, CEQA/NEPA requirements and right of way alignment and documentation.

B. Price Analysis

Mr. Comati's skillset is particularly valuable in assisting COMB and the County to navigate the complexities of a Caltrans funded project both in compliance and administration. Again, he was strongly requested by the County for these tasks as they are very comfortable with his professional performance for these efforts and his fees have been reasonable.

**Sole Source Contract Justification
Fisheries Division Consultant Work**

June 12, 2017

To: Cachuma Operation and Maintenance Board

From: Janet Gingras (General Manager, COMB) and Timothy H. Robinson (Fisheries Division Manager, COMB)

Contract: HDR Fisheries Design Center, Scope of Work

A. Factors of Consideration

HDR Fisheries Design Center (HDR, initially Fish Pro) is one of the top fish passage engineering consulting firms in the country with extensive experience particularly on the west coast where they specialize in salmonid species and in our case the endangered southern steelhead (*Oncorhynchus, mykiss*). They have provided to the Fisheries Program exemplary fish passage design, data review, and planning assistance since prior to the issuance of the Cachuma Project Biological Opinion in September of 2000.

In 2008, HDR worked with fisheries staff to author the Quiota Creek Watershed Fish Passage Enhancement Plan which was the initial fish passage assessment and design work for all projects along Quiota Creek. Since then, they have amassed extensive local experience in analyzing the watershed hydrology and specific fish passage issues at all known fish passage impediments along the creek at Crossings 0A, 0B, 1, 2, 3, 4, 5, 6, 7, 8 and 9. HDR has successfully completed designs and overseen construction of the following projects at Crossings 0A, 1, 2, 3, 4, 6 and 7. Their cumulative knowledge in design and regulatory compliance for the National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW), U. S. Fish and Wildlife Service (USFWS), Santa Barbara County Public Works (County) as well as concerns and requirements of individual landowners has been extremely valuable in facilitating projects both in implementation and cost savings. Learned project elements are applied to the next fish passage enhancement project resulting in a streamlined and efficient design and implementation process for each project.

Fish passage enhancement projects being undertaken this year and the level of engineering design provided by HDR for the project as of the beginning of Fiscal Year 2017-2018 are 85% for Crossing 5 (funded and approved), 85% for Crossing 9 (CDFW proposal submitted), and 80% for Crossing 8 (CalTrans funded through SB County).

HDR's lead fish passage engineer, Mike Garello, is particularly well positioned since he is the current Bioengineering Section President for the American Fisheries Society (AFS) where he interacts with fish passage engineers from across the country and more

importantly engineers from regulatory agencies specifically NMFS and CDFW. This provides insights and relationships to those who approve the designs of our projects which enhances and further legitimizes our project designs which reduces the amount of questions and review period by those approving regulatory agencies. Mr. Garelo regulatory gives talks at professional fisheries conferences and is well known and respected in the industry. Resumes from Mr. Garelo and his second in command, Shaun Bevan, are available upon request.

In addition, HDR successfully designed and assisted in the implementation of the Rancho San Julian Fish Ladder on El Jaro Creek, a tributary of Salsipuedes Creek, in 2009 and is actively involved with the required fix of the fish ladder at the Jalama Road Bridge on Salsipuedes Creek. HDR conduct all performance evaluations for each of their completed fish passage project totally 6 projects.

B. Price Analysis

HDR has provided years of valuable consulting services in engineering design, planning and navigating regulatory and County requirements. Their cumulative knowledge provides efficient consulting at a price point that would be difficult to match given their local experience and quantity of conducted fish passage analyses and engineering design work. Their long-term, in-depth and extensive professional experience within the Lower Santa Ynez River drainage continues to be top notch at a cost reflective of the longevity of the relationship.

**Sole Source Contract Justification
Fisheries Division Consultant Work**

June 12, 2017

To: Cachuma Operation and Maintenance Board

From: Janet Gingras (General Manager, COMB) and Timothy H. Robinson (Fisheries Division Manager, COMB)

Contract: ICF International, Scope of Work

A. Factors of Consideration

Jean Baldrige has been a Fisheries Biology consultant working on the Cachuma Project since the mid-1990s. She is considered to be one of the senior consultants on this biological monitoring effort that started prior to the 2000 Cachuma Project Biological Opinion and continues to the present. Her input to the monitoring and reporting effort is extremely valuable due to her legacy knowledge of the history of the project and regulatory compliance effort from the beginning.

Ms. Baldrige moved to ICF International (ICF) from Cardno taking her consulting team with her. The Scope of Work reflects her new position at ICF and the listed tasks are strictly a continuation of the services she and her consulting staff have been providing for many years. The cost of each task is carefully evaluated to reflect the expected level of effort for the coming fiscal year.

B. Price Analysis

ICF through Ms. Baldrige is a special case due to her long-term knowledge that would not be possible through other biological consulting services.

**Sole Source Contract Justification
Fisheries Division Consultant Work**

June 12, 2017

To: Cachuma Operation and Maintenance Board

From: Janet Gingras (General Manager, COMB) and Timothy H. Robinson (Fisheries Division Manager, COMB)

Contract: Kenneth A. Knight Consulting, Scope of Work

A. Factors of Consideration

Kenneth Knight is a registered consulting arborist (License Number 507) who has been working on the Lake Cachuma Oak Tree Restoration Program as the project consultant for COMB since 2014. He has advised the COMB Fisheries Division staff on all facets of the program from maintenance of trees planted prior to 2014 through newly planted trees through 2017. His expertise has been instrumental in the success and professionalism of the program and mitigation effort.

Mr. Knight's continued services are sought for Fiscal Year 2017-2018 as a continuation of the ongoing program so that we can maintain the same level of professional care, oversight and future planting.

B. Price Analysis

Mr. Knight has served COMB well both in product and price point. He provides a unique case due to his extensive experience with this oak tree restoration project over the past 4 years, professional knowledge and credentials as a licensed consulting arborist.

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Submitted by:	Tim Robinson
Approved by:	Janet Gingras

SUBJECT: Resolution No. 633 - Quiota Creek Crossing 5 Fish Passage Improvement Project

SUMMARY:

COMB was awarded a 2016 CDFW-FRGP Grant for \$893,287 with a COMB construction match of \$50,000 to replace the concrete low flow crossing at Quiota Creek Crossing 5 with a bridge. The design consists of a 59-foot bottomless arched culvert with four wing walls and rock slope protection for bridge foundation scour protection. The stream channel will be graded to an even slope through the project area to match upstream and downstream conditions. The COMB Board accepted the CDFW-FRGP grant through Resolution No. 632 on May 22, 2017. The total project cost is estimated to be \$1,068,437 with net expenditures from the Member Agencies of approximately \$175k. This project is schedule to be constructed in the fall of 2017 pending Board approval, final design approval and permit acquisition.

FINANCIAL IMPACT:

Estimated COMB services (staff salaries) at \$66,196 and operating expenses (permit fees, engineering oversight, record drawings) at \$42,630, and administrative overhead of \$16,324 for a total of \$125,717. CDFW-FRPG grant funding totals \$893,287 with a COMB construction match of \$50,000. Total cost of project is estimated to be \$1,068,437 and is scheduled for construction in Fiscal Year 2017-18.

LEGAL CONCURRENCE:

COMB legal counsel has reviewed and approved Resolution No. 633.

ENVIRONMENTAL COMPLIANCE:

All permits will be acquired as needed and complied with throughout the project.

COMMITTEE STATUS:

The Fisheries Committee reviewed Quiota Creek Crossing 5 Fish Passage Improvement Project and forwards to the Board with a recommendation to approve the project through adoption of Resolution No. 633.

RECOMMENDATION:

Board adopt Resolution No. 633 for implementation of the Quiota Creek Crossing 5 Fish Passage Improvement Project.

LIST OF EXHIBITS:

- 1) Resolution No. 633

RESOLUTION NO. 633

RESOLUTION OF THE GOVERNING BOARD OF THE CACHUMA OPERATION & MAINTENANCE BOARD APPROVING EXPENDITURES FOR THE CONSTRUCTION OF THE FISH PASSAGE IMPROVEMENT AT QUIOTA CREEK CROSSING NUMBER 5

WHEREAS, the Cachuma Operation & Maintenance Board (“COMB”) is a joint powers authority and public entity, organized and existing in the County of Santa Barbara in accordance with Government Code Section 6500 et seq., and operating pursuant 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, dated May 23, 1996 (“Amended and Restated Agreement”), as amended by an Amendment to the Amended and Restated Agreement made effective September 16, 2003 (collectively the “Joint Powers Agreement”); and

WHEREAS, COMB operates and maintains Cachuma Project facilities pursuant to a Transfer of Operation and Maintenance Contract with the United States Bureau of Reclamation; and

WHEREAS, the Member Agencies of COMB consist of the City of Santa Barbara, the Goleta Water District, the Montecito Water District, the Carpinteria Valley Water District (collectively herein the “South Coast Member Agencies”), and the Santa Ynez River Water Conservation District, Improvement District No. 1 (“ID No. 1”); and

WHEREAS, in August, 1997, the National Marine Fisheries Service (“NMFS”) listed anadromous steelhead in the Southern California Evolutionarily Significant Unit, including the Santa Ynez River downstream of Bradbury Dam, as an endangered species under the federal Endangered Species Act, and completed and issued on September 11, 2000, a Biological Opinion relative to Cachuma Project operations as they relate to steelhead; and

WHEREAS, COMB is committed to implement and cooperate in operations and other management actions designed to protect and enhance habitat conditions for steelhead in the Santa Ynez River and its tributaries downstream of Bradbury Dam; and

WHEREAS, the fish passage improvements at Crossing Number 5 on Quiota Creek, a tributary to the Lower Santa Ynez River, will provide improved access to the perennial reaches of Quiota Creek and restore habitat to enhance conditions for steelhead (the “Project”). The Project will replace an existing “at-grade” Arizona-type concrete crossing with a 59-foot prefabricated concrete bottom-less arched culvert (or bridge), which will remain owned, operated and maintained by the County of Santa Barbara. The new bridge system will consist of an internal span of 59 feet and rise approximately 12 feet. A single 18-foot wide lane road surface will be constructed over the top of the arch of the bridge connecting to the existing County road surface; and

WHEREAS, COMB has prepared a detailed Scope of Work with specific tasks to be performed, a schedule of completion and a detailed budget that will be used for selection of a construction contractor and construction management of the Project; and

WHEREAS, final approval of the Project’s 100% design drawings (produced by HDR Fisheries Design Center) by the California Department of Fish and Wildlife (“CDFW”), NMFS fish passage engineers and Santa Barbara County is expected in the early Summer 2017. The bulk of the on-the-ground construction activities for the Project will be accomplished by a hired contractor who will be determined through a competitive bidding process using a pre-approved CDFW-qualified contractor list. Pending obtaining all necessary permits, the Project will be constructed in the late Summer/Fall (September – December) 2017, and is expected to take approximately 75 days to complete; and

WHEREAS, COMB estimates that the total expenditures for the Project would be approximately One Million Sixty-Eight Thousand Four Hundred Thirty-Seven Dollars (\$1,068,437), which would include state grant funding in the amount of \$893,287, along with Warren Act funding, assessments to Member Agencies and a construction match of \$50,000; and

WHEREAS, in 2016, COMB was awarded Eight Hundred Ninety-Three Thousand Two Hundred Eight-Seven Dollars (\$893,287) in CDFW-Fisheries Restoration Grant Program (“FRGP”) funding (the “Grant”); and

WHEREAS, on May 22, 2017, the COMB Governing Board approved Resolution No. 632 accepting the Grant to fund a significant portion of the total expenditures necessary for the Project; and

WHEREAS, on May 19, 2017, the Project was reviewed and considered by COMB’s Fisheries Committee and forwarded to the Governing Board with a recommendation for approval; and

WHEREAS, the Governing Board desires to authorize and approve the total expenditures for the Project, of which the net cost to the Member Agencies will be below the \$1 million threshold requiring a unanimous vote for approval by the Governing Board as provided in the Joint Powers Agreement.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BOARD OF COMB AS FOLLOWS:

1. The Governing Board finds and determines that the facts set forth in the above recitals and in the documents referenced herein are true and correct.
2. The Governing Board supports the Fish Passage Improvements on Quiota Creek, including the Project at Crossing 5, which are considered essential to the steelhead restoration effort in the Lower Santa Ynez River.
3. The Governing Board approves and authorizes the requested expenditure for the Project.
4. The Governing Board further authorizes COMB’s officers and staff, including the General Manager, to continue to do all things necessary and appropriate, including, but not limited to,

execution and delivery of necessary documents, the obtaining of applicable permits, and any other actions to construct and implement the Project using the approved expenditures.

5. This Resolution shall take effect immediately.

PASSED, APPROVED AND ADOPTED by the Governing Board of the Cachuma Operation and Maintenance Board, this 26th day of June 2017, by the following roll call vote:

Ayes:

Nays:

Abstain:

APPROVED:

President of the Governing Board

ATTEST:

Secretary of the Governing Board



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.”

June 26, 2017

General Manager Report

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

Meetings

- Cachuma Master Contract Renewal

On Wednesday, June 7, 2017, the Member Agency General Managers and staff met with Reclamation representatives to discuss the structure and process regarding the upcoming Cachuma Project Master Contract renewal. Mike Lebarre, Contracts Administration Chief, and Erma Leal, Repayment Specialist representing Reclamation, fielded questions from Member Agencies' staff. Representatives from Santa Barbara County Water Agency, the Parent District and Cachuma Conservation Release Board were also present for the discussion. A revised process schedule is currently being drafted by Reclamation and will be sent to the appropriate entities once completed. A meeting is scheduled with Reclamation in the next few weeks for further discussion.

- Contract Renewal for the Transfer of Operation & Maintenance of the Cachuma Transferred Project Works

Reclamation met with COMB staff regarding the initial process of renewing the Transfer of Operation and Maintenance (O & M) contract for the Cachuma Transferred Project Works. The O & M contract expires in September 2020, the same expiration date as the Cachuma Project Master Renewal Contract. Reclamation will be drafting a timeline for the O & M contract renewal process which will essentially mimic the schedule for the Master Contract Renewal process allowing an effective use of time for management staff. COMB will be scheduling a meeting with Member Agency General Managers and technical staff to provide informational materials and facilitate initial discussion regarding the contract renewal process.

Administration

- Santa Barbara County Civil Grand Jury Report

On June 13, 2017, the Santa Barbara County Civil Grand Jury released a report entitled “Managing Regional Water Supplies”. The report considered topics regarding local water conveyance, supplies and comments regarding a regional system. Findings and recommendations are included in the report with responses in writing due to the Presiding Judge of the Superior Court within 90 days of receipt. COMB is named as a responder to Findings 3, 5, 7, and 8 as well as recommendations 3, 5, 7a, 7b and 8. At the Board's discretion, responses requested of COMB can be initially formulated by staff and presented through the Administrative Committee.

- CAFR Audit, Policies, Employee Handbook

Staff is currently administering proposals for the CAFR audit, continuing development of Board and administrative policies and procedures, preparing to initiate a parity study, and crafting a revised employee handbook for submission to the Administrative Committee prior to the Board.

Operations Division Activities

- Sycamore Canyon Slide Repair

Operations Division staff met with FEMA environmental representatives and project coordinator to review the Sycamore Canyon slide repair project. A separate site visit with a FEMA field inspector was also conducted to assess conditions and determine the best approach for design and construction. Staff has met with two geotechnical firms on site to discuss design approach. Reclamation has also been on site to review conditions. This emergency project is planned as a design/build project and proposals will be presented to the Operations Committee prior to the Board with anticipated construction beginning in August.

- Lateral Structure No. 3 Repair

The Lateral Structure No. 3 repair designs by Flowers & Associates are now complete. The Request for Proposal (RFP) document is currently under legal review and will be submitted to qualified contractors within a week. It is anticipated bids will be received by early July and submitted to the Operations Committee in the mid-July meeting prior to submission to the Board. Construction is scheduled to begin in August or September 2017 pending coordination with Member Agencies.

- AVAR Valve / Blow-off Replacement / Relocation

Staff met with the Consultant Engineer, HDR, to review preliminary design concepts. HDR has inspected each site structure and created a project grouping schedule based on priority and coordination for construction efforts. Staff will be meeting with the affected Member Agencies technical staff to develop an operations plan for project implementation. It is anticipated designs will be completed in August with the project going out for bid in September. The construction work will be performed in the winter during low demand months.

- North Portal Slope Stabilization Project

The implementation of this project has been delayed due to the environmental processes with the Bureau of Reclamation. The environmental documents are now complete with anticipation of construction commencing before the end of June.

Fisheries Division Activities

- Oak Tree Program

The field portion of the annual oak tree inventory (Years 1-9) has been completed. In general, two watering teams (using the large water truck and smaller water trailer) are being deployed each day to irrigate as many trees as possible. The older age classes (Years 5-7) of oak trees were irrigated in late May through mid-June, with a third round of irrigation for the newer (Year 8 and Year 9) trees currently underway.

- Snorkel Surveys

The annual spring snorkel surveys within the LSYR main-stem and tributaries are nearly finished, with only a small section of the main-stem (Highway 154 Reach) and Hilton Creek remaining. The remaining areas below Bradbury Dam will be surveyed within the next few weeks.

- Hilton Creek flows

Flows have remained unchanged within Hilton Creek with the Hilton Creek Emergency Backup System (HCEBS) providing approximately 1.4 cfs of gravity flow to the Lower Release Point. A small amount of flow (<0.1 cfs) is also being provided to the Upper Release Point.

- Quiota Creek Crossings 0A and 4

The Fisheries Division continues to irrigate the newly planted trees at the completed project sites, as well as the mitigation trees at other Quiota Creek project sites.

- Annual Monitoring Reports

The Fisheries Division staff continues work on the 2014-2016 Annual Monitoring Reports.

- ESRI conference

In preparation for the annual ESRI conference in San Diego in mid-July, Fisheries Division personnel are working on completing presentations for the conference.

Respectfully Submitted,

Janet Gingras

General Manager

CACHUMA OPERATION AND MAINTENANCE BOARD

MEMORANDUM

DATE: June 26, 2017
TO: Janet Gingras, General Manager
FROM: Dave Stewart, Operations Division Manager
RE: **MONTHLY OPERATIONS DIVISION REPORT**

Operations

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 continually endeavors to improve the system, address deficiencies and identify items to be included in the Infrastructure Improvement Program (IIP).

Lake Cachuma Operations

The total flow from Lake Cachuma into the Tecolote Tunnel for April was 1396.1 acre-feet, for an average daily flow of 45.03 acre-feet. Lake elevation was 715.19 feet at the beginning of the month and 715.03 feet at the end. Storage change decreased 294 acre-feet. CCWA wheeled 1165.4 acre-feet of water to Cachuma Project facilities.

Operation and Maintenance Activities

COMB Staff regularly performs the following duties:

- Operations and maintenance of the SCC and facilities on the South Coast:

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

- Operation of the Lake Cachuma North Portal Intake Tower and Jet Flow Valve
- Regulate and maintain flows from Lake Cachuma to meet the needs of South Coast Member Units
- Dam inspection and instrumentation reports (all reservoirs)
- Weekly Safety meetings
- Weekly Rodent Bait (all reservoirs)
- Weekly Toe Drain and Piezometer reads at Ortega (L23)
- Structure maintenance per Work Plan

- USA Dig Alert – Responded 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

Weekly Safety Meetings:

The primary purpose of the weekly safety meetings is to continue educating staff on safe practices in the field and on-site. In the safety meetings, staff is urged to ask questions regarding the topic being discussed and to think of related examples. The discussion also includes how the incident could have been prevented. Regular safety meetings help staff to constantly be aware of safety practices while on the job. The following topics were reviewed this past month:

- ✓ Sun Exposure Safety – Discussed sun exposure. Outlined preventive measures to limit or reduce exposure for long periods of time.
- ✓ Watch Out for Snakes – Dangers of working in snake prone areas. What to do if someone is bitten.

COMB Operations Staff specifically performed the following activities:

- Staff has been on site monitoring several ongoing projects throughout the area. Working closely with the construction and engineering contractors to ensure that:
 - Pipe line easements and right of ways remain accessible to operations staff for possible emergency's and ongoing facility maintenance
 - All projects are following the COMB and USBR approved plans.
 - No damage occurs to the South Coast Conduit during the construction process.
- Began the annual structure maintenance program on the northern of the section of the South Coast Conduit. So far staff has completed maintenance on:
 - Air Vents: 28+32, 43+95, 100+78, 118+05, 131+54, 163+90, 188+22
 - Blow Offs: 12+62, 23+97, 30+61, 57+97, 80+86, 99+22, 111+85, 122+20, 153+00, 180+13
 - Turn Outs: 108+30, 122+20, 153+50, 165+60

Included in the program is:

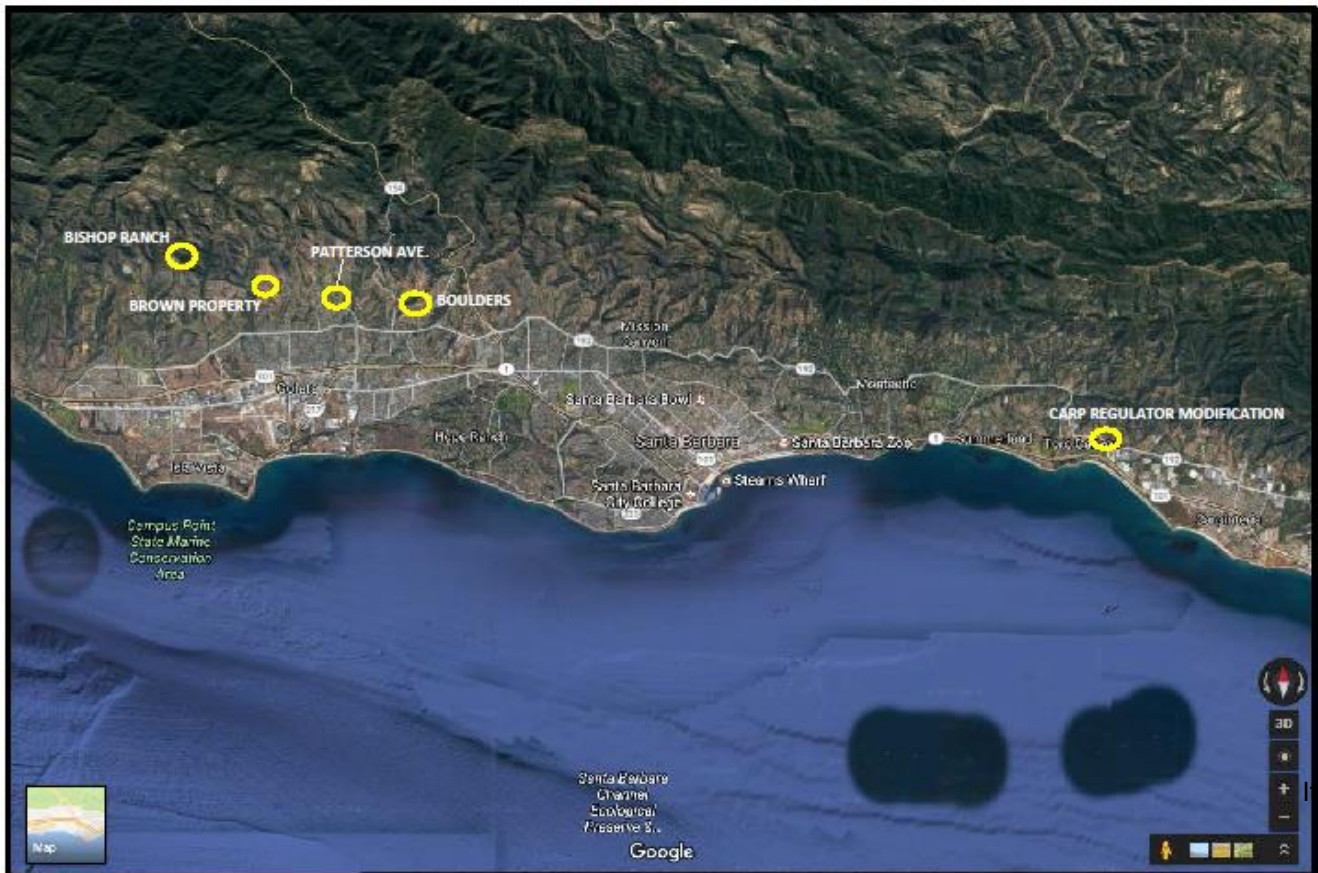
 - Improve site access
 - Inspection of all air vents, blow off and turn-out structure. Checking condition of all associated equipment.
 - Exercising of all appropriate valves or apparatuses.
 - Cleaning of the structure and surrounding site.

- Applying fresh paint and signage.
- On June 14th staff gave a presentation to students and faculty from Anacapa School at the Bradbury Dam Observation Deck. The students had spent the previous week learning, hiking and camping throughout the area near Lake Cachuma and the Upper Santa Ynez River. Staff explained COMBs responsibilities in the water conveyance process, from the rain in the backcountry to their faucets at home. Provided pictures from the construction of the Tecolote Tunnel and a site map outlining the system and other key features COMB operates.
- Cleaning of the North Portal Intake Tower debris and fish screens. Including the monthly Quagga Mussel inspection.
- Exercised North Portal Intake Tower slide gates.
- Monthly water sampling for the City of Santa Barbara.
- Operations department continually inspects all sites, reservoirs, and the South Coast Conduit for items to add to the IIP for future projects.

Current IIP projects include:

- Air Vacuum Air Release (AVAR) Valve and Blow-off Structure Rehabilitation & Replacement
- North Portal Access Road
- Sycamore Canyon Slide Repair
- Lateral #3 Replacement

CURRENT PROJECTS WITHIN THE EASMENT



BISHOP RANCH



- Removal and replanting of avocado orchard.

BROWN PROPERTY



- Installation of Geofoam over the South Coast Conduit to prevent overloading.

PATTERSON AVE.



-
- Patterson Oaks subdivision.

BOULDERS PROJECT



- Boulders subdivision.

CARPINTERIA REGULATOR VOLT MODIFICATION



- CVWD regulator vault modifications.

CACHUMA OPERATION AND MAINTENANCE BOARD

BOARD MEMORANDUM

DATE: June 26, 2017
TO: Janet Gingras, General Manager
FROM: Tim Robinson, Fisheries Division Manager
RE: MONTHLY FISHERIES DIVISION REPORT

HIGHLIGHTS:

- USBR continues to deliver approximately 2 cfs to Hilton Creek mostly at the Lower Release Point and trickle flow at the Upper Release Point by gravity flow through the Hilton Creek Emergency Backup System in support of the *O. mykiss* population.

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 Cachuma Project Biology Staff (CPBS) 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 CPBS since the last COMB Board Fisheries Division Report that 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 Report.

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.

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.

Hilton Creek Releases for the Fishery: On 3/23/17, USBR switched the flow delivery system to Hilton Creek from the small submersible pump on the south side of the Stilling Basin to gravity flow from the Hilton Creek Emergency Backup System (HCEBS). The flow rate is approximately 2.0 cfs and is being delivered mostly to the Lower Release Point (LRP) with trickle flow to the Upper Release Point (URP). The small amount of flow to the URP is

designed to support the creek's riparian vegetation and benthic macro invertebrate population. Water quality conditions in Hilton Creek are being monitored at several locations.

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 project will hopefully be built during the fall of this year pending Board acceptance of the grant during this Board meeting. There is a separate Board memo to this regard.

Quiota Creek Crossing 8: This project and the required Cooperative Agreement with the County were 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 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 that we expect approval soon. We have been working on the Requests for Qualifications (RFQ) to hire a consultant for design, environmental and right-of-way tasks. This we hope to finalize shortly and initiate the search for a consultant to be secured in July of this year. A field review meeting with Caltrans is expected within the next month that will set the design criteria. Pending the above, the project would be built in the fall of 2018.

Quiota Creek Crossing 9: Staff submitted a CDFW-FRGP grant proposal for this project on 4/26/17 as requested by the Board during their 4/24/17 meeting. The grant is for \$993,121 with a \$50,000 construction match. The announcement of grant recipients will be in the winter of 2018.

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

Hilton Creek Watering System (HCWS) Repairs and Upgrades plus the Hilton Creek Emergency Backup System (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 the identified repairs to the HCWS with no success on getting the pumping system operating. Repair work on the HCWS is ongoing.

Surcharge Water Accounting

The following table summarizes the amount of Surcharge water used to date from each of the three accounts at the end of last month (Table 1). All numbers come from USBR's Daily Operations Report. The start time for the use of the Surcharge Water Accounts was 5/27/11, or the last day of full surcharge. As of May 2012, all of the Fish Rearing Account waters have been used and USBR is now using Project Yield to meet BiOp target flows. A WR 89-18 release began on 7/15/13 and ended on 12/2/13, another began on 8/18/14 and ended on 11/11/14, another began on 8/3/15 and

ended on 9/26/15, and the 2016 WR 89-18 release started on 7/12/16. 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. What remains of 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 have not been finalized and approved (or if those accounts are now replenished from this winter's runoff) by NMFS and USBR hence is not reflected in Table 1. No fish water was debited to any account when water was extracted from the Stilling Basin below the dam and release to Hilton Creek during critical drought conditions.

Table 1: Summary of the surcharge water accounting and use of Project Yield.

Accounts*	Allocation	Amount Used**	Amount Remaining
Units:	(acre-feet)	(acre-feet)	(acre-feet)
Fish Passage Supplementation	3,200	0	3,200
Adaptive Management	500	149	351
Fish Rearing***	5,484	5,484	0
Project Yield		15,306	
Total:	9,184	20,939	3,551
* Originally was 9,200 af, 8,942 af in 2008 and 9,184 af in 2013.			
** Values as of 5/31/17.			
*** 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. Staff has been providing information to USBR as requested in support of Adaptive Management Committee meetings, Reconsultation, 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.

COM3 Consulting (Gerald Comati) – Quiota Creek Crossing 8 CalTrans grant application.

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
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 July, 2016 to the present (7/1/16 – 6/26/17, Table 1). Labor and expenses for the entire fiscal year (July 2016 - June 2017) as well as water usage will be tracked separately but not reported as recommended by the COMB Board 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 inventory of all trees planted has been presented to the Lake Cachuma Oak Tree Committee at its 2/25/16 meeting as well as the 2015 Lakeshore Survey, which sets the mitigation number for 2015. Both the 2015 Annual Report and 2015 Lakeshore Survey have been completed and distributed to the COMB Board.

Table 1: Cachuma Oak Tree Program completed tasks since July, 2016.

	July 2016	Aug 2016	Sept 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017*	Feb 2017*	March 2017*	April 2017*	May 2017*	June 2017
Year 9 Oaks (2016-2017)								New Trees Gopher Baskets Fert/Comp Deer Cages Mulch/Irrigated	New Trees Gopher Baskets Fert/Comp Deer Cages Mulch/Irrigated	New Trees Gopher Baskets Fert/Comp Deer Cages Mulch/Irrigated	Irrigated Weeded	Irrigated Weeded
Year 8 Oaks (2015-2016)	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded	Mulched		Weeded		Weeded	Irrigated Weeded	Irrigated Weeded
Year 7 Oaks (2014-2015)	Irrigated Weeded Mulched	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded	Irrigated Weeded					Weeded Mulched		Irrigated Weeded
Year 6 Oaks (2010-2011)												Irrigated Weeded
Year 5 Oaks (2009-2010)		Irrigated Weeded				Cage maint.						Irrigated Weeded
Year 4 Oaks (2008-2009)						Cage maint.						
Year 3 Oaks (2007-2008)					Irrigated	Cage maint.						
Year 2 Oaks (2006-2007)												
Year 1 Oaks (2005-2006)	Irrigated											

* Annual Oak Tree Inventory

The annual oak tree inventory of all the oak trees has been completed. Staff will be presenting the results to the Lake Cachuma Oak Tree Committee as soon as possible. Irrigation and weeding of older age classes (Years 5-7) of oak trees occurred in late May through mid-June. Personnel are currently providing a third round of watering on the Year 8 and Year 9 trees.

RECOMMENDATION:

For Board information only.

LIST OF EXHIBITS:

N/A

CACHUMA OPERATION & MAINTENANCE BOARD

BOARD MEMORANDUM

Date:	June 26, 2017
Approved by:	Janet Gingras

SUBJECT: **Mass Balances and System Meter Evaluation Report**
 Water Systems Optimization, Inc. (WSO)

SUMMARY

Cachuma Operation & Maintenance Board (COMB) is responsible for accurate reporting of water accounting on behalf of the Cachuma Project Member Agencies to the U.S. Bureau of Reclamation on a monthly basis. The process of water accounting entails recording data from twenty-five meters and three balancing reservoirs which are located within a twenty-six mile conveyance system starting at the North Portal of Lake Cachuma extending to the Carpinteria Reservoir.

Historically, system losses inherent in the conveyance of water through the South Coast Conduit (SCC) have not been charged to each of the Member Agencies water accounting balances. As an originally based irrigation delivery system, the “unaccounted for” water has traditionally been within plus or minus six percent (6%) of totals as depicted in the Master Renewal Contract. An in-depth review of water deliveries through the SCC, including a mass balance approach and metering analysis, was completed by WSO to assist COMB in developing a methodology to identify sources of unaccounted water within each reach of the system. The Member Agencies were provided the draft report for comment. Comments were received from the City of Santa Barbara and have been incorporated within the document.

The results of this project will guide COMB to appropriately and equitably allocate losses to each of the Member Agencies. Staff is in the process of transitioning to a new methodology which will incorporate a mass balance approach to the Cachuma water accounting process. Once completely developed, the new methodology will be presented to Member Agency’s staff for concurrence prior to implementation.

FISCAL IMPACTS:

As a result of the WSO analysis and report, staff included an item in the *FY 2018-2022 Infrastructure Improvement Plan* titled “Meter Replacement Program”. This program of work includes replacing specific meters within the operating system in order to more accurately account for deliveries within each reach of the conveyance system. For fiscal year 2018, the approved budget reflects the first phase of the meter replacement program.

COMMITTEE STATUS:

The Operations Committee has reviewed the WSO report and forwards to the Board to receive and file.

RECOMMENDATION

The Board receive a presentation from Water System’s Optimization, Inc. and file the related consultant report.

LIST OF EXHIBITS:

1. Water Systems Optimization, Inc. - Mass Balances and System Meter Evaluation Report

Mass Balances and System Meter Evaluation:

Cachuma Operations and Maintenance Board (COMB)



April 2017

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Executive Summary

The Cachuma Operation and Maintenance Board (COMB) is a wholesaler that manages the water transmission network from Lake Cachuma to four coastal cities – Goleta, Santa Barbara, Montecito, and Carpinteria. The entire system encompasses approximately 26 miles of transmission line and the flow of water is monitored by 29 large flow meters throughout the network.

Cachuma Operation and Maintenance Board (COMB) collaborated with Water Systems Optimization (WSO) to assess the volume of water losses in the transmission system and evaluate system meter reliability. System water losses and meter accuracy have become a primary focus recently because the supply of fresh water has become more volatile and scarce.

In the sections that follow, WSO will:

- Outline the conceptual basis for an AWWA water balance, or mass balance.
- Discuss the approach and results of water balances completed for three subsets of the transmission network. Two water balances were conducted for the raw water system subset, one during normal operating conditions and a second during drought conditions.
- Describe a potential alternative metering arrangement to monitor member agency use using fewer system meters as well as more reliable system meters.
- Evaluate each of the 29 large system meters to assess their reliability and the feasibility for future testing and analysis. General testing procedures are provided in the section, “Volumetric Testing Methodology.”

Mass Balance Summary

Mass balances are a simple comparison between the metered volume of water entering and leaving a closed system. The difference between the input and output is water loss. WSO defined sub-system boundaries to encompass as much transmission infrastructure as possible while excluding sources of uncertainty like reservoirs and treatment plants. This strategy maximizes COMB’s ability to measure hidden transmission system losses.

WSO conducted four mass balance analyses on three sub-systems; raw water, potable-north, and potable-south. Two mass balances were conducted for the raw water system, one during historical conditions (Water Year 2011) and a second during current operating conditions (Water Year 2016). The raw water system extends from the North Portal to the Lauro Control station. During current operating conditions, when reliable meter readings are not available from the North Portal, WSO defined the upper boundary for the raw water system at the Glenn Annie Turnout. The potable-north system begins at the South Coast Conduit Booster Pump meter and extends to the Ortega Inflow meter. The potable-south system begins at the Ortega South Flow meter and ends at the Boundary meter before water flows to the city of Carpinteria.

The results from the system mass balances are shown in Table 1 below. Mass balance results are expressed in total acre feet of loss and as a percentage of the total volume of metered input. While **percentage performance indicators can be misleading when used to compare water loss performance over time, or even to compare water loss performance between different systems**, they do provide general context for the severity of water losses in the present study. Percentages can be avoided by

normalizing water losses using miles of transmission mains, unfortunately miles of transmission mains were not available for each segment of the system at the time of writing.

Based on the available system meter data, the mass balance results suggest minimal levels of water loss in the transmission network. The raw water system exhibited negative losses of -318 AF during Water Year 2016, this was likely due to metering inaccuracy because water could not have entered the system through another source. Note that the raw water system boundary for WY 2016 excludes the Tecolote tunnel. During Water Year 2011, the raw water system lost 541 Acre Feet of water. Expressed as percentages, these two mass balances showed a loss and a gain of approximately two percent of the metered volume of water introduced into the system.

The potable-north system gained approximately 5 acre feet (-5 acre feet of loss) during Water Year 2016. Once again, there are no known avenues for unmetered water to be introduced into the system, therefore the 5 acre feet gain is likely caused by metering inaccuracy. The potable-south system lost 73 acre feet of water during Water Year 2016, or 5.2 % of the volume introduced into the system. However, the “Boundary” meter at the end of the South Coast Conduit is likely inaccurate because of poor installation conditions and a high percentage of meter readings collected outside of recommended flow rates from the manufacturer.

Water Balance Results Summary			
	Metered Input (AF)	Water Losses (AF)	Water Losses (%)
Raw (WY 2016)	16,337	-318	-1.9%
Raw (WY 2011)	28,721	541	1.9%
Potable North	5,917	-5	-0.1%
Potable South	1,402	73	5.2%

Table 1: Water Balance Summary

Meter Assessment Summary

All the data used to calculate the mass balances summarized above were collected from 29 system meters. These meters are subject to a high degree of uncertainty, and therefore the results of the mass balances are also highly uncertain. WSO evaluated the reliability of each system meter in two primary ways:

1. The length of straight pipe upstream and downstream of the meter. The length of straight pipe is important because any obstructions or bends can cause turbulent flows that interfere with accurate measurement. General guidelines stipulate that water meters should have at least 10x pipe diameters upstream straight length and 5x pipe diameters downstream.
2. The percent of flow readings that fell outside of manufacturer recommendations based on the meter’s flow profile for Water Year 2016. Water meters are designed to most accurately record a specific range of flow rates. As flow rates decrease below recommended thresholds, the potential for metering inaccuracy increases.

Based upon these analyses, WSO concluded that **all system meters are subject to significant potential inaccuracy** introduced by either poor installation conditions or a high percentage of meter readings recorded at flow rates below manufacturer recommendations during Water Year 2016.

After evaluating system meters, WSO determined the most appropriate method for testing each system meter. Meter accuracy testing can be conducted on-site for 13 of the meters using either a fill/draw down test or an insertion meter test. Guidelines for testing strategies can be found in the section titled, “Volumetric Testing Methodology”. The approach for volumetric testing involves passing a reference volume through a meter and comparing the reference volume to what that the meter recorded.

Table 2 below summarizes the results of installation condition assessment, flow profiling, and test methodology determination. Note that **some of the recommended flow ranges were derived from unverified records for the systems oldest meters.**

System Meter Assessment High Level Summary				
Meter Number	Meter Name	Recommended Installation Conditions?	Flow Readings Outside Recommendations*	Recommended Test Strategy
1	North Portal	No	14%	-
2	North Portal Bypass	Yes	75%	Insertion
3	Glen Annie Turnout	No	99%	-
4	Glen Annie Turnout	-	-	-
5	Goleta West Vault	No	100%	-
6	Corona Del Mar	No	100%	Fill
7	Corona Del Mar Bypass	No	28%	Fill
8	Stow Ranch	Yes	-	-
9	Lauro Control Station	No	5%	Insertion
10	Gibraltar Penstock	No	6%	-
11	Cater WTP Influent	Yes	6%	Fill
12	Cater WTP Effluent	No	-	Fill
13	SCC Booster Pump	-	6%	Draw Down
14	Sheffield Lift Station	No	23%	Insertion
15	Sheffield Control Station	No	23%	Insertion
16	Barker Pass Pump Station	-	52%	-
17	MWD Office Pump Station	Yes	99%	-
18	Valley Club	Yes	-	-
19	East Valley Pump Station	No	-	Insertion
20	Lateral #1 Ortega Ridge	-	-	-
21	Ortega Reservoir Inflow	-	-	Insertion
22	Ortega Reservoir Outflow	No	8%	Insertion
23	Ortega Pump Station	No	-	-
24	Ortega South Flow	Yes	73%	Insertion
25	Summerland Co. Yard	-	-	-
26	Asegra	Yes	-	-
27	Lambert	Yes	-	-
28	Toro Canyon	Yes	-	-
29	Boundary Meter (East)	No	79%	-
29.5	Boundary Meter (West)	No	100%	-

*Note that additional detail is provided in the meter assessment sheets at the end of this report.

Table 2: System Meter Assessment High Level Summary

The primary findings and recommendations from this project are:

Findings:

- Accurate and reliable water loss monitoring and accounting requires accurate and appropriately installed system meters. Mass balance results for all portions of the system are affected by potential metering inaccuracy.
- Based on the available data collected by the system meters the volume of loss during WY 2016 is minimal throughout the potable and raw water transmission networks.
- 13 of the 29 system meters can be readily tested on-site using either an insertion meter or a drawdown or fill test. Insertion meter tests would require installing a test port, or tap, to allow the insertion meter to measure the velocity of water in-line with the permanent meter. The remaining meters may be difficult or impossible to test on-site.
- Most system meters do not meet minimum industry standard recommendations for upstream and downstream straight length. Straight length is necessary to limit turbulent flows that affect meter accuracy. COMB should be aware for the potential introduction of uncertainty for system meters caused by installation conditions.
- Many system meters are frequently operating at flow rates below manufacturer specifications due to low demand during drought conditions. Large system meters will exhibit more inaccuracy at low flow rates that will introduce uncertainty into volumetric meter readings.

Prioritized Recommendations:

To achieve reliable and accurate metering and mass balancing for the raw and potable water system the following prioritized steps should be implemented. Items with the highest priority are listed first.

1. **Consider metering member agency use with two meters, one at the beginning and another at the end of member's service territories.** This arrangement has numerous operational benefits and would greatly simplify the derivation of billed volumes. Existing meters could be utilized to define system boundaries; However, COMB might consider upgrading the Glen Annie Turnout and the Boundary meter to allow for more accurate measurement and reliable annual testing.
 - a. **The boundary meter should be replaced with a highly accurate permanent meter with sufficient upstream and downstream straight length with a test port to facilitate annual testing.** COMB might consider utilizing a full-bore electromagnetic meter for this application.
 - b. **COMB may re-evaluate the installation conditions at the Glen Annie Turnout** to ensure that there is sufficient straight length of pipe before and after the meter. Furthermore, additional straight length would provide room to install a 1" tap that would facilitate annual comparative testing with a highly accurate insertion meter.
2. **If COMB would like to more accurately evaluate transmission system water losses, COMB should:**
 - a. Contract meter testing services for the 13 system meters that can be tested on-site.
 - b. Redesign the meter and site for the Boundary meter and the site for the Glen Annie Turnout as described above.

AWWA Mass Balance Methodology

The AWWA Water Auditing Methodology consists of accounting for all volumes of inflow and outflow from a discrete water system. The methodology was originally conceived for use by water distribution systems, therefore some adaptation is necessary to ensure the applicability to a wholesale system. By fully accounting for all the known volumes of water entering and leaving the system, COMB can assess the total volume of water lost. Water losses take two forms: Real Losses and Apparent Losses.

Real Losses consist of physical leakage from system infrastructure. They include all the small seeps and drips on joints and fittings up to main breaks. Real losses can be recovered through proactive leak detection, pressure management, or mains replacement.

Apparent Losses consist of theft, metering inaccuracy, and systematic data handling errors. These losses are often referred to as “paper” losses because they always reflect an incomplete accounting for the volumes of water moving through the system. Apparent losses can be recovered by reducing theft, increasing metering accuracy, and refining meter reading protocols.

The total volume of real and apparent loss is referred to as **water losses**. In the mass balances WSO completed below, the results will be expressed in acre feet of water loss. Distinguishing between real and apparent loss for COMB’s water balance requires system meter accuracy testing, which was outside of the scope of this initial project. Furthermore, testing is not feasible on-site given the installation conditions for 16 system meters. An important note is that water losses for transmission networks, in contrast to most distribution networks, is usually comprised of more apparent loss caused by metering inaccuracy than real loss.

When considering mass balances for a transmission network, clear boundaries are critically important. By defining clear boundaries, we can establish a closed system that encompasses a large portion of the physical infrastructure in the field. The boundaries are defined by points of metering – where the volume of water moving into and out of the closed system are measured. Certain types of infrastructure (see examples below) can dramatically increase the uncertainty of the mass balance approach. These system components should be avoided by selecting alternative boundaries if possible:

Large Reservoirs: Reservoirs can lose water due to seepage, even if the reservoir is lined. They also lose water to evaporation if they are not covered. In addition, it can be difficult to calculate the changes in storage for certain reservoirs depending on the dimensions. Accounting for changes in storage is critical to maintain the integrity of the mass balance if reservoirs are located within the mass balance boundaries. By including a large reservoir in the mass balance, system operators will not know if losses are occurring in the transmission network or at the reservoir. It’s often best to eliminate this uncertainty by designing mass balance boundaries that exclude large system reservoirs.

Water Treatment Plants: Like reservoirs, treatment plant operations use water for operational purposes, like filter back wash. These uses introduce uncertainty in a mass balance framework because it may be impractical to differentiate treatment plant uses from transmission network water losses. Furthermore, AWWA methodology stipulates that best practice is to utilize treatment plant effluent meters as a boundary meter when possible.

The COMB transmission system is intersected by a treatment plant and a reservoir. WSO selected boundaries for mass balances that exclude the Cater water treatment plant process and the Ortega reservoir. These boundaries are shown visually in Figure 1 below. WSO performed mass balance analyses on three sub systems including:

Raw Water System: Raw water is drawn from Lake Cachuma and delivered to the Goleta West Conduit, the Corona Del Mar Treatment Plant, and Stow Ranch before the remainder arrives at the Lauro reservoir.

Potable-North: After water is treated at the Cater Treatment Plant, potable water flows through into the South Coast Conduit where it is delivered to six potable takeouts downstream before emptying into the Ortega reservoir, a large capacity covered reservoir.

Potable-South: Potable water is drawn out of the Ortega reservoir and reintroduced into the South Coast Conduit (SCC). South of the Ortega reservoir, the SCC delivers potable water to four Montecito Water District turnouts. All remaining water is delivered through the Boundary meter to the Carpinteria Valley Water District system.

The boundaries of these three sub-systems were selected to minimize the introduction of uncertainty and maximize the ability for COMB to evaluate transmission system losses.

COMB: Transmission System Mass Balances

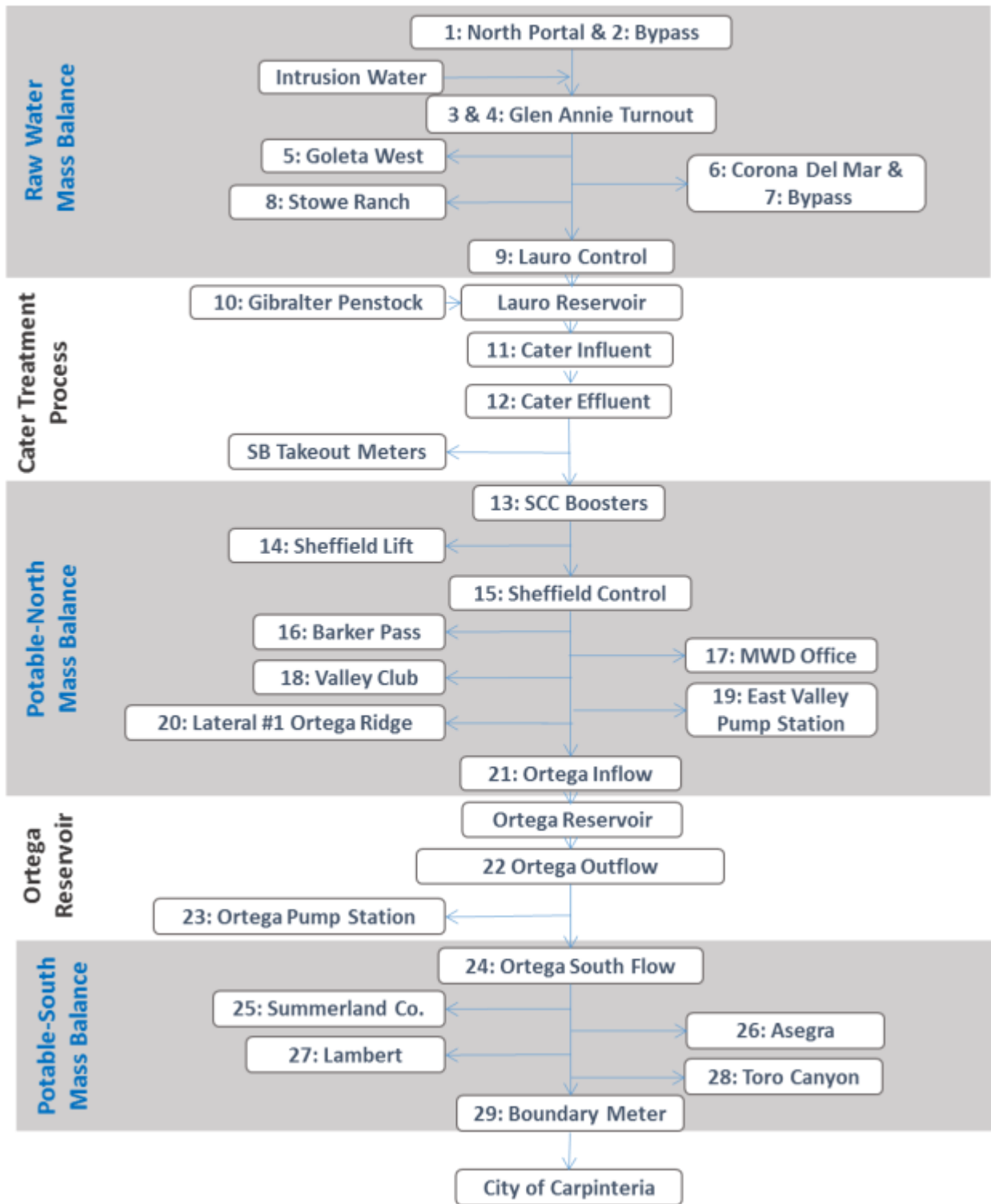


Figure 1: COMB Transmission System Mass Balances

Mass Balance Results

The following sections describe the results from a mass balance analysis of the three sub-systems described above. Two mass balances for the raw water system were conducted, one to reflect current operating conditions and another for historical conditions when the intake tower at lake Cachuma is submerged.

Raw Water System (WY 2016)

Boundary

Under normal operating conditions, the volume of water entering the raw water system is recorded by the North Portal and North Portal Bypass meters. However, during the recent drought conditions, the volume of water was measured by a meter placed on the Emergency Pumping Facility Project pipeline. Ultimately, WSO used the Glen Annie Turnout meter to calculate the system input volume for the raw water system during drought conditions.

Four meters on three takeouts on the South Coast Conduit record water used by the Goleta Water District and its customers. The first meter is Goleta West, which feeds ranches and residences located west of the township of Goleta. The second meter is the Corona Del Mar and Corona Del Mar Bypass which feeds the Corona Del Mar Water Treatment Plant. The third is a meter at Stow Ranch, where raw water is diverted for agricultural use based on a historical agreement with the landowner. Ultimately raw water is passed through the Lauro Control Station meter near the COMB offices before it is emptied into an open and unlined reservoir, Lauro Reservoir

This boundary was defined to minimize the uncertainty that would be introduced by including portions of the Cater treatment plant processes and the Lauro reservoir. By isolating this stretch of the transmission system, COMB is better positioned to evaluate losses that are hidden underground without the added uncertainty of the uncovered and unlined Lauro reservoir, for example.

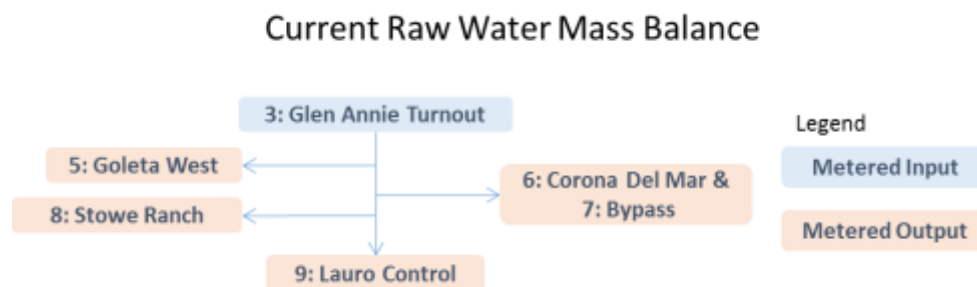


Figure 2: Current Raw Water Mass Balance Boundary (WY 2016)

Mass Balance WY 2016

The mass balance calculation for the raw water system is summarized in Table 3. The total volume of raw water entering the raw system boundary is 16,337 AF through the Glenn Annie Turnout. A total of approximately 4,000 AF was used by the three takeouts along the transmission line. Ultimately, 11,630 AF was recorded by the Lauro Control meter at the end of our sub-system boundary.

The total volume of raw water delivered, as recorded in the raw monthly meter readings, is greater than the volume of water recorded by the Glenn Annie Turnout. Because of the conservation of mass, it is impossible for more water to be created in the system. Therefore, the likely cause of this result is metering inaccuracy – either the Glenn Annie Turnout has under-registered the volume of water entering the system, or the combined turnouts have over-registered the volume of water delivered, or a combination of both.

Raw System Mass Balance (WY 2016)	
Meter	Volume (AF)
+ 3: Glenn Annie Turnout	16,337
- 5: Goleta West Vault	1,290
- 6: Corona Del Mar	1,262
- 7: Corona Del Mar Bypass	2,473
- 8: Stow Ranch	0
- 9: Lauro Control Station	11,630
Water Losses	-318

Table 3: Raw Water System Mass Balance (WY 2016)

Figure 3 shows the monthly summary of the raw water system mass balance for WY 2016. The total volume of water entering the raw sub-system through the Glenn Annie Turnout is shown by the wider blue bar. The component volumes of consumption through each of the remaining boundary meters is shown by the narrow bars. It is apparent that the total volume of water recorded by the turnouts and Lauro Control meters consistently exceeds the volume recorded by the Glenn Annie turnout in each month. The month of January and March are notable exceptions to this trend.

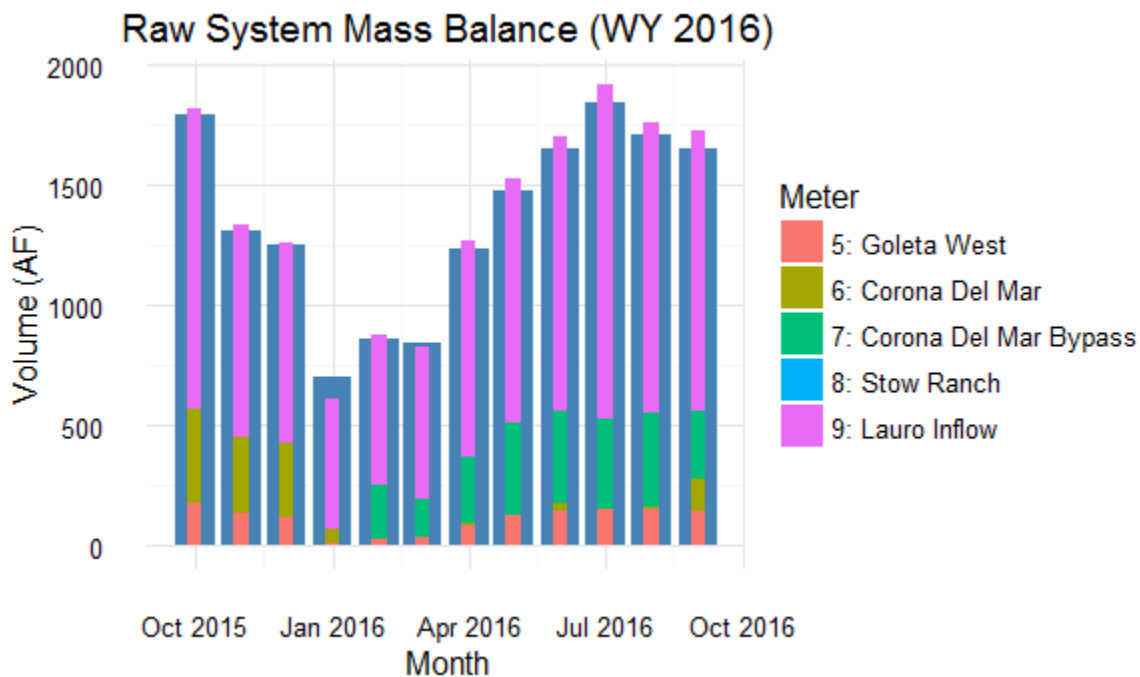


Figure 3: Raw Water System Monthly Mass Balance (WY 2016)

COMB should endeavor to test system meters to refine the understanding of the Raw water system mass balance.

Raw Water System (WY 2011)

Boundary

The historical raw water system mass balance boundary is identical to the current boundary with the exception of the inclusion of the North Portal meter. The north portal meter is located near the intake tower on lake Cachuma, before water enters the concrete-lined Tecolote tunnel.

COMB staff have historically evaluated the volume of intrusion water in the Tecolote tunnel by comparing the monthly total meter readings from the North Portal meter and the Glenn Annie Turnout. Staff testimony indicated that the total volume of intrusion was estimated as the simple difference between the total volume recorded by the Glenn Annie Turnout and the North Portal meter. However, some portion of this estimated volume is also likely attributable to meter inaccuracy.

Figure 4 below shows the boundary selected for the WY 2011 raw water system mass balance.

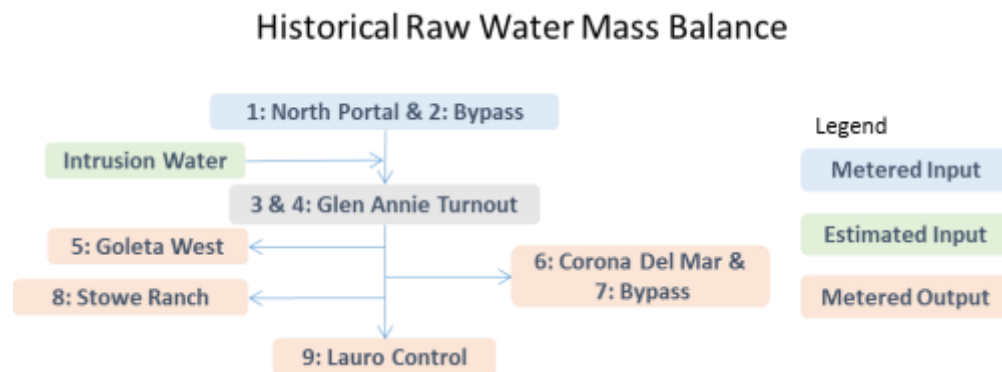


Figure 4: Historical Raw Water Mass Balance Boundary (WY 2015)

Mass Balance

WSO utilized flow data from the North Portal meter collected via SCADA to calculate the volume of water passing through the meter each month during WY 2011. Flow data was available at a 10-minute interval; therefore, the derived volume can be considered a rough approximation of the true total volume of water that moved past the meter.

The total volume of water entering the Tecolote tunnel through the North Portal meter in WY 2011 was 26,648 AF, or about 10,000 AF more than under current operating conditions. Over the course of the year, the North Portal Meter and Glenn Annie Turnout differed by 2,073 AF. Traditionally this volume of difference has been attributed to intrusion water from the Tecolote Tunnel. However, WSO analyzed the monthly trends in the estimate for intrusion water in the section titled, Tecolote Tunnel Intrusion Water. The results of that analysis reveal significant monthly variations in the volume attributed to intrusion water.

The total volume of use by the three takeout meters downstream of the Glenn Annie Turnout was about 12,000 AF. Another 16,000 AF of raw water was delivered into the Lauro Reservoir at the end of the raw water system boundary. The total volume of water loss was 541 AF for WY 2011. This modest volume of

loss may be attributed to physical leakage, but it is more likely that metering error is responsible for the observed difference between metered input and metered output from the raw water system.

Raw System Mass Balance (WY 2011)	
Meter	Volume (AF)
+ 1: North Portal	26,648
+ Tecolote Intrusion Estimate	2,073
3: Glenn Annie Turnout	28,721
- 5: Goleta West	826
- 6: Corona Del Mar	11,383
- 8: Stow Ranch	0.14
- 9: Lauro Inflow	15,970
Water Losses:	541

Table 4: Raw System Mass Balance (WY 2011)

The monthly trend in water losses for the raw water system during WY 2011 is shown in Figure 5 below. The wide blue bars show the total volume of water entering the raw water system based on the North Portal meter readings and the volume of water attributed to intrusion water. Intrusion water was estimated by taking the simple difference between the North Portal meter reading and the Glenn Annie Turnout meter reading for the month. The thin colored bars show the total volume of water from metered outputs.

The monthly volume of loss remains relatively consistent from month-to-month with a slight increase in April of 2012 followed shortly by negative losses in May. This minor fluctuation is likely attributable to meter reading timing – if one meter was read perhaps a day before the other, some volume of loss can be shifted to one month over another. Over the course of a year this volume is accounted for accurately because it is aggregated across the months in question.

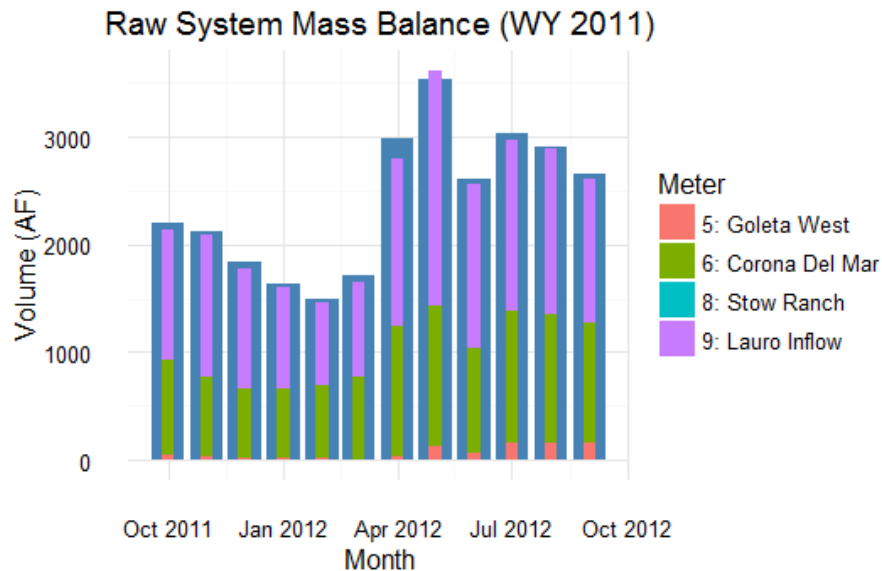


Figure 5: Raw System Monthly Mass Balance (WY 2011)

Tecolote Tunnel Intrusion Water

WSO investigated how intrusion water has been estimated for the Tecolote tunnel by comparing monthly meter totals for the North Portal meter and the Glenn Annie Turnout. The comparison yielded significant variations between the two meters. The total volume of intrusion water in the Tecolote tunnel ranged from as little as -514 AF to as much as 1861 AF. Hydraulically, one would expect intrusion water to vary seasonally, but to generally remain consistent. The differences observed here in the data suggest that uncertainty with the metering in the North Portal might be responsible for the significant variations in the estimated volume of intrusion water.

In short, the estimate for intrusion water is likely not reliable and does not reflect actual volumes of water lost or gained through the tunnel lining. Table 5 shows the monthly meter readings for the raw water system during WY 2011. The column colors reflect the raw water system diagram in Figure 4.

Historical Raw Water System Mass Balance (WY 2011 - AF)							
Month	1: North Portal	Intrusion Water Estimate	3: Glenn Annie Turnout	5: Goleta West Vault	6: Corona Del Mar	8: Stow Ranch	9: Lauro Control Station
October 2011	2078.07	117.72	2195.79	53.63	871.76	0.01	1217.98
November 2011	1554.49	568.6	2123.09	32.16	735.31	0.01	1329.31
December 2011	1657.68	174.78	1832.46	11.59	643.33	0	1123.44
January 2012	2033.57	-392.79	1640.78	13.59	645.54	0.01	947.03
February 2012	1944.7	-443.44	1501.26	21.96	672.52	0.01	764.76
March 2012	2076.75	-370.38	1706.37	6.48	764.55	0	875.8
April 2012	1119.87	1861.31	2981.18	32.57	1216.54	0.01	1550.2
May 2012	1922.83	1606.7	3529.53	119.38	1318.24	0.02	2184.13
June 2012	2729.27	-114.88	2614.39	70.58	974.77	0.01	1519.1
July 2012	2954.91	74.08	3028.99	152.22	1230.96	0.02	1582.93
August 2012	3429.66	-514.52	2915.14	155.29	1192.54	0.02	1536.59
September 2012	3146.35	-494.52	2651.83	156.51	1117.26	0.02	1338.96

Table 5: Raw System Monthly Mass Balance (WY 2011)

Figure 6 below shows the total volume of water recorded by the North Portal and the Glenn Annie Turnout. As we can see there is significant variation in the total volumes of water reported by these two meters. The observed difference between the North Portal meter and the Glenn Annie Turnout meter was likely not just intrusion water, but was also some form of metering inaccuracy.

1: North Portal vs. 3: Glenn Annie Turnout (WY 2011)

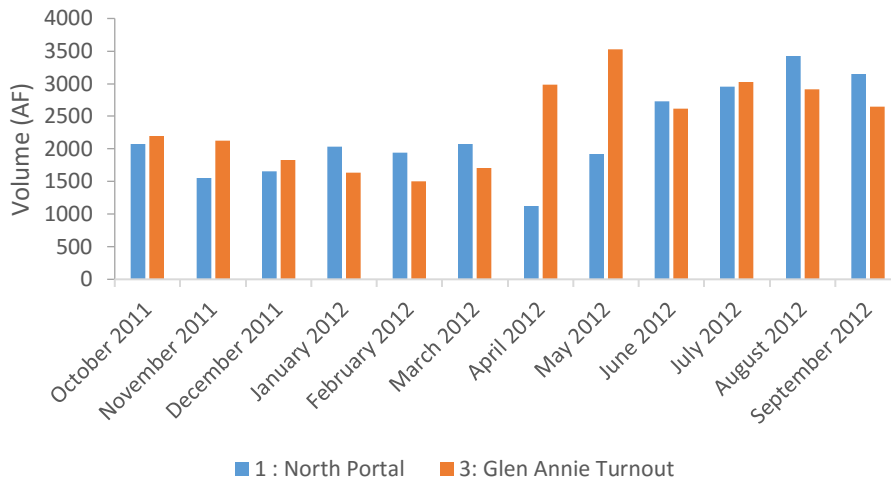


Figure 6: Comparison Between North Portal and Glenn Annie Turnout (WY 2011)

Potable Water System North (WY 2016)

Boundary

The potable-north sub-system boundary begins at the South Coast Conduit (SCC) booster meter. This meter is located immediately past the Cater Water Treatment Plant and two takeout meters that deliver potable water to the Santa Barbara distribution system. The SCC booster pumps pressurize water into the South Coast Conduit (SCC). The conduit delivers potable water to several takouts downstream.

Partway down its full length, the conduit supplies water to a large reservoir – the Ortega reservoir. The Ortega Inflow meter at the reservoir serves as the southern boundary of the potable-north system. The reservoir was excluded to avoid any uncertainty that it might introduce into the mass balance results. Notably, the Ortega reservoir has uneven dimensions and so accurately accounting for the volume of storage change in the mass balance would be impractical. COMB staff noted that the reservoir was known to leak, additional investigation and repair efforts may be well rewarded there.

Once again, by drawing the sub-system boundary in this manner, COMB is better positioned to evaluate water losses in this discrete segment of the transmission system. If system components like reservoirs or treatment plants were included, COMB would not be able to distinguish between uncertainties associated with the operation of the Ortega reservoir and hidden water losses. Notably, the Ortega reservoir has irregular dimensions and therefore accounting for changes in storage would be nearly impossible.

Seven meters measure the output from the potable-north system. The Sheffield lift station meter monitors flow into a reservoir maintained by the City of Santa Barbara. The Barker Pass, Valley Club, MWD Office, Lateral #1, and East Valley Pump Station meters provide water to communities managed by the City of Montecito Water District.

Potable-North Mass Balance

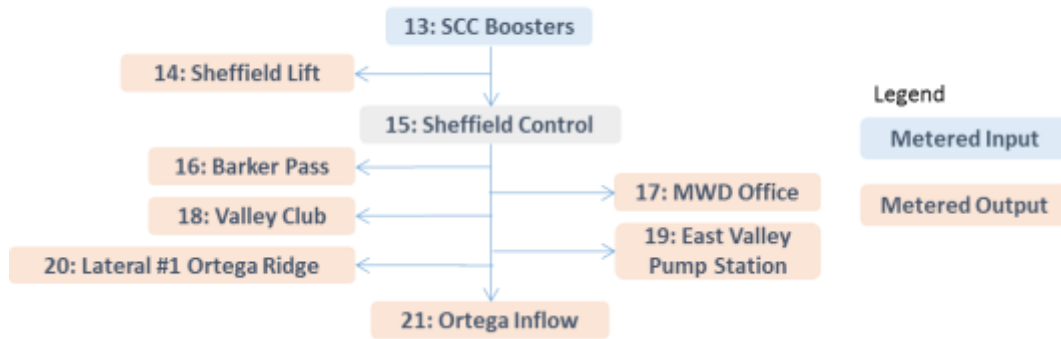


Figure 7: Potable-North Mass Balance Boundary

Mass Balance

The total volume of water from the Cater water treatment plant that entered the South Coast Conduit (SCC) as reported by the SCC booster meter was 5,917 AF. The combined output meters recorded a total of 5,922 AF – the remaining -5 AF is negative water loss. Similar to the results from the raw water system, it is not possible for water to enter the transmission network between metered points of input and output. Therefore, the observed negative difference is likely due to metering inaccuracy.

Table 6 summarizes the results of this mass balance for WY 2016.

Potable North Mass Balance (WY 2016)	
Meter	Volume (AF)
+ 13: SCC Booster Pumps	5,917
- 14: Sheffield Lift Station	1,523
- 16: Barker Pass	676
- 17: MWD Office	16
- 18: Valley Club	66
- 19: East Valley Pump Station	1,838
- 20: Lateral #1 Ortega Ridge	6
- 21: Ortega Inflow	1,798
Water Losses	-5

Table 6: Potable North Mass Balance (WY 2016)

Figure 8 shows the results of this analysis monthly. Irregular monthly mass balance results are likely the result of meter reading timing and inaccuracy. For example, most of the months before April 2016 exhibited negative water losses. The anomaly in January is likely caused by a missing meter reading for the Ortega Reservoir Inflow meter at the end of December. The volume of water that passed through the Ortega Inflow Meter was allocated to January, when some of it likely also occurred in December of 2015.

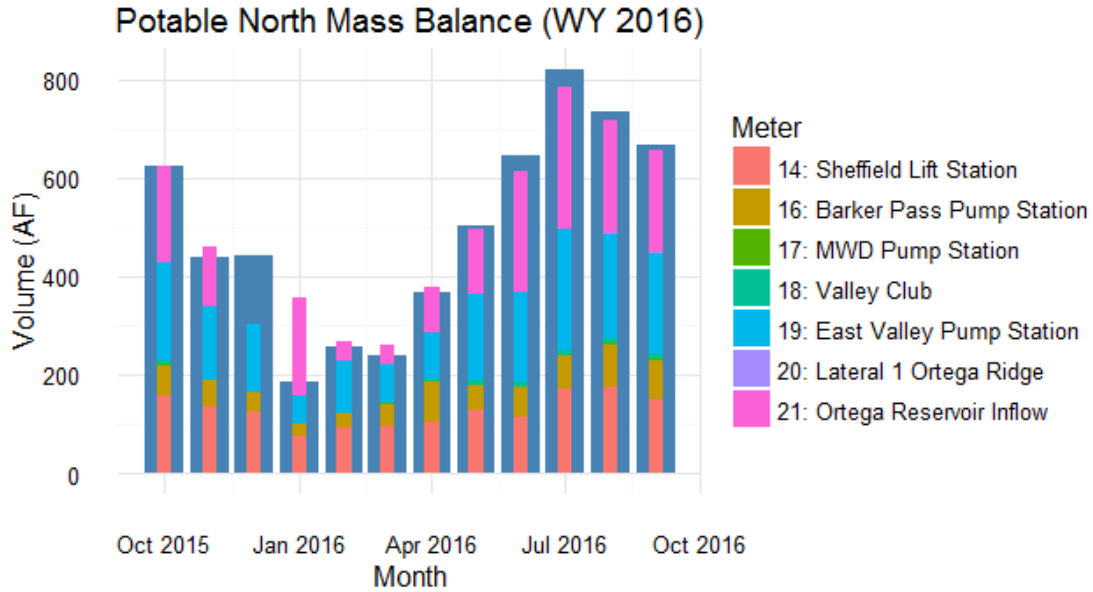


Figure 8: Potable North Monthly Mass Balance (WY 2016)

Potable Water System South (WY 2016)

Boundary

The potable south mass balance begins at the Ortega South flow meter after potable water has been drawn from the Ortega Reservoir. The south flow meter is the most reliable meter downstream of the reservoir – it measures the volume of water entering the South Coast Conduit heading south toward the city of Carpinteria.

After the Ortega South Flow meter, water is delivered through four metered takeouts. The first, the Summerland Co. Yard meter has been shut for many years. Despite decommissioning the meter, COMB reads the meter every month to check for any flow. The Asegua, Lambert, and Toro Canyon meters record the volume of water delivered to communities managed by the city of Montecito.

The boundary meter, at the end of the South Coast Conduit, is bidirectional. For the purposes of this mass balance, flows entering the City of Carpinteria are considered a metered output, while flows entering the conduit from the City of Carpinteria are considered a metered input.

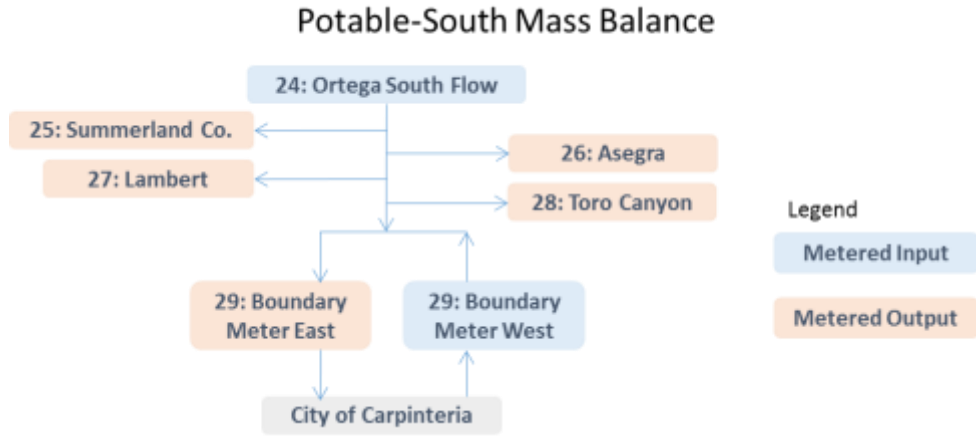


Figure 9: Potable South Mass Balance Boundary

Mass Balance

The total volume of water leaving the Ortega Reservoir and entering the SCC was 1,402 AF in WY 2016. In addition, 1 AF of water entered the system from the City of Carpinteria through the Boundary meter. The four takeouts accounted for minimal use along the SCC – only 41 AF was drawn from the conduit before the flow of water reached the Boundary meter. The Boundary meter recorded 1,290 AF of water moving into the city of Carpinteria from the South Coast Conduit. Therefore, the total volume of loss in the potable-south system was a modest 73 acre feet.

The volume of loss for the potable-south system is highly uncertain. The boundary meter is installed through a valve. The valve may introduce significant turbulence in the pipe near the boundary meter that would affect accurate measurement. Furthermore, a large percentage of the meter readings collected by the boundary meter were at low or very low flows based on manufacturer specifications. At lower flow rates, the boundary meter is subject to a greater margin of error. Given these two factors – poor installation conditions, and low flow rates – WSO does not have confidence in the meter readings collected from the boundary meter. Unfortunately, there are no alternative meters that WSO could use to quantify the volume of water flowing south into the city of Carpinteria during WY 2016.

Potable South Mass Balance (WY 2016)	
Meter	Volume (MG)
+ 24: Ortega South Flow	1,402
+ 29: Boundary Meter West	1
- 25: Summerland Co. Yard	0
- 26: Asegra	29
- 27: Lambert	3
- 28: Toro Canyon	8
- 29: Boundary Meter East	1,290
Water Losses	73

Table 7: Potable South Mass Balance (WY 2016)

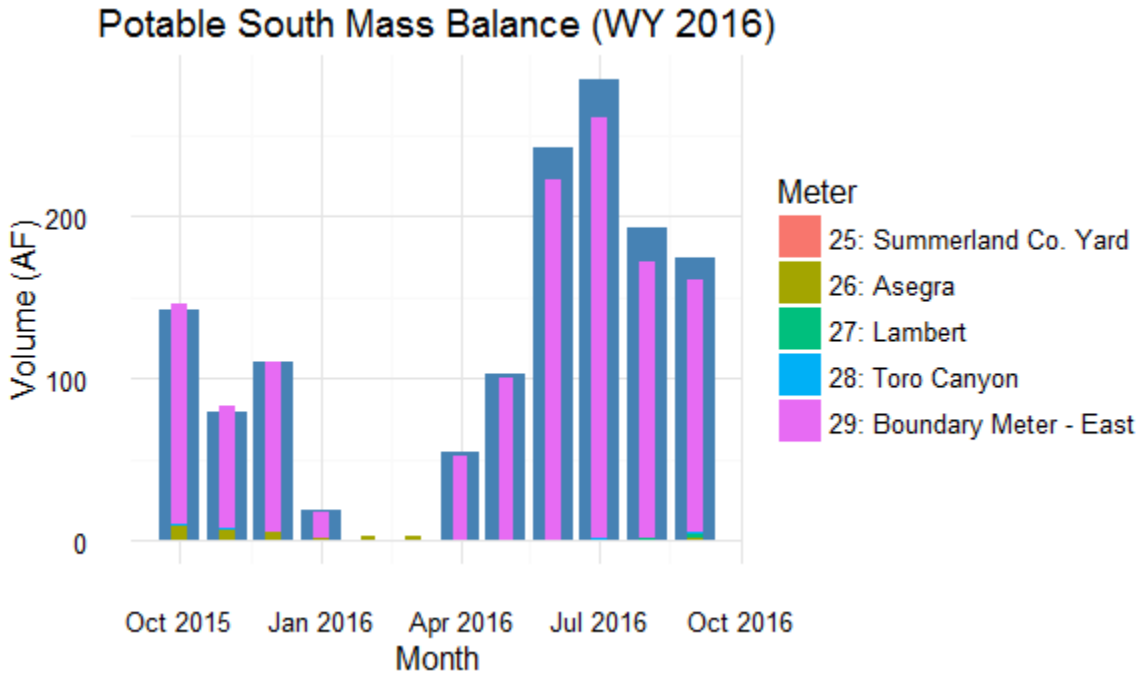


Figure 10: Potable South Month Mass Balance (WY 2016)

Mass Balance Summary

The results of the four mass balances provided above highlight several common themes:

- All mass balances identified a small margin of loss (or gain) likely attributable to metering inaccuracy. The impact of metering inaccuracy cannot be overstated on the results of a mass balance.
- Without detailed system meter testing it is impossible to distinguish between metering inaccuracy and physical leakage with any certainty.
- The methodology for estimating intrusion water in the Tecolote tunnel by comparing the North Portal meter readings with the Glenn Annie turnout meter readings may not reflect true volumes of water lost or gained through the tunnel lining.

Alternative Metering Arrangement

Figure 12 on page 17 shows a simplified metering arrangement for COMB. Historical agreements were not taken into consideration intentionally while developing this scenario. The simplified metering arrangement treats the COMB system in 6 sectors defined by 6 system meters. Each sector has been assigned to a member agency and subdivided based upon potable and raw infrastructure.

The general principle for this metering arrangement is to measure the volume of water entering a zone and then leaving a zone through two system meters on the transmission line. The volume of water used by all takeouts between these two system meters can be derived by the difference between the two boundary meters. Figure 11 shows a simplified system diagram with two boundary meters. Assuming minimal metering inaccuracy, the total volume of consumption from the three takeouts is equivalent to the difference between the volumetric readings from the system input meter in orange and the system output meter in purple.

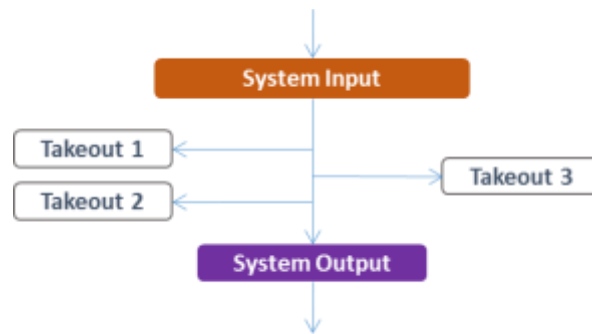


Figure 11: Simplified Metering Example

The primary benefits of pursuing a sectored model for transmission system management are as follows:

1. Reduced meter maintenance costs. Fewer system meters must be regularly tested and read. However, the selected boundary meters must be maintained very carefully to ensure their accuracy.
2. Simplified delineation of member agency responsibility. Member agencies have clear responsibility for the water taken from the transmission system within their sectors.
3. Hydraulically consistent accounting. Member agencies would be responsible for the water they use and interact with, not distant and potentially unrelated infrastructure.

One potential objection to this arrangement may be that existing metering points might not align with service territory boundaries. Member agencies might be concerned that if their sector includes additional transmission pipe length they may be exposed to more leakage. This is likely not a valid concern because transmission system losses are likely minimal based on mass balance results.

All participants benefit from enhanced metering accuracy because there are fewer meters to carefully test and maintain. Three of the five proposed boundary meters can be readily tested on-site using a draw down, fill, or insertion meter test. Annual volumetric testing can provide a basis for adjusting meter readings or contracting repair and replacement.

The following sectors are shown in the diagram, Figure 12, on page 20.

1. **COMB Raw Delivery:** COMB would be responsible for delivering raw water from lake Cachuma to member agencies through the Tecolote tunnel.
2. **Goleta Raw:** The city of Goleta would be responsible for the difference between the Glenn Annie Turnout meters and the Lauro Control Station meter. All takeouts along this section of transmission line feed Goleta assets.
3. **Santa Barbara Raw:** The city of Santa Barbara would be responsible for the difference between the Lauro Control Station meter and the Cater Influent meter. These meters surround the Lauro reservoir and allow for a credit from water introduced through the Gibraltar Penstock.
4. **Santa Barbara Potable:** After treatment, Santa Barbara would be responsible for the difference between the Cater Influent meter and the Sheffield Control Meter. All takeouts on the South Coast Conduit between these two system meters feed potable takeouts for the city of Santa Barbara.
5. **Montecito Potable:** The City of Montecito would be responsible for the difference between the Sheffield Control meter and the Boundary meter. The takeouts located between these two meters all feed the city of Montecito
6. **Carpinteria Potable:** The city of Carpinteria would be responsible for the *net* flow of water past the boundary meter. No other member agencies utilize the water that flows past the boundary meter. Note that this meter is bi-directional and therefore flows to and from Carpinteria must be considered.

COMB: Alternative Metering Arrangement

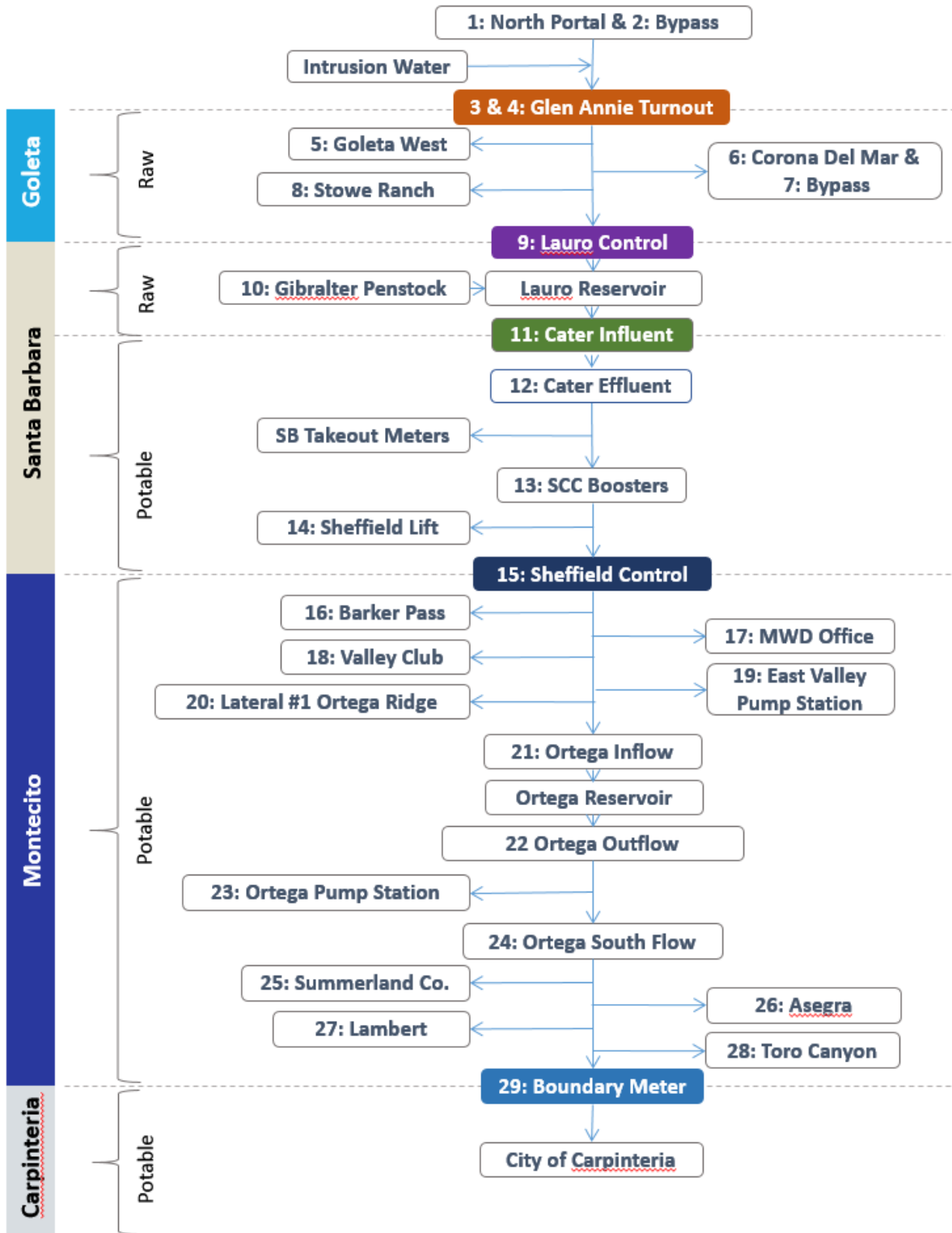


Figure 12: COMB Alternative Metering Arrangements

Large Meter Evaluation

WSO recommends that large meters be assessed in four principle ways on a regular basis. These methods account for the most common avenues for the introduction of metering error and equip operators with a defensible narrative for adjusting meter readings to account for known inaccuracy.

The accuracy of large system meters is important to ensure that billed volumes are as accurate as possible. A secondary benefit of accurate meters is that mass balance analyses, like the ones described above, can be used to more accurately track the volume of real loss, or leakage occurring in the transmission network.

The four methods that WSO employs to evaluate large meters are summarized here:

Installation Condition Assessment: For all meters to accurately measure the volume of water passing through them, the meter must have adequate straight lengths of pipe both upstream and downstream. The straight length of pipe allows for the flow of water to be laminar, with little turbulence. Laminar flow is required for all meters to measure accurately despite manufacturers claims. WSO generally recommends that meters be installed with 10 pipe diameters of upstream straight length and 5 diameters downstream.

High Frequency Flow Analysis: Each meter is manufactured to accurately monitor a specific range of flow rates. Large meters tend to measure higher flows more accurately, for example, but struggle to retain accurate measurement of low flows. By analyzing high frequency flow data, WSO can determine the percent of meter readings recorded within the manufacturers recommended range of flow rates. If a significant portion of the meter readings fell outside of the recommended flow range, the volume of water recorded by that meter is subject to additional uncertainty.

Data Chain Analysis: Most large meters rely on secondary electronics to transmit an electronic signal and convert it into a flow rate or volume. These secondary devices can have a profound impact on accurate measurement, especially if they are old or have been configured incorrectly.

Volumetric Testing: The final and most important strategy is to test the meter. Testing involves passing a reference volume through the meter. The reference volume is a known quantity generated using a recently certified insertion meter or a nearby reservoir of known dimension. The reference volume can be compared to the volume the meter recorded during the test to calculate the meter's accuracy at the test flow rate. Volumetric testing is distinct from calibrating the secondary electronics for a meter because the entire system of measurement is evaluated.

Each of these strategies are only applicable if operational conditions and data availability allow. In some cases, the reliability of a large meter cannot be evaluated with certainty. If possible, it is best to avoid using uncertain meters to define mass balance boundaries, or to determine financial transactions.

In the sections that follow we will provide a detailed review of volumetric testing methodologies and additional context for the meter evaluations.

Volumetric Testing Methodology

The sections that follow describe two principle methodologies for conducting a volumetric test. Both methods involve passing a known volume of water through the meter to be tested and then comparing it to the volume registered by the meter. The first method utilizes a nearby tank to calculate a reference volume and the second method utilizes a recently calibrated insertion meter to calculate a reference volume or flow.

Volumetric testing requires careful consideration of the operational constraints at hand. Factors that should be considered include nearby reservoirs, their proximity, and the ability for operators to isolate the flow of water from the tank directly through the meter to be tested. Insertion meter tests require adequate lengths of upstream and downstream straight length to install a tap. The tap should provide the insertion meter with enough straight length to position the sensor in laminar flow, however, the tap must not be too close to the permanent meter such that the insertion meter might create turbulence and affect accurate measurement.

WSO recommends that COMB engage a third party knowledgeable in meter testing to conduct the first round of system meter tests. After the first round of tests have been completed, COMB staff should be well equipped to conduct annual meter tests where feasible. **WSO also recommends that COMB approach ultrasonic meter testing, which is not described in detail in this report, with skepticism and only utilize the results as an approximate check on true meter accuracy.** Ultrasonic meter test results are unreliable outside of ideal operating conditions in WSO's experience.

Draw Down or Fill Test

The draw down or fill test, as stated above, utilizes a nearby reservoir of known dimensions to calculate a reference volume that is passed through the meter. The reservoir can either be drained or filled depending on the relative position of pumps, the meter, and the tank. The primary benefit of a draw down or fill test is that there is minimal reliance upon secondary meters or electronics to tabulate the results of the test. A secondary benefit is that testing procedures are non-invasive – the line does not need to be drilled and tapped to accept an insertion meter.

The general steps for conducting a drawdown or fill test are as follows:

1. Isolate the system including the tank and permanent meter to ensure water can only flow through the meter itself when the test begins.
2. Take an initial totalizer reading from the permanent meter.
3. Collect an initial tank level measurement from the reservoir.
4. Run a representative flow rate through the permanent meter using pumps or gravity. This flow rate can be selected based on typical flow rates from the audit period. Multiple tests can reveal changes in accuracy for multiple flow rates.
5. Run the test for sufficient duration such that the amount of uncertainty is minimized.
6. Shut down any pumps and isolate the system after the test has run for sufficient time.
7. Collect final totalizer readings and tank level measurements.
8. Calculate the reference volume by multiplying the change in reservoir level by the volume per foot of the reservoir. Be sure to account for internal structures that may be present in the tank.

9. Calculate the volume that the permanent meter registered by subtracting the initial totalizer reading from the final totalizer reading collected after the test.
10. Calculate the meter accuracy as the simple ratio of the volume registered by the permanent meter and the reference volume. This result can be expressed as a percentage by multiplying by 100.

A simplified diagram showing the principle of a drawdown test is provided in Figure 13. The known volume drawn from a reservoir was two units. The uncertainty of this measurement is reflected in the red lines surrounding both the initial and final measurements. The final volume registered by the permanent meter was 1.8 units. Therefore, the accuracy for this meter is equal to 1.8 divided by 2 or 0.9. This can be expressed as a percentage, 90%.

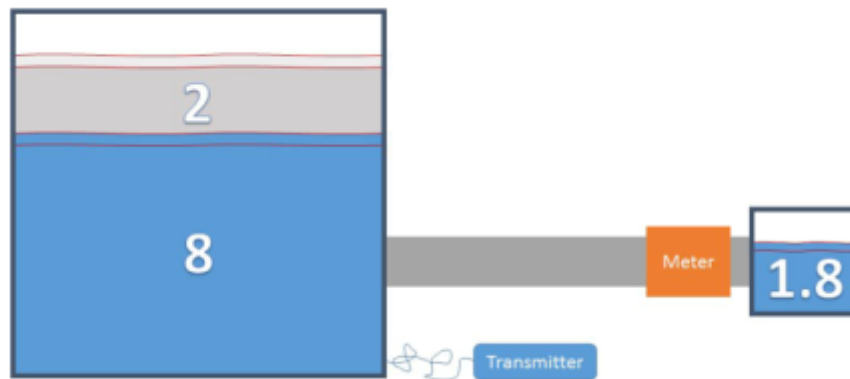


Figure 13: Draw Down Test Diagram

Three fundamental considerations must be made while planning a drawdown or fill test:

1. **Accurately calculate the volume per foot of level change in the reservoir.** Reservoirs often have readily available as-built drawings that clearly show the internal dimensions of the tank. Ideally, these as-builts should be verified by taking manual measurements in the field. Often construction conditions necessitate small adjustments from as-built drawings. While these adjustments may not affect the function of the reservoir as a storage vessel, any changes to the diameter, for example, can have a significant impact on the calculation of a reference volume. Furthermore, as-built drawings may omit internal structures, like support columns. The volume of support columns, or other internal structures, must be deducted from the total volume per foot of level change calculated to generate the reference volume.
2. **Quantify the certainty with which you can calculate the reference volume and the resolution that the permanent meter can be read.** The reference volume is the most important volume to calculate accurately because the permanent meter readings will be compared to this benchmark. Measurement uncertainty often plays a significant role here. For example, if the reservoir is equipped with a pressure transducer that can accurately report the tank's level within an inch, any measurement that we collect could be incorrect by as much as +/- 0.5 inches. Similarly, if the meter can only be read to the nearest 1,000 gallons, any measurement might include that margin of error. For example, if the totalizer read was 650 thousand gallons, the true volume registered by the meter might be anywhere *between* 650 thousand gallons and 651

thousand gallons. Each of these avenues for measurement uncertainty must be aggregated and quantified in advance of the test. Ultimately the total volume of uncertainty can be minimized by running a larger volume of water through the permanent meter by increasing the flow rate or duration of the test.

11. **Isolate the flow of water from the reservoir to the permanent meter.** Isolate the system including the tank and the permanent meter to test that the system is truly sealed. The level of the reservoir should be monitored for at least 30 minutes to check for any change in level. During this time, staff members may sound closed valves to listen for water leaking by. Any unintended discharge of water during the test will have a direct effect on the results.

There are two primary reservoirs that may be utilized by COMB and member agencies to test system meters. Each reservoir has unique dimensions and technology for accurately measuring the tank level. The tank level readings instrumentation and internal dimensions have not been investigated thoroughly. The summaries below were described using as-built drawings and PDF reports provided to WSO by COMB staff.

Corona Del Mar Water Treatment Plant

The Corona Del Mar Water Treatment Plant has a collection tank downstream of the Corona Del Mar Venturi and bypass meters. These meters in aggregate registered about 3600 AF during WY 2016 and comprise a raw water takeout for the city of Goleta. The accuracy of these meters is important to determine billed volumes of raw water for the city of Goleta. WSO does not have tank dimensions at the time of writing. Equipped with dimensions, COMB and WSO staff can determine recommendations for test volume to minimize the uncertainty of the test.

Cater Water Treatment Plant Clearwell

The Cater Water Treatment Plant has clearwells, and flocculation basins that might serve to store a reference volume for testing nearby meters. The Cater Influent, Effluent, and South Coast Conduit meters might be tested using these reservoirs. The South Coast Conduit meter is important because it serves as the northern boundary of the potable-north system mass balance.

WSO analyzed the tank geometry using a PDF report provided by the Santa Barbara staff, however, there are additional structures that take up storage volume depending on the clearwell level. The true clearwell volume change per foot of tank level should be verified on-site. The overall accuracy of the test depends on the clearwell geometry, the certainty with which the level reading can be measured, and the resolution of the meter itself.

Insertion Meter Test

Insertion meter tests can appear deceptively simple. However, many operational factors can affect test results depending on the technology used.

For example, WSO's insertion meters require a tap on the main with a 1-inch or 1 ¼-inch female iron pipe thread (Ford F700 corporation or equivalent) for connection. If a 1" or 1 ¼" tapping is fitted, it must provide a true full bore 1" insertion point. The tap should be centrally located on the pipe and vertical, at the 12-noon position, so that when the meter is inserted it traverses the pipe diameter.



To obtain the most accurate readings possible, the tap should be located with as much straight length upstream as possible and adequate downstream straight length. WSO recommends installing the tap downstream of the meter itself to minimize the introduction of turbulence upstream of the permanent meter.

COMB staff should ensure that insertion meter testing procedures include generating a flow profile across the pipe diameter. The flow profile can reveal the presence of turbulent or imbalanced flows caused by installation conditions.

The flow profile must also be studied to calibrate the meter such that velocity readings taken at the center line of the pipe can be accurately converted into the volume of water moving through the line. This is particularly important because centerline velocities are generally higher than velocities near the pipe walls. Figure 14 below shows an example insertion meter configuration and the resulting flow profile.

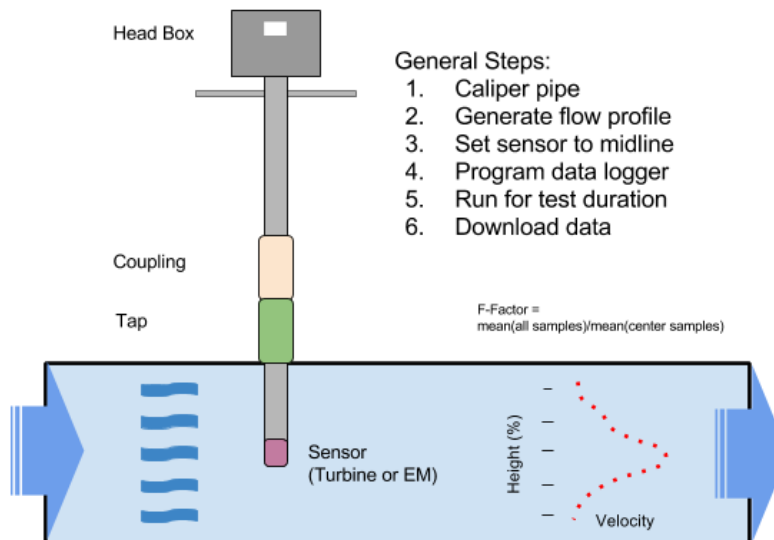


Figure 14: Insertion Meter Steps and Configuration

The general steps for conducting an insertion meter test are as follows:



1. Install a 1" tap upstream of the permanent meter with sufficient upstream and downstream straight length to ensure accurate measurement.
2. Ensure that flow readings are collected through SCADA and on the permanent meter itself. Configure data collection such that flow readings are collected at the same interval as the insertion meter used.
3. Synchronize time stamps between SCADA and other secondary flow recording devices. This helps facilitate data comparison after the test.
4. Caliper the pipe to measure the true internal diameter. This is very important because material can build up on internal pipe walls over time and significantly affect the true pipe diameter.
5. Install the insertion meter probe by inserting it into the tap.
6. Start pumps as needed to generate the desired test flow rate. Flow rates should be selected to represent typical operating conditions observed during the audit period.
7. Generate a flow profile by taking flow readings across the pipe diameter.
8. Position the insertion meter such that the probe is in the middle of the pipe's cross section.
9. Record the velocity of water for approximately 20-30 minutes.
10. Repeat steps four through seven as necessary to generate test results at multiple flow rates.
11. Compare the average flow rate from the insertion meter to the flow rate recorded in SCADA.

Meter Assessments

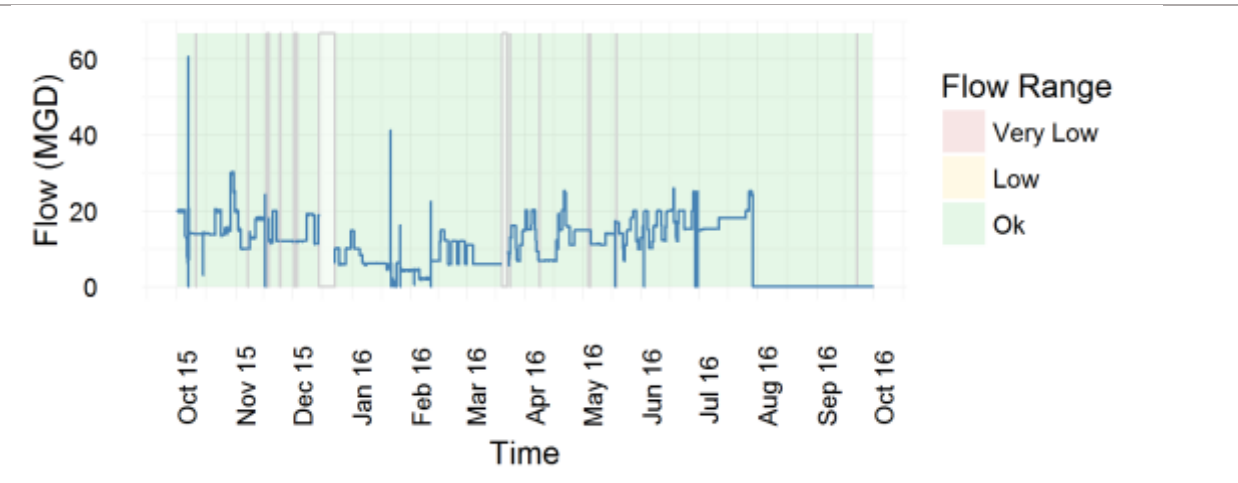
Template and Explanation

Make:	The meter make	Testing Methodology: Recommended testing methodology based on site visits and as-built drawings.	[Meter Photo]
Model:	The meter model		
Size:	The meter size in inches		
Type:	The metering technology	Installation Conditions: The length of upstream and downstream straight length in pipe diameters. WSO recommends 10x pipe diameters of straight length upstream and 5x downstream to ensure accurate measurement.	
Installed:	The year of installation		
Owner:	Responsible member agency		
Accuracy: A simple graphic that represents the manufacturers quoted accuracy specifications for each system meter. The margin of error, flow range, and percent of meter readings collected within each flow range is presented. Note that for many meters, the flow appeared to be shut down and kept intentionally at zero.			
High Frequency Flow Data: Timestamped flow data was exported from SCADA and provided to WSO. These data were used to evaluate the percentage of readings collected within the meter manufacturers acceptable flow ranges. The flow ranges were shown in the graph using the same colors as the accuracy section of the meter assessment. Missing data was highlighted using a white box with a grey border to emphasize meters where the signal strength appears to be weak or diminishing.			
Monthly Manual Meter Readings Data: Almost all system meters were read manually monthly. These monthly meter readings were used to conduct the mass balances presented above. Monthly readings can be easily compared to the high frequency flow data collected in SCADA to provide a high-level review of potential error introduction.			
Notes: Additional notes about the meters intended purpose are provided last. Any anomalies described by COMB staff in the manual meter reading book are also noted here.			

1: North Portal (WY 2016)

Make: Simplex	Testing Methodology: Not possible to reliably test on site.		
Model: VT			
Size: 36"			
Type: Venturi	Installation Conditions: Obstruction Downstream		
Installed: Original			
Owner: COMB			



Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	0 - 46 MGD	Missing
	0 %	0 %	86 %	14 %



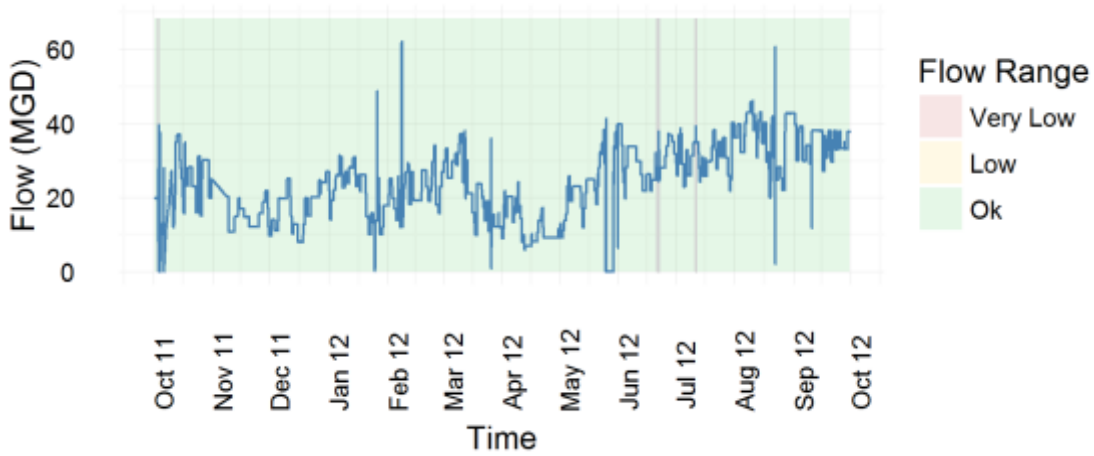
[Manual monthly meter readings were not available for the North Portal meter]

Notes: When the line is not pressurized during drought conditions the meter cannot accurately measure flow. During normal operating conditions a gate valve immediately downstream of the meter is kept partially closed. This gate valve is important for flow regulation, however, its proximity to the meter itself likely causes turbulent flows making accurate measurement unlikely.

1: North Portal (WY 2011)

Make: Simplex	Testing Methodology: Not possible to reliably test on site.	
Model: VT		
Size: 36"		
Type: Venturi	Installation Conditions: Obstruction Downstream 	
Installed: Original		
Owner: COMB		



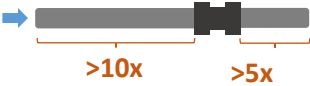
Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	0 - 46 MGD	Missing
	0 %	0 %	99 %	1 %



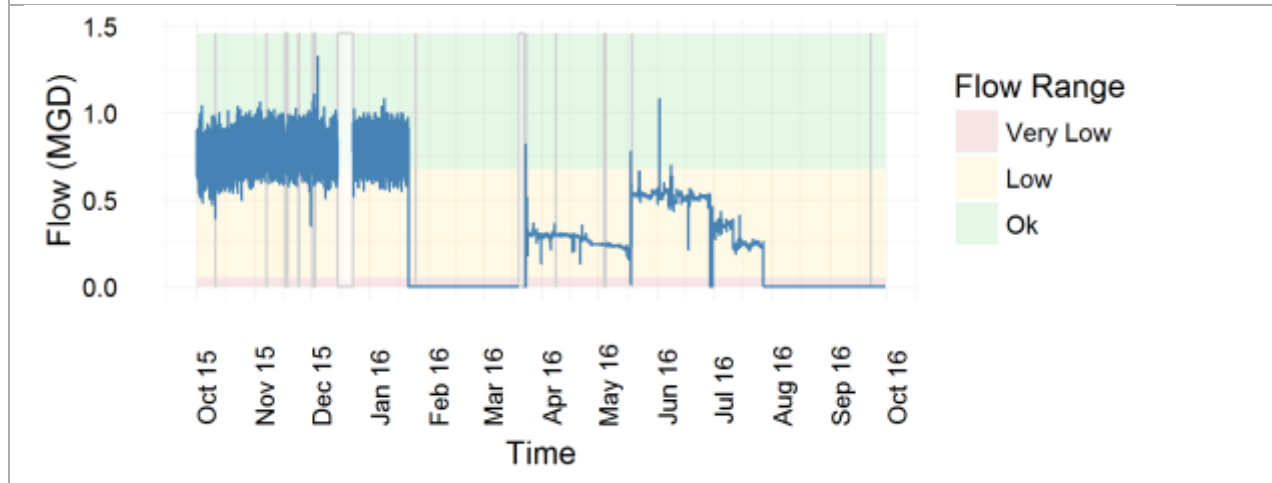
[Manual monthly meter readings were not available for the North Portal Meter]

Notes: When the line is not pressurized during drought conditions the meter cannot accurately measure flow. During normal operating conditions a gate valve immediately downstream of the meter is kept partially closed. This gate valve is important for flow regulation, however, its proximity to the meter itself likely causes turbulent flows making accurate measurement unlikely.

2: North Portal Bypass

Make: ABB	Testing Methodology: Insertion Meter 	
Model: Watermaster		
Size: 10"		
Type: Electromagnetic	Installation Conditions: No Obstructions 	
Installed: 2016		
Owner: COMB		



Accuracy:	Very Low (> +/- 5%) 0 - 0.05 MGD 34%	Low (+/- 2%) 0.05 – 0.68 MGD 37%	Ok (+/- 0.4%) > 0.68 MGD 25%	Missing 4%
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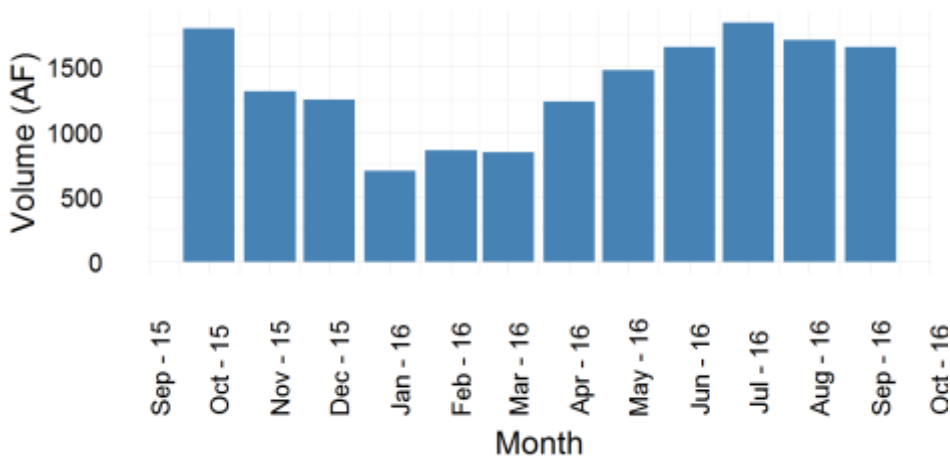
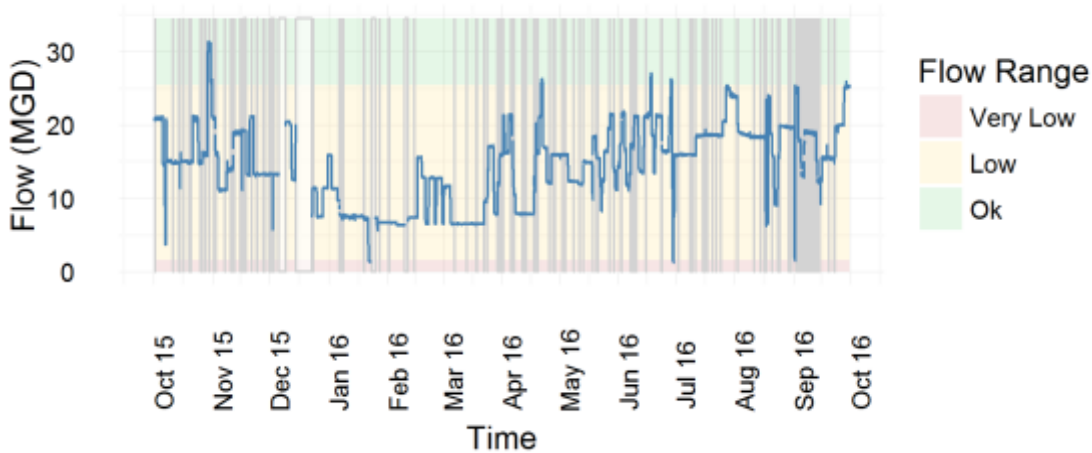
[Manual monthly meter readings were not available for the North Portal Bypass]

Notes: Changing operational conditions throughout the year explains varying flow patterns recorded by the North Portal Bypass. A high percent of flow readings were collected on the lower end of the manufacturers flow recommendations where error is on the order of 2-5%. The line was likely closed, with no flow, during February through March and after August 2016.

3: Glenn Annie Turnout (Electromagnetic)

Make: ABB	Testing Methodology: Not possible to reliably test on site	
Model: Watermaster		
Size: 48"		
Type: Electromagnetic	Installation Conditions: Obstruction Downstream 	
Installed: 2012		
Owner: COMB		

Accuracy:	Very Low (> +/- 5%)	Low (+/- 2%)	Ok (+/- 0.4%)	
	< 1.62 MGD	1.6 - 24.4 MGD	> 24.4 MGD	Missing
	0%	93%	1%	6%




Notes: The Glenn Annie Turnout is the first point of metering after water emerges from the Tecolote tunnel. This meter experienced frequent signal disruption during 2016, failing to transmit 6% of the flow readings to SCADA. It also experienced low flows, subject to +/- 2% error for 93% of the collected readings.

4: Glenn Annie Turnout (Venturi)

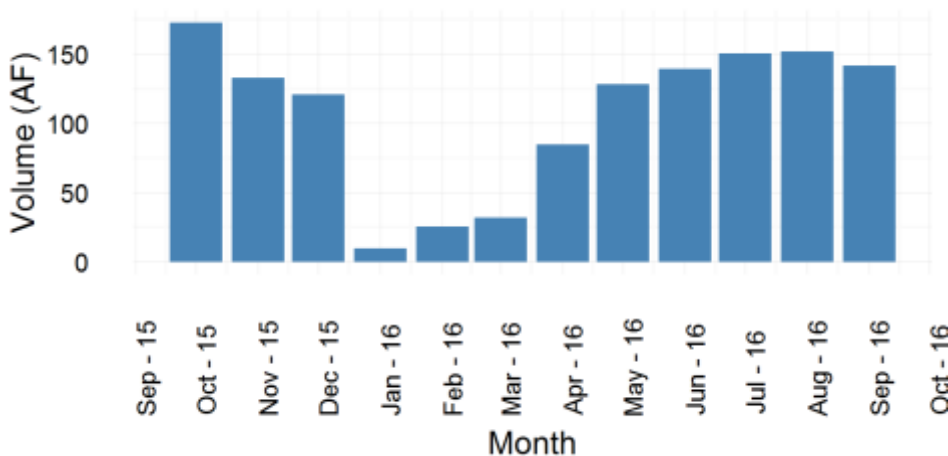
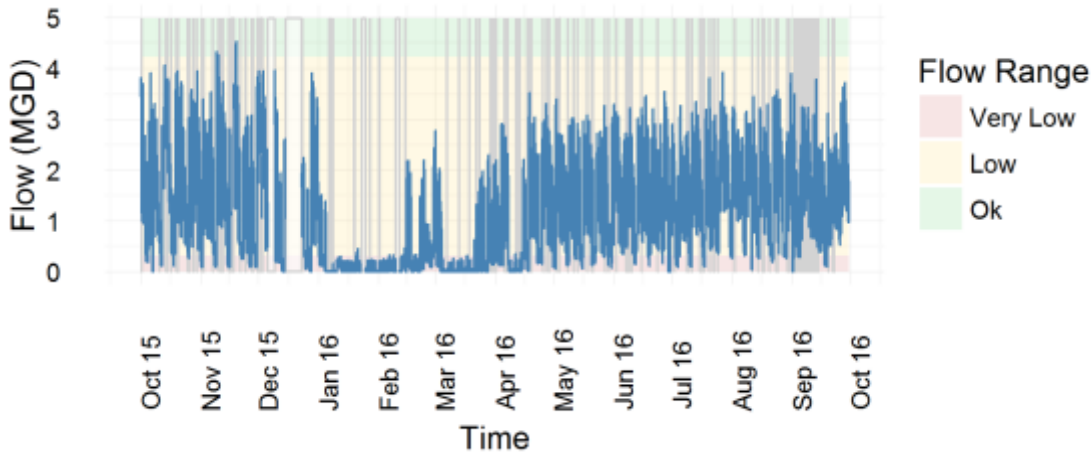
Meter was not in use during the audit period. No data is available at this time.

5: Goleta West

Make: ABB	Testing Methodology: Not possible to reliably test on site
Model: Watermaster	
Size: 24"	
Type: Electromagnetic	Installation Conditions: Obstruction Downstream 
Installed: 2012	
Owner: COMB	






Accuracy:	Very Low (> +/-5%)	Low (+/- 2%)	Ok (+/- 0.4%)	
	< 0.3 MGD	0.3- 4.2 MGD	> 4.2 MGD	Missing
	31%	62%	0%	6%

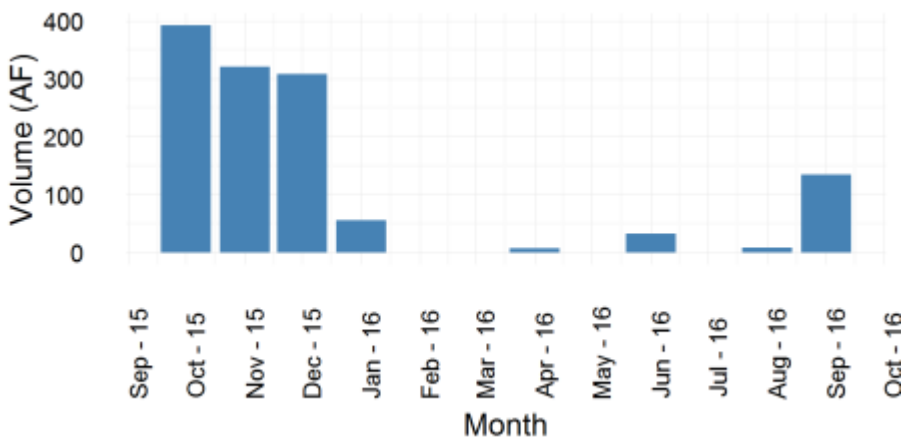
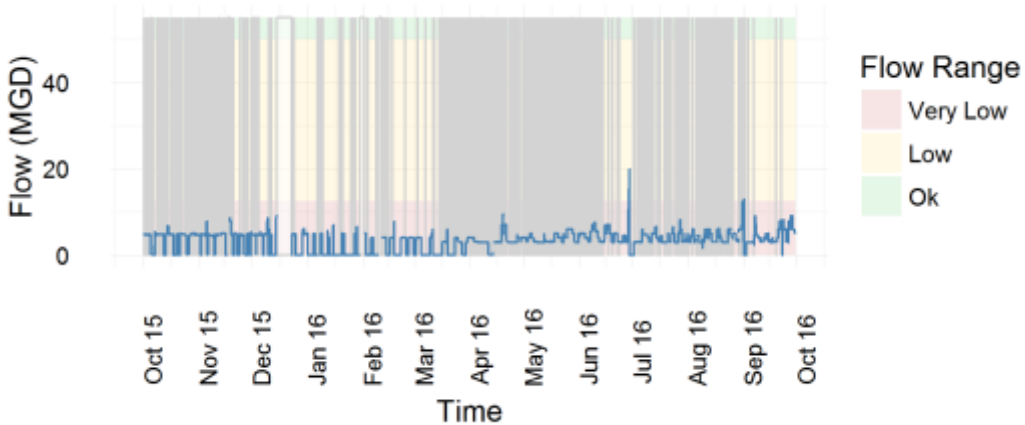


Notes: The Goleta West vault is a raw water turnout feeding the city of Goleta after treatment. 6% of the flow readings failed to transmit into SCADA. The meter is designed to measure higher flows -- almost a third of the flow rates recorded by the meter in 2016 were subject to more than +/- 5% error due to low flow. These low flows are likely attributable to drought conditions.

6: Corona Del Mar




Make: BIF	Testing Methodology: Possible fill test		
Model:			
Size: 54"			
Type: Venturi	Installation Conditions: Obstruction Downstream		
Installed: 1973			
Owner: Goleta			

Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	< 12.5 MGD	12.5- 50 MGD	> 50 MGD	Missing
	94%	0%	0%	6%

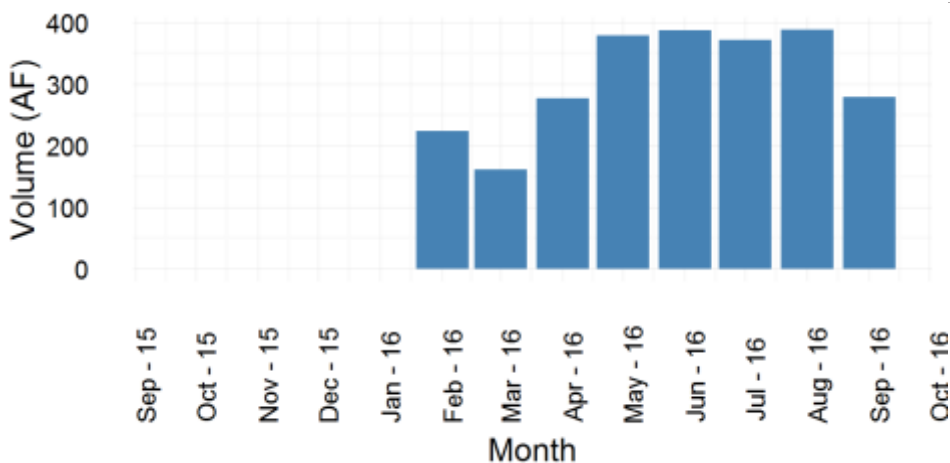
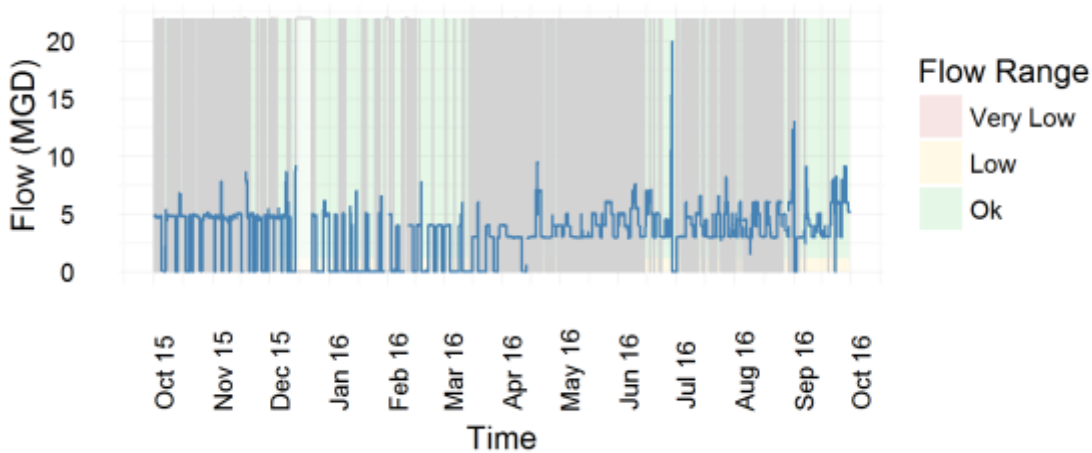


Notes: This meter records raw water volumes entering the Corona Del Mar Water Treatment Plant. The high frequency flow data is likely the sum of this venturi and its electromagnetic bypass. Nonetheless, 94% of flow rates recorded by this meter fell below the low-flow cutoff for this large meter. The smaller diameter bypass was installed in 2015 to alleviate inaccuracy at low flows. If most of the flow passed through the smaller bypass meter, the degree of inaccuracy is much lower – 73% of readings fell within manufacturers specifications for the bypass meter.

7: Corona Del Mar Bypass



Make: Sparling	Testing Methodology: Possible fill test 	
Model: Magnetic Flow		
Size: 18"		
Type: Electromagnetic	Installation Conditions: Obstruction Up & Downstream 	
Installed: 2015		
Owner: Goleta		

Accuracy:	Very Low 0 MGD 22%	Low (> +/- 1.0%) 0.0 - 1.14 MGD 0%	Ok (+/- 1.0%) > 1.14 MGD 73%	Missing 6%
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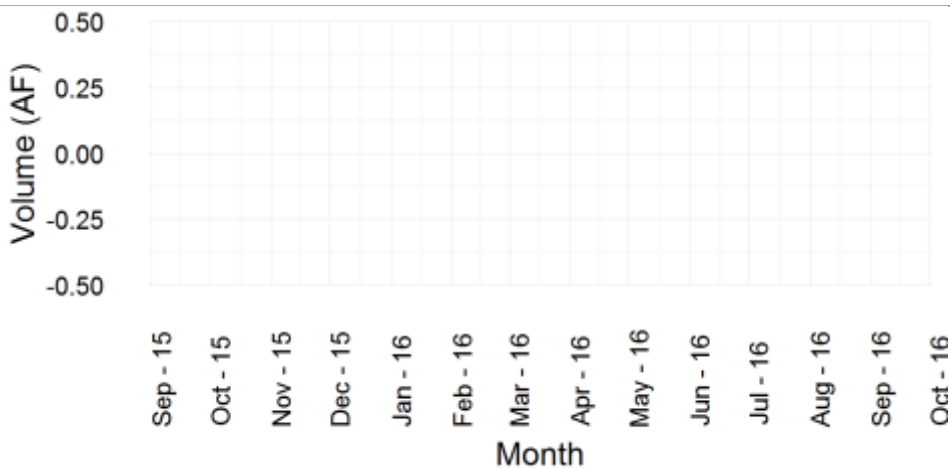
Notes: The Corona Del Mar bypass monitors low flows of raw water moving into the Corona Del Mar Water Treatment Plant. The flow data presented here is likely an aggregate of the larger venture and the bypass. If most of the flow passed through the smaller bypass meter, the degree of inaccuracy is much lower – 73% of readings fell within manufacturers specifications for the meter.

8: Stowe Ranch

Make: Sensus	Testing Methodology: Mobile bench test, or ship for testing at a lab.		
Model: Propeller			
Size: 3"			
Type: Propeller	Installation Conditions: Obstruction Up & Downstream		
Installed: ?			
Owner: Goleta			




Accuracy:	Very Low	Low	Ok	
	UNKNOWN	UNKNOWN	UNKNOWN	Missing
	?%	?%	?%	?%

[No high frequency flow data was available for the Stow Ranch meter]

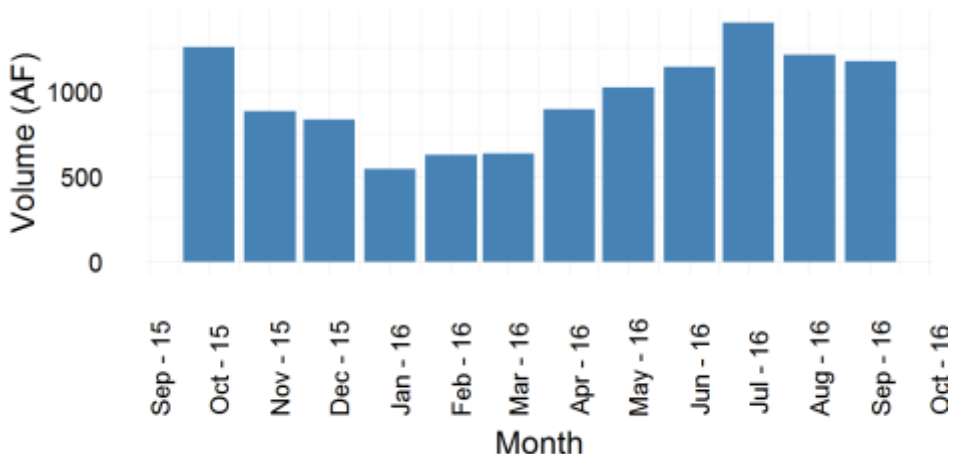
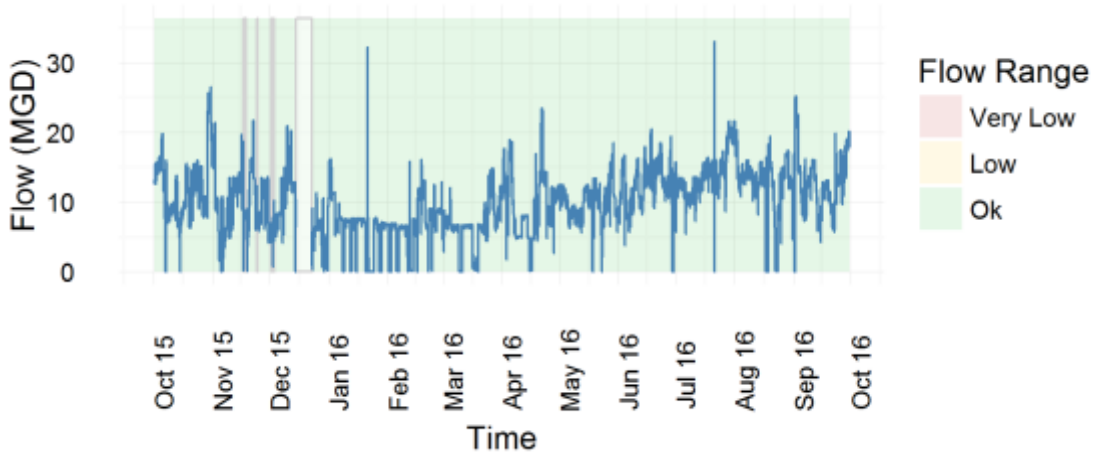


Notes: The Stow Ranch meter records raw water delivered from the COMB transmission network to a local farm. This is based upon a historical agreement between COMB, Goleta, and the landowner. The meter is listed in the COMB meter read book as being read in CF, only ~2 CF was recorded during WY 2016.

9: Lauro Inflow



Make: Simplex	Testing Methodology: Insertion Meter 	
Model: VT		
Size: 48"		
Type: Venturi	Installation Conditions: Obstruction Downstream 	
Installed: Original		
Owner: COMB		

Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	0 - 46 MGD	Missing
	0 %	0 %	95 %	5 %

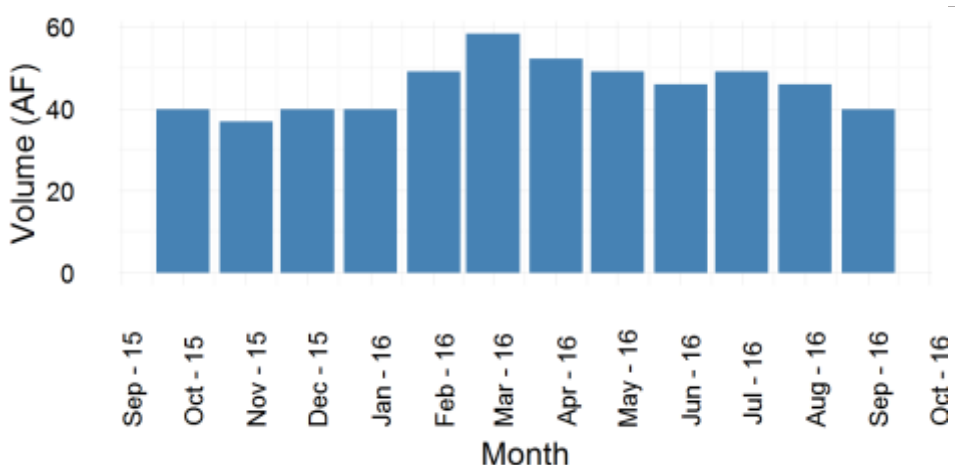
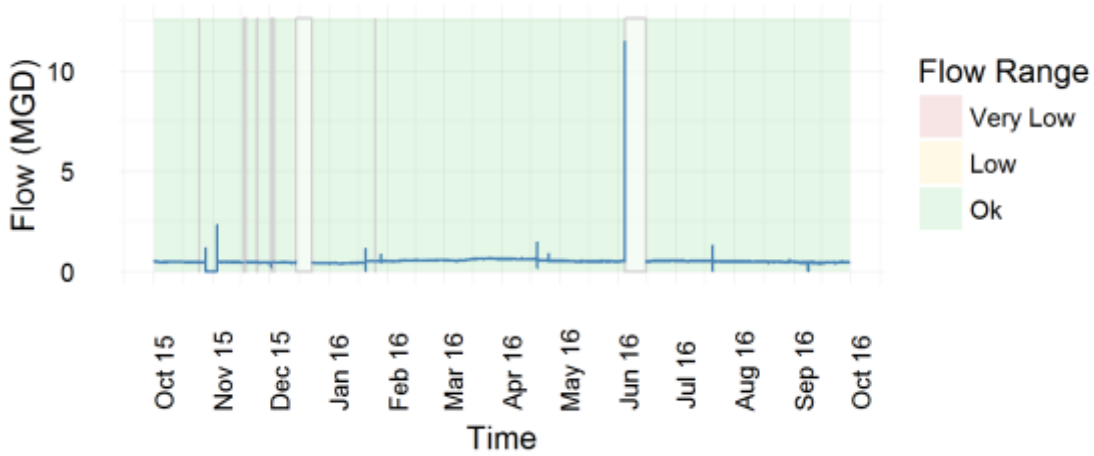


Notes: The Lauro Control Station meter records the flow of water from the raw water transmission network into the uncovered and unlined Lauro Reservoir. Annual testing with a precision insertion meter should be conducted to evaluate potential inaccuracy as operational conditions allow.

10: Gibraltar Penstock




Make: Badger	Testing Methodology: Testing cannot be reliably conducted on site.	
Model:		
Size: 20"		
Type: Venturi	Installation Conditions: Obstruction Downstream	
Installed:		
Owner: Santa Barbara		

Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	> 0 MGD	Missing
	0%	0%	94%	6%

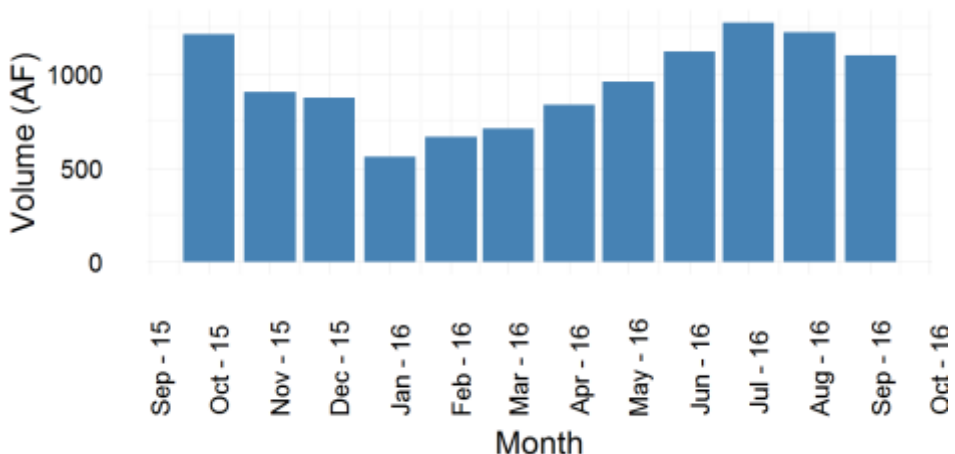
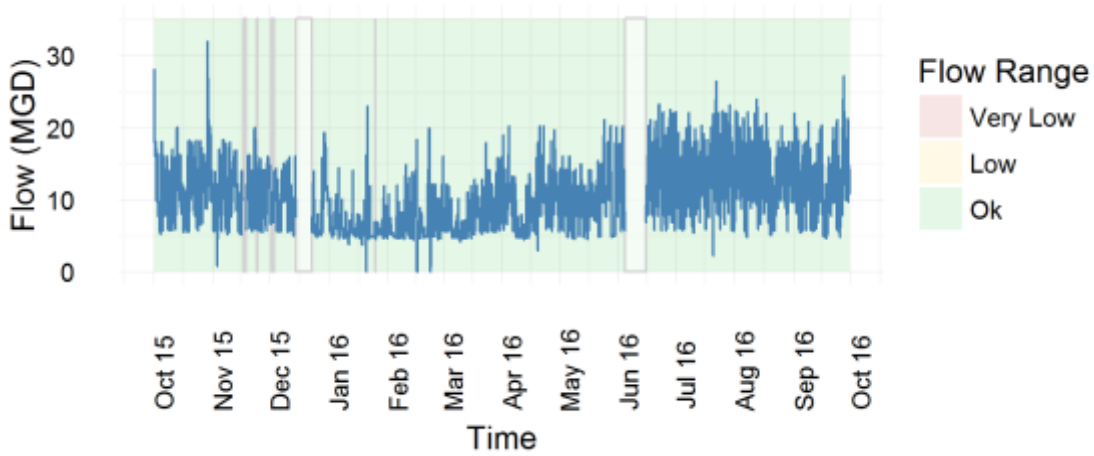


Notes: The Gibraltar Penstock records the volume of raw water from the Mission Tunnel before flowing into the Lauro Reservoir. Currently, the total volume of water delivered to Santa Barbara is deducted by the total from the Gibraltar Penstock. The adjacent tank does not directly feed water through this meter and therefore cannot be utilized for testing.

11: Cater WTP Influent



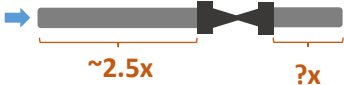
Make: Fisher Porter	Testing Methodology: Possible fill test 	
Model:		
Size: 36"		
Type: Orifice Plate	Installation Conditions: Unknown 	
Installed: 1971		
Owner: Santa Barbara		

Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	> 0 MGD	Missing
	0 %	0 %	94 %	6 %






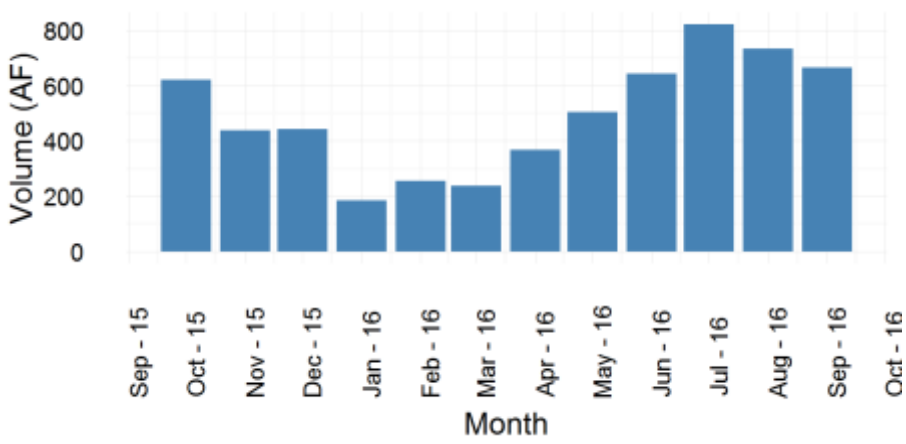
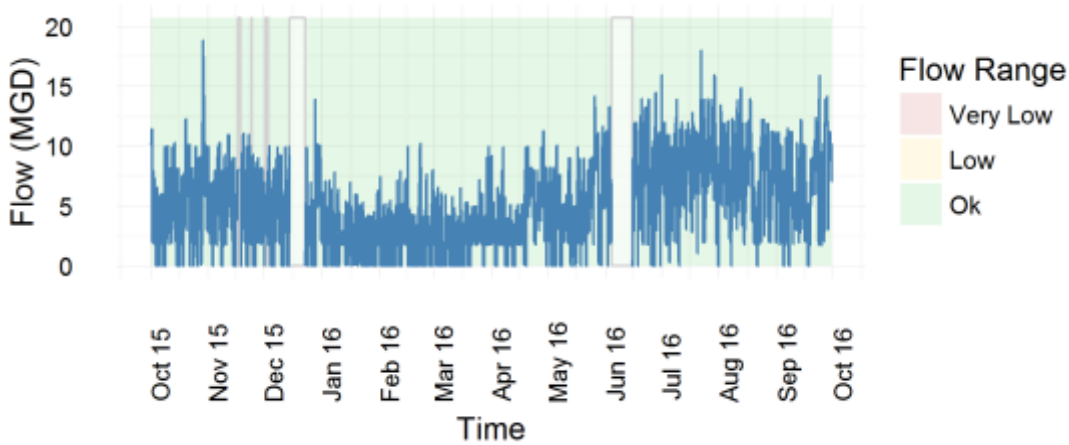
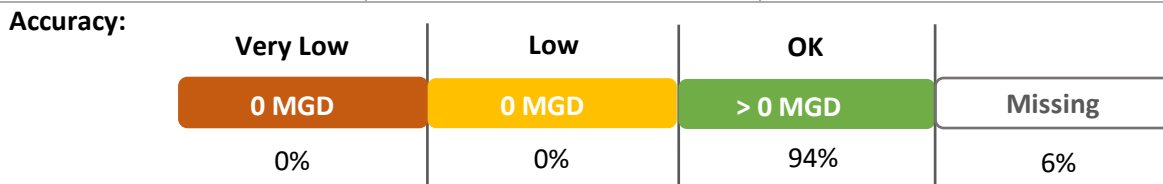
Notes: The Cater Influent meter records the volume of raw water leaving the Lauro reservoir and entering the Cater Water Treatment Plant flocculation basins. Accuracy specifications were not available for this orifice plate meter. Similarly, to other system meters, approximately 6% of the flow readings were not available in SCADA.

12: Cater WTP Effluent

Make: BIF	Testing Methodology: Possible fill or drawdown test			
Model:				
Size: 42"				
Type: Venturi	Installation Conditions: Unknown			
Installed:				
Owner: Santa Barbara				
Accuracy:	Very Low (?%) Unknown ?%	Low (?%) Unknown ?%	Ok (?%) > 0 MGD ?%	Missing ?%
[High frequency flow data was not available for the Cater WTP effluent meter]				
[Monthly meter readings were not available for the Cater WTP Effluent]				
Notes: The Cater Effluent meter records the volume of water leaving the combined filter effluent channel at the Cater Water Treatment Plant. The effluent is diverted into clearwells where it is stored before introduction into the Santa Barbara distribution system and the South Coast Conduit. High frequency flow data and monthly meter readings were not available for the Cater Effluent meter.				

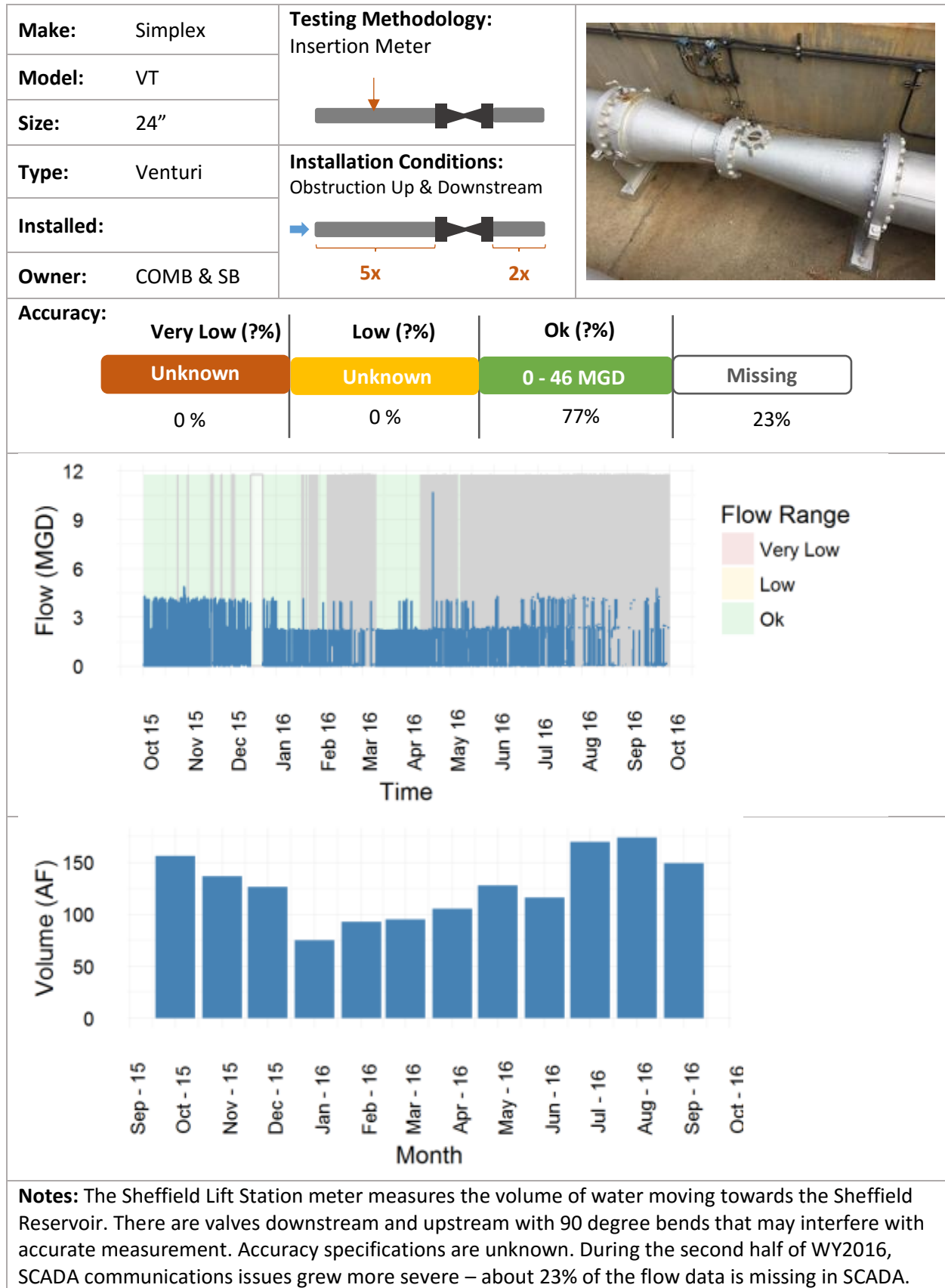
13: SCC Booster Pumps

Make: Primary Flow S	Testing Methodology: Possible drawdown test		
Model:			
Size: 30" x 15"	Installation Conditions: Obstruction Up & Downstream		
Type: Venturi			
Installed:			
Owner: Santa Barbara			






Notes: The SCC Booster Pump meter is the final metering point at the Cater Water Treatment plant before potable water moves south through the South Coast Conduit. Accuracy specifications for this meter are unknown at this time. Like other system meters, approximately 6% of the instantaneous flow rates were missing in SCADA, likely due to transmission issues. This meter is a priority for testing because it's readings are utilized in the mass balance of the northern part of the potable transmission system.

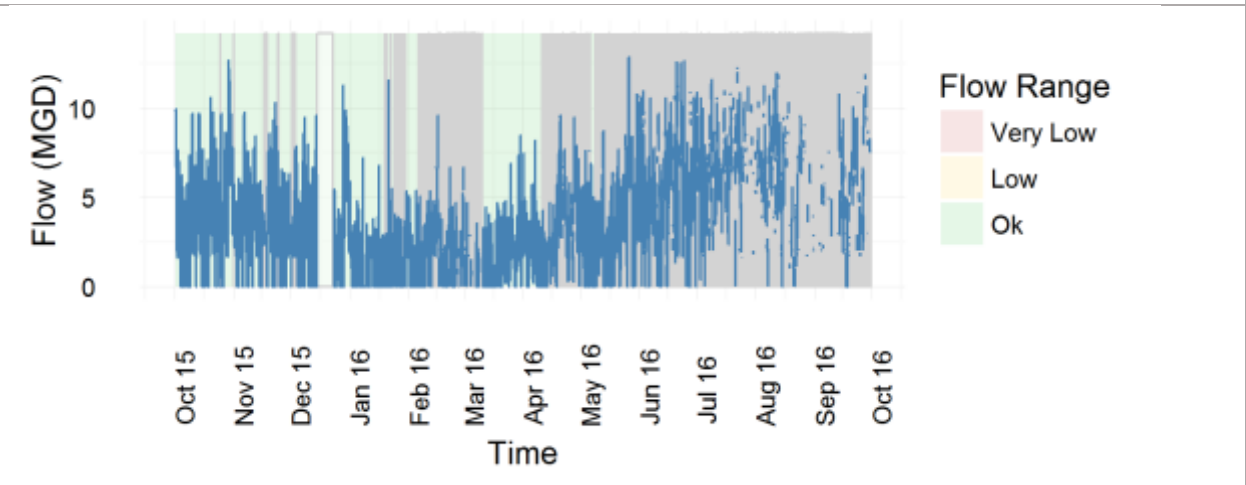
14: Sheffield Lift Station



15: Sheffield Control Station

Make: Simplex	Testing Methodology: Insertion Meter 	
Model: VT		
Size: 36"		
Type: Venturi	Installation Conditions: Obstruction Up & Downstream 	
Installed: Original		
Owner: COMB		



Accuracy:	Very Low (?%)	Low (?%)	Ok (?%)	
	Unknown	Unknown	0 - 46 MGD	Missing
	0 %	0 %	77 %	23 %



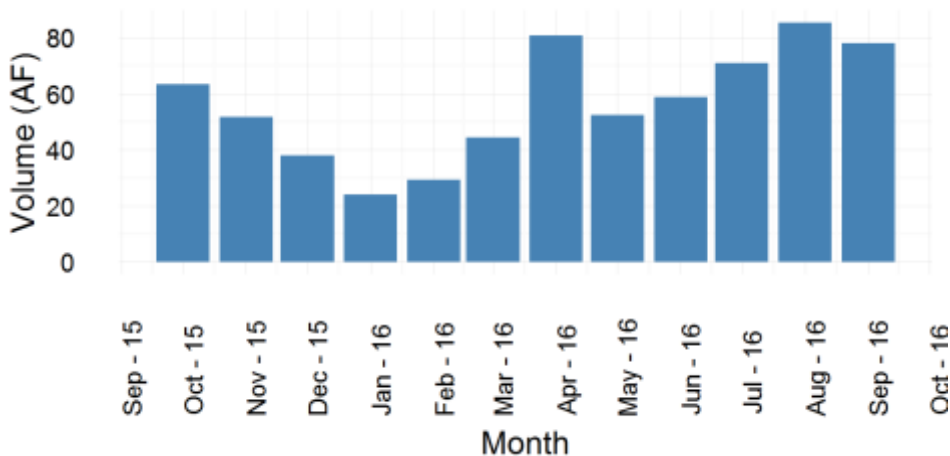
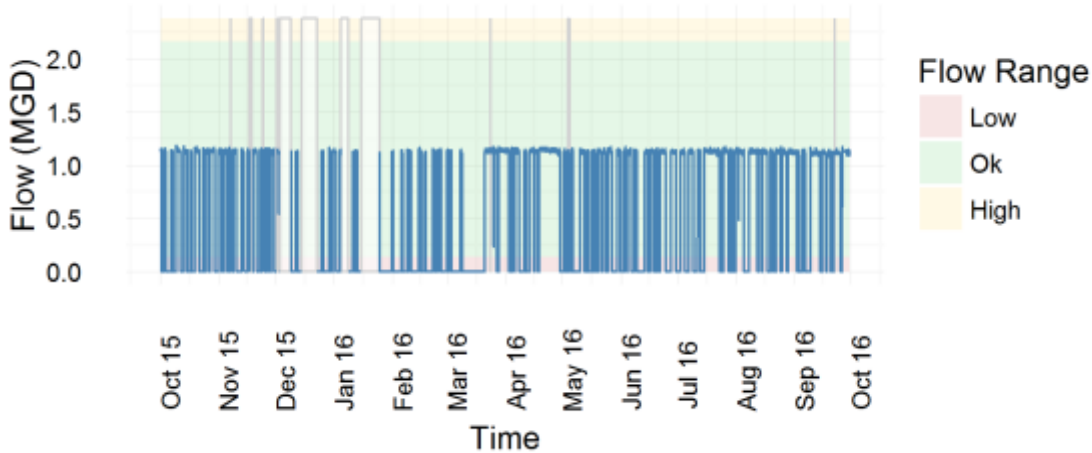
[No monthly meter reading were available for the Sheffield Control Station meter]

Notes: The Control station meter measures the volume of water continuing on the South Coast Conduit from the Cater WTP. Between the Sheffield Control and Lift meters there is an unmetered length of 30" pipe for use if the meters needed to be isolated and repaired. The sum total from meter 14 & 15 should balance with the total leaving the Cater WTP through meter 13, the SCC booster meter. Similar to the lift station meter (14), SCADA communications issues grew more severe in the second half of WY2016 – about 23% of the flow data is missing in SCADA.

16: Barker Pass Pump Station


Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site.	
Model: McPropeller		
Size: 8"		
Type: Propeller	Installation Conditions: Obstruction Downstream 	
Installed: 2009		
Owner: Montecito		

Accuracy:	Low (> +/-2%)	Ok (+/- 2%)	High (> +/-2%)	Missing
	< 0.14 MGD	0.14 – 2.16 MGD	> 2.16 MGD	Missing
	44%	47%	0%	8%

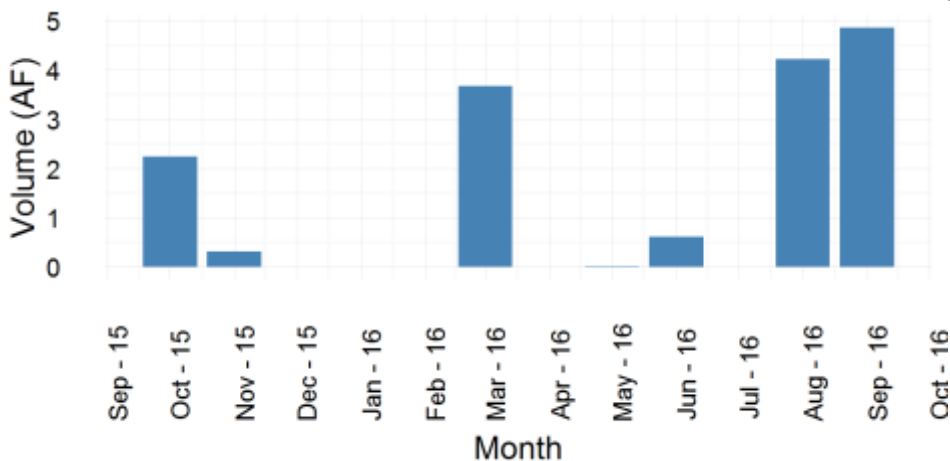
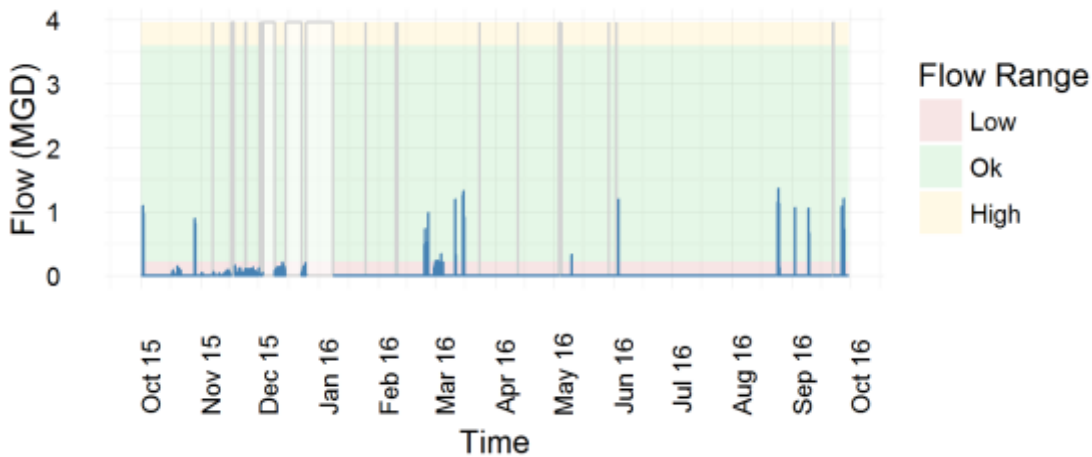


Notes: The Barker pass pump station is cycled open or closed frequently to feed the city of Montecito. All of the meter readings above zero were recorded at low or very low flows according to meter specifications. These readings are subject to ~2% error. In addition, about 8% of the flow readings were missing during WY 2016.

17: MWD Pump Station


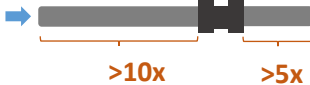
Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site	
Model: McPropeller		
Size: 12"		
Type: Propeller	Installation Conditions: Obstruction Up & Downstream	
Installed: 2010		
Owner: Montecito		

Accuracy:	Low (> +/- 2%)	Ok (+/- 2%)	High (> +/- 2%)	
	<0.22 MGD	0.22 – 3.6 MGD	> 3.6 MGD	Missing
	90%	1%	0%	9%



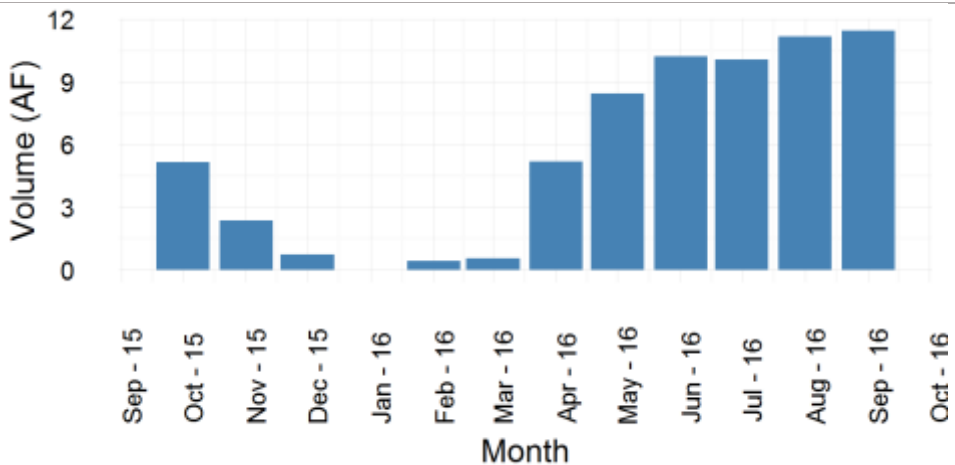
Notes: The MWD Office Pump Station meter is a takeout on the SCC located near the MWD offices. Almost 90% of the meter readings were collected at very low flows subject to +/- 2% error. Sporadic low flows are also reflected in the manual monthly meter readings.

18: Valley Club

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: McPropeller			
Size: 6"			
Type: Propeller	Installation Conditions: Obstruction Up & Downstream		
Installed: 2013			
Owner: Montecito			



Accuracy:	Low (> +/- 2%)	Ok (+/- 2%)	High (> +/- 2%)	
	<0.13 MGD	0.13 – 1.73 MGD	> 1.73 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the Valley Club meter.]



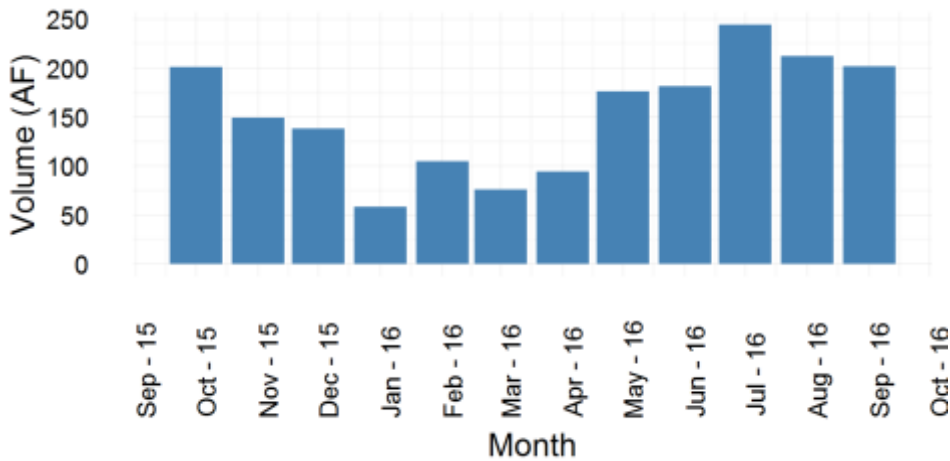
Notes: The Valley Club takeout meter is located near a Montecito golf course. This line draw water from the SCC. A second meter may be in-line with this unit immediately downstream. Additional access for testing should be investigated with the golf course management.

19: East Valley Pump Station

Make: McCrometer	Testing Methodology: Insertion meter	
Model: UltrMag		
Size: 10"		
Type: Electromagnetic	Installation Conditions: Obstruction Downstream	
Installed: 2008		
Owner: Montecito		



Accuracy:	Very Low (> +/- 1%)	Low (+/- 1%)	Ok (< +/- 1%)	
	<0.07 MGD	0.07 – 11 MGD	> 11 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the East Valley Pump Station meter.]



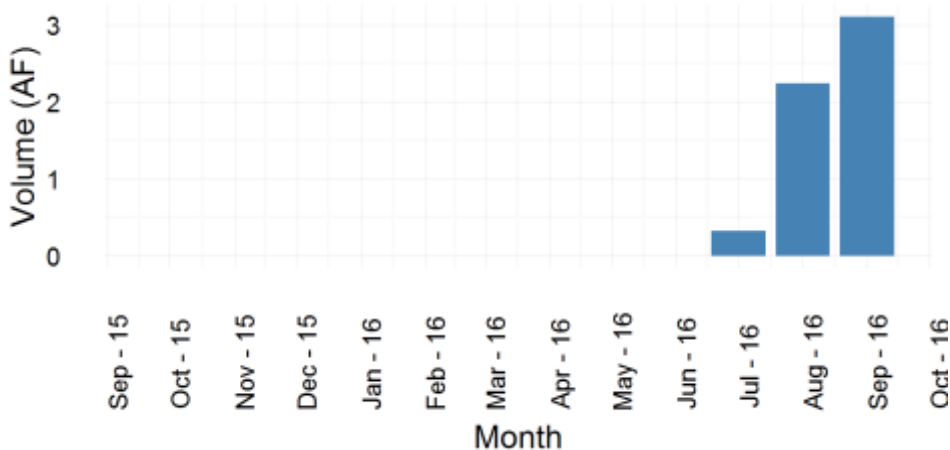
Notes: The East Valley Pump Station meter draws water from the SCC to feed another Montecito community. While high frequency flow data is not available to assess the meter’s accuracy, there is an obstruction immediately downstream of the meter that may impact accurate measurement.

20: Lateral 1 Ortega Ridge

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: Water Specialties			
Size: 10"			
Type: Propeller	Installation Conditions: Obstruction Downstream		
Installed: 2016			
Owner: Montecito			




Accuracy:	Low (> +/- 2%)	Ok (+/- 2%)	High (> +/- 2%)	Missing
	<0.18 MGD		> 2.88 MGD	
	?%	?%	?%	?%

[High frequency flow data was not available for the Lateral 1 Ortega Ridge meter.]



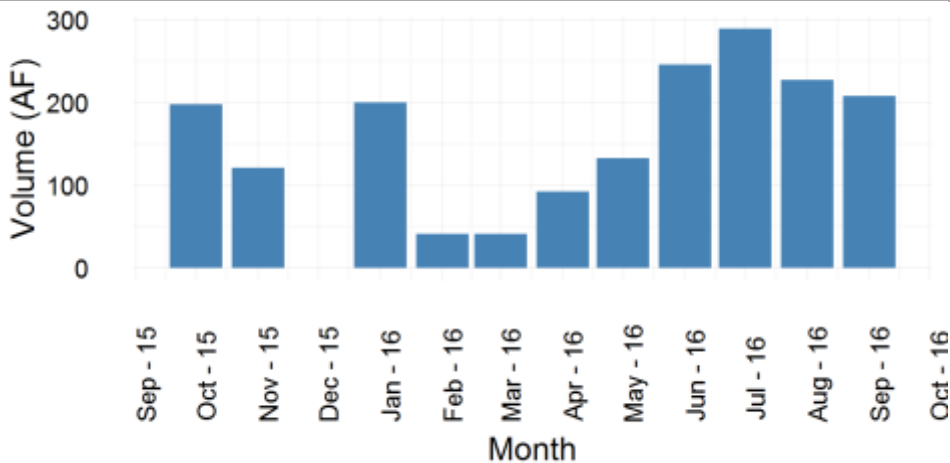
Notes: The Ortega Ridge meter, installed in July of 2016, is another takeout on the SCC transmission line. The meter has not been connected to SCADA and so only monthly manual meter readings are available.

21: Ortega Reservoir Inflow

Make: ABB	Testing Methodology: Insertion meter 	
Model: Watermaster		
Size: 30"		
Type: Electromagnetic	Installation Conditions: Obstruction Downstream 	
Installed: 2005		
Owner: COMB		




Accuracy:	Very Low (> +/- 5%)	Low (+/- 2%)	Ok (+/- 0.4%)	
	<0.65 MGD	0.65 – 10.14	> 2.88 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the Ortega Reservoir Inflow meter.]

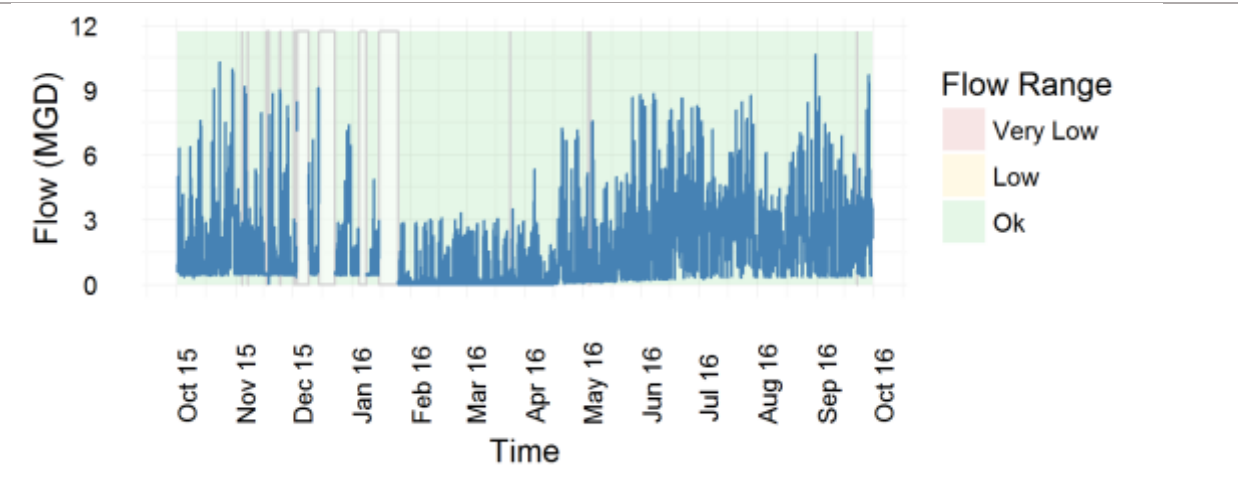


Notes: The Ortega Reservoir Inflow meter monitors the volume of water entering the Ortega reservoir. The meter is not hooked up to SCADA and monthly meter readings were not available for WY 2015 or WY 2016.

22: Ortega Reservoir Outflow

Make: Simplex	Testing Methodology: Insertion Meter 	
Model: VT		
Size: 27"		
Type: Venturi	Installation Conditions: Obstruction Up & Downstream 	
Installed: Original		
Owner: COMB		



Accuracy:	Very Low (?%) Unknown 0%	Low (?%) Unknown 0%	Ok (?%) 0 - 46 MGD 92%	Missing 8%
------------------	---------------------------------------	----------------------------------	-------------------------------------	---------------



[Monthly meter readings were not available for the Ortega Reservoir Outflow meter.]

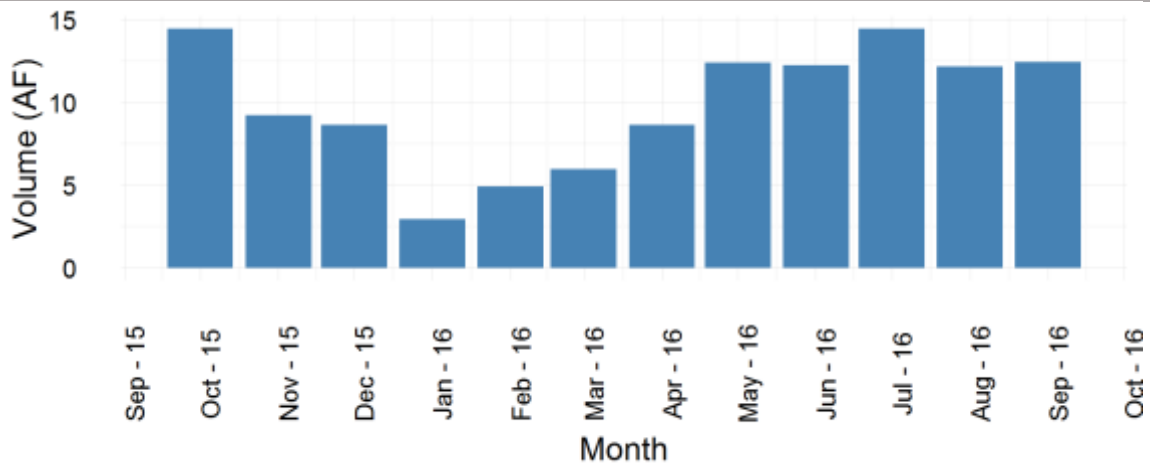
Notes: The Ortega Reservoir Outflow meter monitors the flow of water leaving the Ortega Reservoir. This meter was subject to likely signal drift apparent in the high frequency flow graph. Note that the minimum flow rates reported by this meter appears to increase through the latter half of WY 2016 relative to the x-axis. COMB staff have also noticed that the meter fails to measure accurately at low flows.

23: Ortega Pump Station

Make: Rockwell	Testing Methodology: Testing cannot be reliably conducted on site	
Model:		
Size: 8"		
Type: Turbine	Installation Conditions: Obstruction Up & Downstream	
Installed:		
Owner: Montecito		



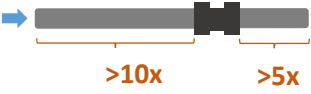
Accuracy:	Low (> +/- 5%)	Ok (+/- 1%)	High (< +/-1%)	
	<0.04 MGD	0.04 – 5.04 MGD	> 5.04 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the Ortega Reservoir Inflow meter.]

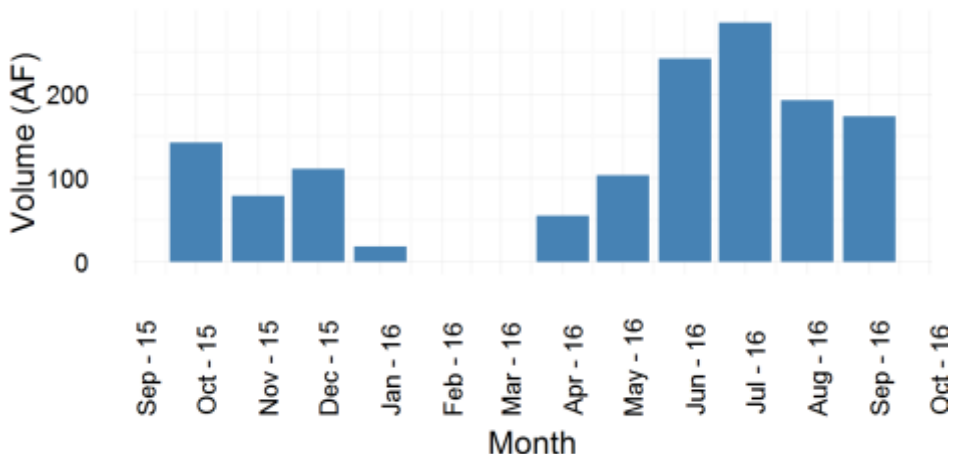
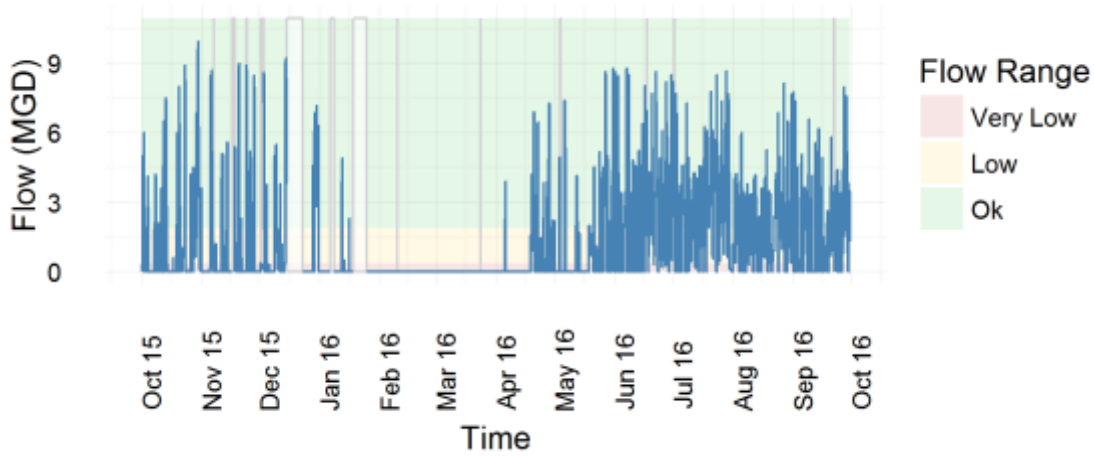


Notes: The Ortega Pump Station meter monitors the volume of water from the Ortega reservoir that is diverted to the City of Montecito. The meter is not connected to SCADA so high frequency data was not available.

24: Ortega South Flow



Make: ABB	Testing Methodology: Insertion Meter 	
Model: MagMaster		
Size: 18"?		
Type: Electromagnetic	Installation Conditions: No Obstructions 	
Installed: 2004		
Owner: COMB		

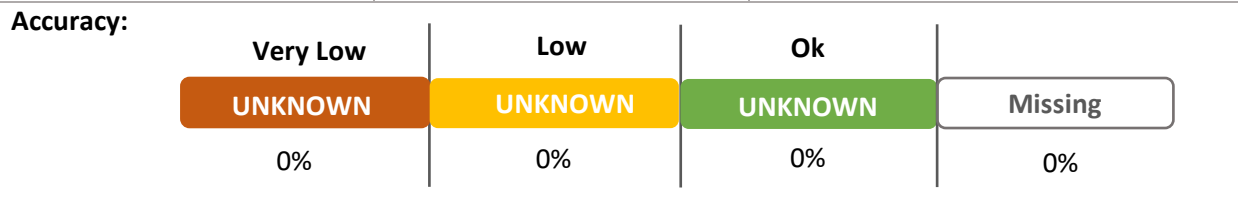
Accuracy:	Very Low (> +/- 2%)	Low (+/- 2%)	Ok (< +/- 0.2%)	
	<0.37 MGD	0.37 – 1.87 MGD	> 1.87 MGD	Missing
	57%	10%	27%	6%



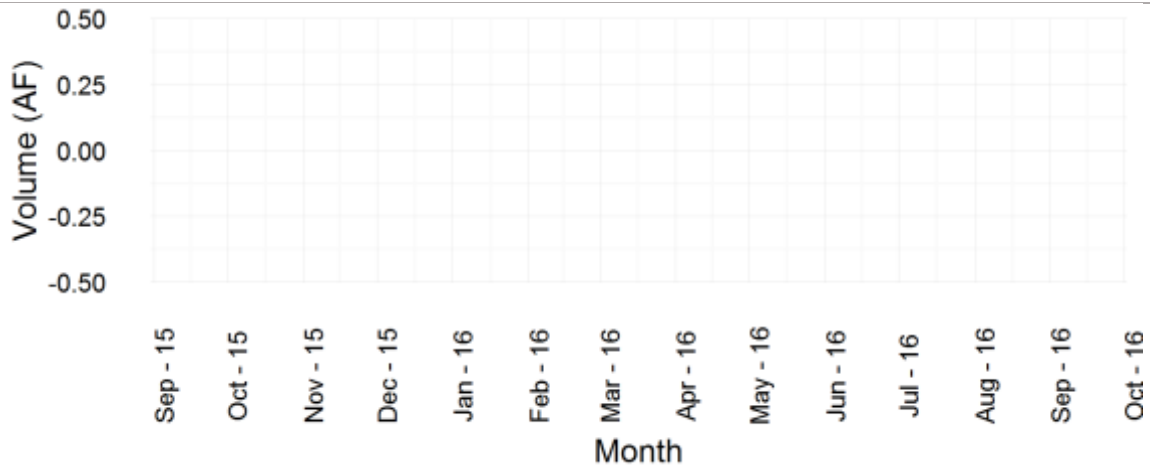
Notes: The Ortega South Flow meter monitors the volume of water moving south from the Ortega reservoir into the SCC. The high frequency flow data shows zero flows for much of February, March, and April. However, the manual monthly readings show that significant volumes of water passed through the meter during that same time period. COMB should investigate the electronics to confirm correct meter function.

25: Summerland Co. Yard

Make: Sparling	Testing Methodology: Testing cannot be reliably conducted on site	
Model:		
Size: 8"		
Type: Compound	Installation Conditions: No Obstructions	
Installed: Original		
Owner: Montecito		





[High frequency flow data was not available for the Summerland Co. Yard meter.]



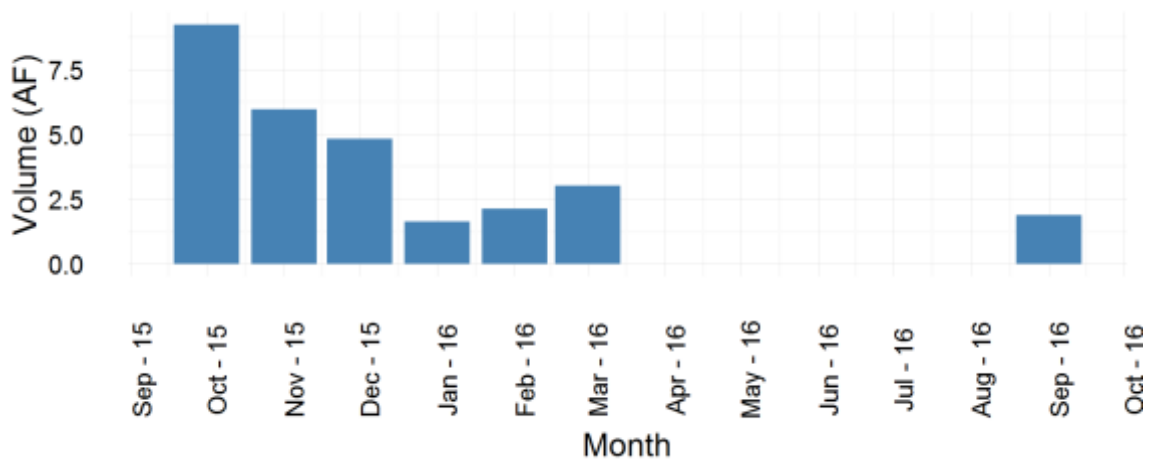
Notes: The Summerland CO. Yard has been decommissioned. However, COMB staff still manually read the meter each month. As we can see, no volume has passed during the latest water year, WY 2016.

26: Asegra

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: McPropeller			
Size: 6"			
Type: Propeller	Installation Conditions: No Obstructions		
Installed: 2016			
Owner: Montecito			>10x >5x



Accuracy:	Low (>+/-2%)	Ok (+/- 2%)	High (< +/-2%)	Missing
	<0.13 MGD	0.13 – 1.73 MGD	>1.73 MGD	
	?%	?%	?%	?%

[High frequency flow data was not available for the Asegra meter.]



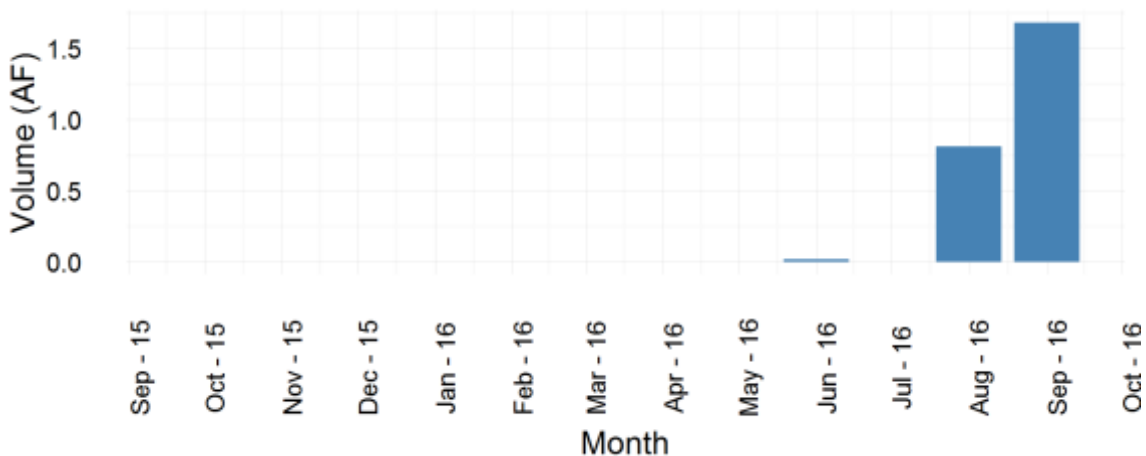
Notes: The Asegra meter is a takeout on the SCC. The meter appeared to be stuck beginning in April of 2016. Ultimately the unit was replaced on 9/22/2016.

27: Lambert

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: Water Specialties			
Size: 10"			
Type: Propeller	Installation Conditions: No Obstructions		
Installed: 2016			
Owner: Montecito			


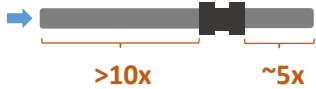
Accuracy:	Low (>+/-2%)	Ok (+/- 2%)	High (?%)	
	<0.18 MGD	0.18 – 2.88 MGD	>2.88 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the Lambert meter.]



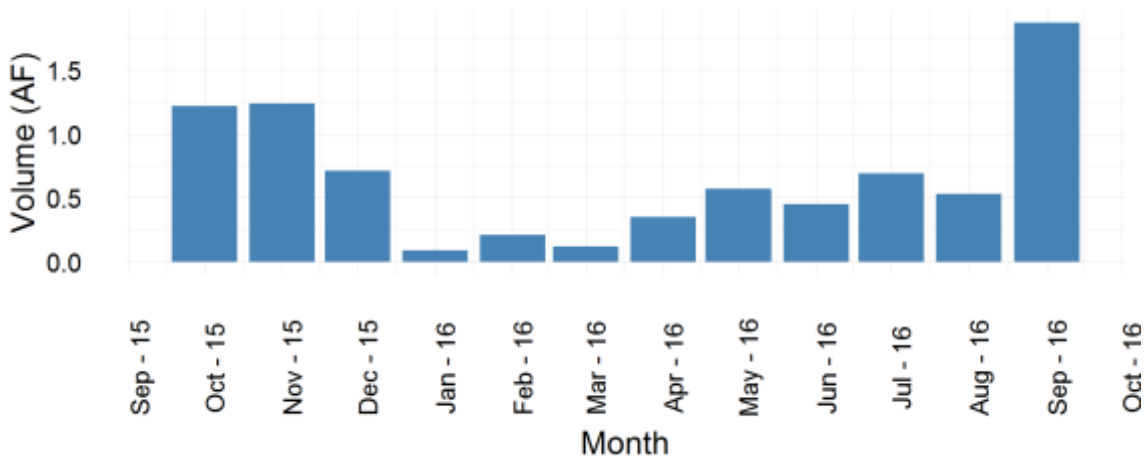
Notes: The Lambert meter is located on a takeout on the SCC. The meter registered only modest flows during the late summer and early fall of 2016.

28: Toro Canyon

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site	
Model: Water Specialties		
Size: 10"		
Type: Propeller	Installation Conditions: No Obstructions	
Installed: 2016		
Owner: Montecito		



Accuracy:	Low (>+/-2%)	Ok (+/- 2%)	High (> +/-2%)	
	<0.14 MGD	0.14 – 2.16 MGD	>2.88 MGD	Missing
	?%	?%	?%	?%

[High frequency flow data was not available for the Toro Canyon meter.]

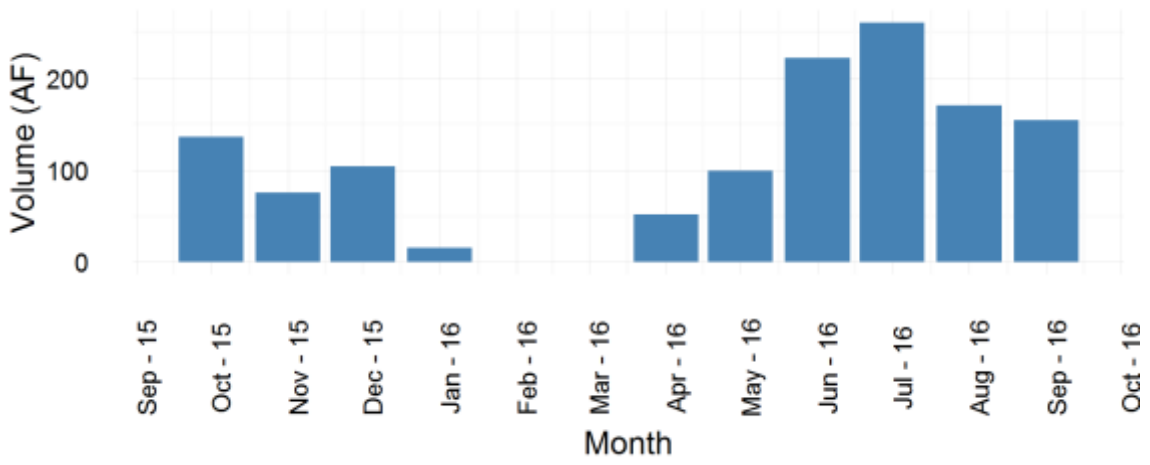
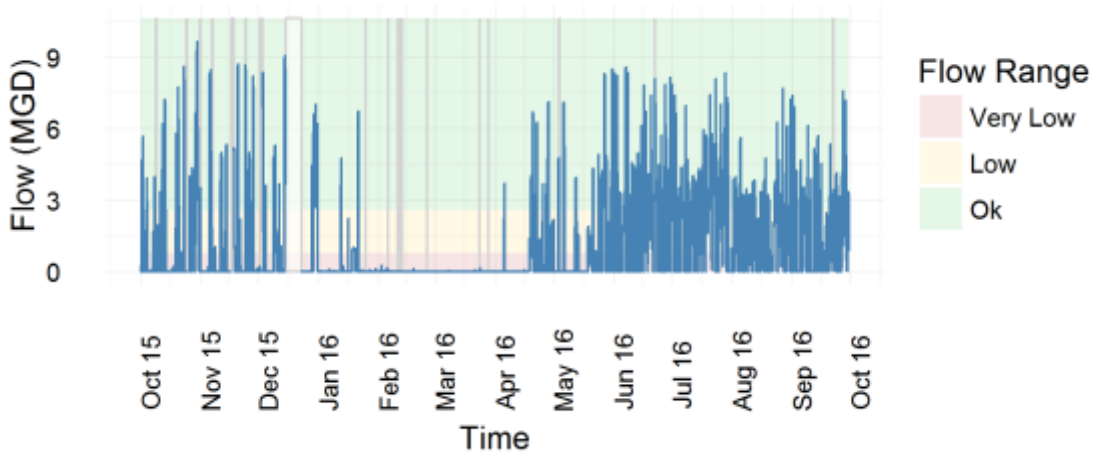


Notes: The Toro Canyon meter is located on a takeout on the SCC. The meter registered only modest flows throughout WY 2016. Installation conditions are adequate to ensure minimal turbulence.

29: Boundary Meter – East



Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: FPI Mag			
Size: 27"			
Type: Insertion	Installation Conditions: Obstructions Up & Downstream		
Installed: 2013			
Owner: Carpinteria			

Accuracy:	Very Low (>+/-1%)	Low (+/- 1%)	Ok (+/- 0.5%)	Missing
	<0.77 MGD	0.77 – 2.57 MGD	>2.57 MGD	
	64%	12%	21%	3%

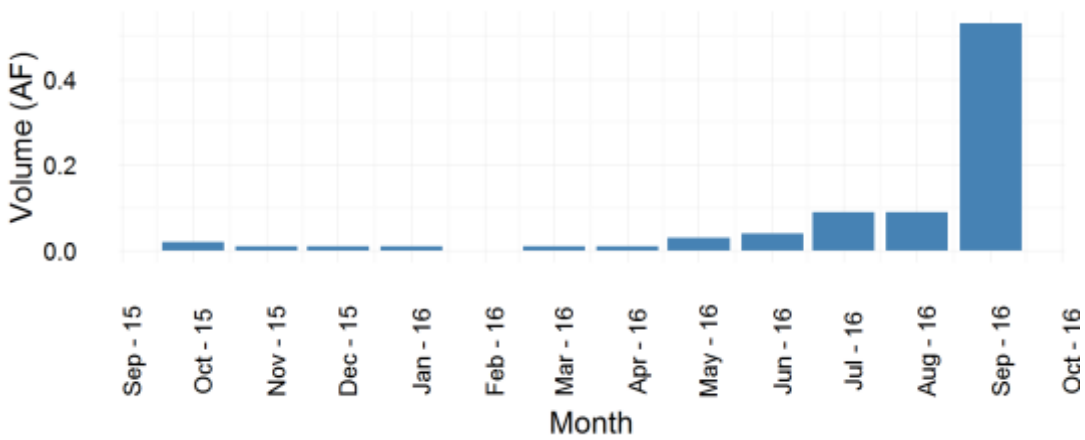
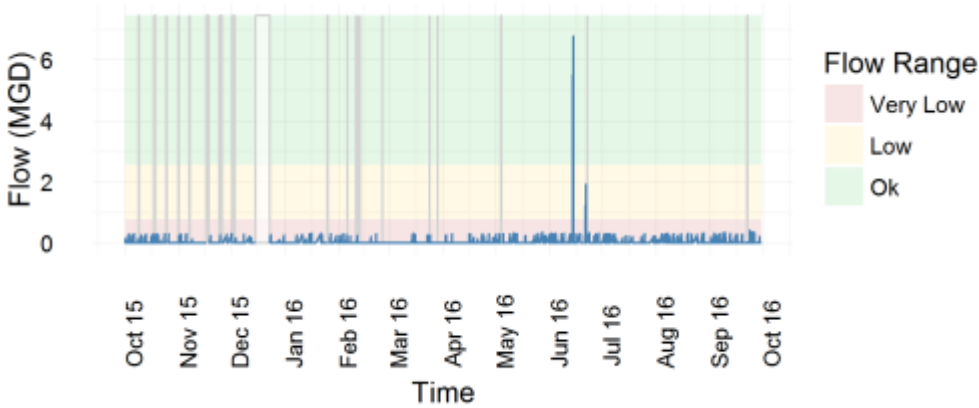


Notes: The Boundary meter is the final, bidirectional, metering point on the SCC before water enters Carpinteria service territory. The meter is installed directly through a valve, which virtually ensures inaccurate measurement because of very turbulent flows. This panel provides an analysis of Easterly flows into Carpinteria.

29.5: Boundary Meter – West

Make: McCrometer	Testing Methodology: Testing cannot be reliably conducted on site		
Model: FPI Mag			
Size: 27"			
Type: Insertion	Installation Conditions: Obstructions up & Downstream		
Installed: 2013			
Owner: Carpinteria			

Accuracy:	Very Low (>+/-2%)	Low (+/- 2%)	Ok (?%)	
	<0.77 MGD	0.77 – 2.57 MGD	>2.57 MGD	Missing
	97%	0%	0%	3%



Notes: The Boundary meter is the final, bidirectional, metering point on the SCC before water enters Carpinteria service territory. The meter is installed directly through a valve, which virtually ensures inaccurate measurement because of very turbulent flows. This panel provides an analysis of Westerly flows from Carpinteria. Almost all recorded flow rates were at very low flows and subject to significant uncertainty even in ideal installation conditions. In addition, the manual monthly meter readings do not align well with the instantaneous flow rates recorded by the meter itself.

CACHUMA OPERATION AND MAINTENANCE BOARD
METERED USE REPORT FOR MAY 2017

LATERAL/ STATION	NAME	ACRE FEET METERED	LATERAL/ STATION	NAME	ACRE FEET METERED
CARPINTERIA WATER DISTRICT			GOLETA WATER DISTRICT		
Boundary Meter - East		371.90	18+62	G. WEST	82.05
Boundary Meter - West		(0.02)	78+00	Corona Del Mar FILTER Plant	437.90
			122+20	STOW RANCH	0.00
				Bishop Ranch (Wynmark)(Water Rights)	0.00
				Raytheon (SWP) (Warren Act Contract)	(3.00)
				Morehart (SWP) (Warren Act Contract)	(4.00)
				SWP CREDIT (Warren Act Contract)	(512.96)
			TOTAL		0.00
			MONTECITO WATER DISTRICT		
			260+79	BARKER PASS	45.55
			386+65	MWD YARD	16.69
			487+07	VALLEY CLUB	0.11
			499+65	E. VALLEY-ROMERO PUMP	140.10
			510+95	MWD PUMP (SWD)	15.31
			510+95	ORTEGA CONTROL	4.69
			526+43	ASEGRA RD	4.92
			555+80	CO. YARD	0.00
			583+00	LAMBERT RD	0.00
			599+27	TORO CANYON	1.97
				SWP CREDIT (Warren Act Contract)	(229.34)
			TOTAL		0.00
			CITY OF SANTA BARBARA		
			CATER	INFLOW	1,384.86
			Gibraltar	PENSTOCK	(593.08)
			CATER	SO. FLOW	(795.03)
			Sheffield	SHEF.LIFT	146.13
				SWP (Warren Act)	(79.88)
				La Cumbre Mutual SWP (Warren Act)	(63.00)
			TOTAL		0.00
			SANTA YNEZ RIVER WATER CONSERVATION DISTRICT, ID#1		
			COUNTY PARK, ETC		3.22
			TOTAL		3.22
			BREAKDOWN OF DELIVERIES BY TYPE:		
			STATE WATER DELIVERED TO LAKE		1165.00
			STATE WATER TO SOUTH COAST (including from storage)		(1264.06)
			BISHOP RANCH DIVERSION		0.00
			METERED DIVERSION		3.22
SWP CREDIT (Warren Act Contract) (371.88)					
TOTAL		0.00			
Note: Meter reads were taken on 5/01/2017					

16-17 ENTITLEMENT

**CACHUMA OPERATION AND MAINTENANCE BOARD
WATER PRODUCTION AND WATER USE REPORT
FOR THE MONTH OF MAY 2017 AND THE WATER YEAR TO DATE**

(All in rounded Acre Feet)

	MONTH TOTAL					YTD TOTAL
WATER PRODUCTION:						
Cachuma Lake (Tec. Diversion)				1,396		6,395
Tecolote Tunnel Infiltration				27		676
Cachuma Lake (County Park)				3		15
State Water Diversion				1,264		5,594
Cachuma Diversion				3		1,198
So. Coast Storage gain/(loss)				45		46
Total Production				1,427		7,086
Total Deliveries				1,312		6,838
Unaccounted-for				115		248
% Unaccounted-for				8.05%		3.50%
WATER USE:						
	GWD	SB CITY	MWD	CVWD	SYRWCD I.D. #1	TOTAL
M&I	0	0	0	0	3	3
Agricultural	0	0	0	0	0	0
Total Unaccounted-for:	0	0	0	0	3	3
Unaccounted Reconciliation - Cachuma:						
M&I	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0
Unaccounted-for: Cachuma	0	0	0	0	0	0
Unaccounted-for: SWP Report	3	49	24	39	0	115
Total Unaccounted-for:	3	49	24	39	0	115
Total Cachuma Use for Month	0	0	0	0	3	3
Same Mo/prev. yr	5	24	276	114	2	421
M&I Yr to date	0	1,115	291	0	15	1,421
Ag. Yr to date	0	0	54	0	0	54
TOTAL YTD	0	1,115	345	0	15	1,475
USAGE % YTD	2.4%	27%	26%	0%	2.0%	13.9%
Previous Year/YTD	1,458	1,915	1,424	443	11	5,251
Evaporation #	10	0	0	0	0	10
Evaporation, YTD	103	124	33	0	6	266
Allocation ***	3,729	3,311	1,060	1,125	1,060	10,285
Carryover	561	1,239	377	0	24	2,201
Carryover Balances Spilled YTD	0	0	0	0	0	0
Surplus^^	0	0	0	0	0	0
State Water Exchange^	79	53	53	34	(219)	0
Transfers/Adjustment ****	0	0	0	0	0	0
Passthrough H2O**	0	0	0	0	0	0
TOTAL AVAILABLE	4,290	4,550	1,437	1,125	1,084	12,486
REMAINING CARRYOVER	458	0	0	0	3	460
TOTAL REMAINING BALANCE	4,266	3,364	1,113	1,159	844	10,745

*** Per USBR, 40% Allocation to Member Agencies, effective 4/1/17

** City is operating under pass through mode declared November 2008.

State Water Deliveries to Lake Cachuma for May (Total =1165 AF): MWD 258 AF; CVWD 168 AF
GWD 388 AF(Morehart 3 AF); City of S.B. 258 AF; and LaCumbre 86 AF: (Ratheon 4 AF)

^ Per SWP Exchange Agrmt GWD received 78 AF; MWD received 52 AF;

City of SB received 52 AF; and CVWD received 34 AF from ID#1 in May 2017.

Per USBR, evaporation is applied to Cachuma Carryover and SWP water through standard contract formula effective April 1, 2017.

CACHUMA OPERATION AND MAINTENANCE BOARD
WATER STORAGE REPORT

MONTH: **May 2017**

GLEN ANNIE RESERVOIR

Capacity at 385' elevation:	518	AF
Capacity at sill of intake at 334' elevation:	21	AF
Stage of Reservoir Elevation	335.00	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	544.70	Feet
Water in Storage	421.80	AF

ORTEGA RESERVOIR

Capacity at 460' elevation:	65	AF
Capacity at outlet at elevation 440':	0	AF
Stage of Reservoir Elevation	447.90	Feet
Water in Storage	22.39	AF

CARPINTERIA RESERVOIR

Capacity at 384' elevation:	45	AF
Capacity at outlet elevation 362':	0	AF
Stage of Reservoir Elevation	376.70	Feet
Water in Storage	27.27	AF

TOTAL STORAGE IN RESERVOIRS

Change in Storage	471.46	AF
	44.51	AF

CACHUMA RESERVOIR*

Capacity at 750' elevation:	184,121	AF
Capacity at sill of tunnel 660' elevation:	24,281	AF
Stage of Reservoir Elevation	715.03	Feet
Water in Storage	98,721	AF
Surface Area	1,953	
Evaporation	1,540.6	AF
Inflow	1,526.0	AF
Downstream Release WR8918	0.0	AF
Fish Release (Hilton Creek)	120.0	AF
Outlet	0.0	AF
Spill/Seismic Release	0	AF
State Water Project Water	1165.5	AF
Change in Storage	-313	AF
Tecolote Diversion	1,396.1	AF

Rainfall:	Month: 0.32	Season: 25.03	Percent of Normal: 125%
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SUMMARY: UNACCOUNTED-FOR WATER ALLOCATIONS

May 2017

	Lauro & Cater Loss (LE + CTPL)	Ortega Toe Drain (OTD)	Use Area 1	Use Area 2	Use Area 3	Use Area 4	Total (AF)	Rounded Total (AF)
GWD	0.0	0.0	2.6	0.7	0.0	0.0	3.4	3
City	2.2	0.0	4.3	41.3	1.1	0.0	48.9	49
MWD	0.6	0.5	1.1	10.9	1.7	9.3	24.1	24
CVWD	0.9	0.5	1.8	17.7	2.7	15.0	38.7	39
Total	3.7	1.0	9.9	70.6	5.5	24.3	115.0	115

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

Contract Year: 10/1/16 to: 9/30/17

Contract Entity: **Carpinteria Valley Water District**
 Last updated by C.O.M.B. 5/31/17

Month	Approved Schedule Current Year	Carryover Previous Year	TOTAL WATER USED			WATER USED CHARGED TO CARRYOVER BALANCES					WATER USED CHARGED TO CURRENT ALLOCATION		
			Acre-feet			Acre-feet			Allocation		Acre-feet		
			M & I	Agr	Total	Evap	Div	Total	M & I	Agr	M & I	Agr	Total
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov			0	0	0	0	0	0	0	0	0	0	0
Dec			0	0	0	0	0	0	0	0	0	0	0
Jan			0	0	0	0	0	0	0	0	0	0	0
Feb			0	0	0	0	0	0	0	0	0	0	0
Mar			0	0	0	0	0	0	0	0	0	0	0
Apr	1125		0	0	0	0	0	0	0	0	0	0	0
May			0	0	0	0	0	0	0	0	0	0	0
Jun													
Jul													
Aug													
Sep													
Total	1125	0	0	0	0	0	0	0	0	0	0	0	0

CONVERSIONS						SCHEDULE AND REVISIONS			SCHEDULE AND REVISIONS		
STORAGE WATER		CURRENT SCHEDULE				Total	M&I	AG	M&I	AG	Total
M & I	Agr	M & I	Agr	Month							
0	0	0	0	Begin Bal		0	0	0	0	0	0
0	0	0	0	Oct							
0	0	0	0	Nov							
0	0	0	0	Dec							
0	0	0	0	Jan							
0	0	0	0	Feb							
0	0	0	0	Mar							
0	0	0	0	Allocation							1,125
0	0	0	0	Apr							0
0	0	0	0	May	ID #1 Ex+34					34	34
0	0	0	0	Jun							
0	0	0	0	Jul							
0	0	0	0	Aug							
0	0	0	0	Sep							

REMAINING BALANCES											
Month	Total	M&I	AG	M&I	AG	Total					
Oct	0	0	0	0	0	0					
Nov	0	0	0	0	0	0					
Dec	0	0	0	0	0	0					
Jan	0	0	0	0	0	0					
Feb	0	0	0	0	0	0					
Mar	0	0	0	0	0	0					
Apr	0	0	0	0	0	0					
May	0	0	0	0	34	34					
Jun											
Jul											
Aug											
Sep											

TOTAL 1,159

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

Contract Year: 10/1/16 to: 9/30/17

Contract Entity: **Goleta Water District**
 Last updated by C.O.M.B. 5/31/17

Month	Approved Schedule Current Year	Carryover Previous Year	TOTAL WATER USED			WATER USED CHARGED TO CARRYOVER BALANCES			WATER USED CHARGED TO CURRENT ENTITLEMENT				
			Acre-feet			Acre-feet			Acre-feet				
			M & I	Agr	Total	Evap	Div	Total	Allocation		M & I	Agr	Total
Oct	0	561	0	0	0	37	0	37	0	37	0	0	0
Nov			0	0	0	29	0	29	0	29	0	0	0
Dec			0	0	0	9	0	9	0	9	0	0	0
Jan			0	0	0	2	0	2	0	2	0	0	0
Feb			0	0	0	5	0	5	0	5	0	0	0
Mar			0	0	0	4	0	4	0	5	0	0	0
Apr	3729		0	0	0	7	0	7	0	7	0	0	0
May			0	0	0	10	0	10	0	10	0	0	0
Jun													
Jul													
Aug													
Sep													
Total	3729	561	0	0	0	103	0	103	0	104	0	0	0

CONVERSIONS						SCHEDULES AND REVISIONS					
STORAGE WATER			CURRENT SCHEDULE			Total	M&I	AG	M&I	AG	Total
M & I	Agr	Month	M & I	Agr	Month	Begin Bal					
0	0	Oct	0	0	Oct		561	412	149	0	0
0	0	Nov	0	0	Nov					0	0
0	0	Dec	0	0	Dec					0	0
0	0	Jan	0	0	Jan					0	0
0	0	Feb	0	0	Feb					0	0
0	0	Mar	0	0	Mar					0	0
0	0	Allocation	0	0	Allocation						3,729
0	0	Apr	0	0	Apr	ID #1 Ex+1				1	1
0	0	May	0	0	May	ID #1 Ex+78				78	78
0	0	Jun	0	0	Jun					0	0
0	0	Jul	0	0	Jul					0	0
0	0	Aug	0	0	Aug					0	0
0	0	Sep	0	0	Sep					0	0

Month	REMAINING BALANCES					
	Total	M&I	AG	M&I	AG	Total
Oct	524	412	112	0	0	0
Nov	495	412	83	0	0	0
Dec	486	412	74	0	0	0
Jan	484	412	72	0	0	0
Feb	479	412	67	0	0	0
Mar	475	412	62	0	0	0
Apr	468	412	55	0	1	3,730
May	458	412	45	0	79	3,808
Jun						
Jul						
Aug						
Sep						

TOTAL 4,266

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

Contract Year: 10/1/16 to: 9/30/17

Contract Entity: **Montecito Water District**
 Last updated by C.O.M.B. 5/31/17

Month	Approved Schedule Current Year	Carryover Previous Year	TOTAL WATER USED Acre-feet			WATER USED CHARGED TO CARRYOVER BALANCES Acre-feet				WATER USED CHARGED TO CURRENT ENTITLEMENT Acre-feet			
			M & I	Agr	total	Evap	Div	Total	Allocation		M & I	Agr	Total
									M & I	Agr			
Oct	0	377	176	36	212	25	212	237	197	40	0	0	0
Nov			115	18	132	8	132	140	121	19	0	0	0
Dec			0	0	0	0	0	0	0	0	0	0	0
Jan			0	0	0	0	0	0	0	0	0	0	0
Feb			0	0	0	0	0	0	0	0	0	0	0
Mar			0	0	0	0	0	0	0	0	0	0	0
Apr	1060		0	0	0	0	0	0	0	0	0	0	0
May			0	0	0	0	0	0	0	0	0	0	0
Jun													
Jul													
Aug													
Sep													
Total	1060	377	291	54	344	33	344	377	318	59	0	0	0

CONVERSIONS						SCHEDULE AND REVISIONS					
STORAGE WATER		CURRENT SCHEDULE		Month		Total	M & I	Agr	M & I	Agr	Total
M & I	Agr	M & I	Agr								
-40	40	0	0	Oct	Begin Bal	377	377	0	0	0	0
0	0	0	0	Nov							0
0	0	0	0	Dec							0
0	0	0	0	Jan							0
0	0	0	0	Feb							0
0	0	0	0	Mar							0
0	0	0	0	Allocation							1,060
0	0	0	0	Apr	ID #1 Ex+1					1	1
0	0	0	0	May	ID #1 Ex+52					52	52
0	0	0	0	Jun							
0	0	0	0	Jul							
0	0	0	0	Aug							
0	0	0	0	Sep							

REMAINING BALANCES											
Month	Total	M & I	Agr	M & I	Agr	Total					
Oct	140	121	19	0	0	0					
Nov	0	0	0	0	0	0					
Dec	0	0	0	0	0	0					
Jan	0	0	0	0	0	0					
Feb	0	0	0	0	0	0					
Mar	0	0	0	0	0	0					
Apr	0	0	0	0	1	1,061					
May	0	0	0	0	53	1,113					
Jun											
Jul											
Aug											
Sep											

TOTAL

1,113

Item #16a

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

Contract Year: 10/1/16 to: 9/30/17

Contract Entity: **City of Santa Barbara**
 Last updated by C.O.M.B. 5/31/17

Month	Approved Schedule Current Year	Carryover Previous Year	TOTAL WATER USED			WATER USE CHARGED TO CARRYOVER BALANCES						WATER USE CHARGED TO CURRENT ENTITLEMENT			
			Acre-feet			Acre-feet			Allocation			Acre-feet			
			M & I	Agr	total	Evap	Div	Total	M & I	Agr	M & I	Agr	Total		
Oct	0	1239	474	0	474	81	474	555	555	0	0	0	0	0	0
Nov			393	0	393	38	393	431	431	0	0	0	0	0	0
Dec			243	0	243	5	243	248	248	0	0	0	0	0	0
Jan			0	0	0	0	0	0	0	0	0	0	0	0	0
Feb			0	0	0	0	0	0	0	0	0	0	0	0	0
Mar			0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	3311		0	0	0	0	0	0	0	0	0	0	0	0	0
May			0	0	0	0	0	0	0	0	0	0	0	0	0
Jun															
Jul															
Aug															
Sep															
Total	3311	1239	1,110	0	1,110	124	1,110	1,234	1,234	0	0	0	0	0	0

STORAGE WATER						CONVERSIONS		SCHEDULE AND REVISIONS					
CURRENT SCHEDULE		CURRENT SCHEDULE				Total	M&I	M&I		Total			
M & I	Agr	M & I	Agr	Month									
0	0	0	0	Begin Bal		1,239	1,239	0		0	0		
0	0	0	0	Oct						0	0		
0	0	0	0	Nov						0	0		
0	0	0	0	Dec						0	0		
0	0	0	0	Jan						0	0		
0	0	0	0	Feb						0	0		
0	0	0	0	Mar						0	0		
0	0	0	0	Allocation							3,311		
0	0	0	0	Apr	ID #1 Ex+1			1		1	1		
0	0	0	0	May	ID #1 Ex+52			52		52	52		
0	0	0	0	Jun									
0	0	0	0	Jul									
0	0	0	0	Aug									
0	0	0	0	Sep									

Month	REMAINING BALANCES					
	Total	M&I		M&I		Total
Oct	684	684	0	0		0
Nov	253	253	0	0		0
Dec	0	0	0	0		0
Jan	0	0	0	0		0
Feb	0	0	0	0		0
Mar	0	0	0	0		0
Apr	0	0	0	1		3,312
May	0	0	0	53		3,364
Jun						
Jul						
Aug						
Sep						

TOTAL 3,364

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

Contract Year: 10/1/16 to: 9/30/17

Contract Entity: **Santa Ynez River Water Conservation District, ID#1**
 Last updated by C.O.M.B. 5/31/17

Month	Approved Schedule		WATER USE CHARGED TO CARRYOVER BALANCES						WATER USE CHARGED TO CURRENT ENTITLEMENT				
	Current Year	Previous Year	TOTAL WATER USED			Acre-feet			Acre-feet				
			M & I	Agr	Total	Evap	Div	Total	M & I	Agr	Total		
Oct	0	24	2	0	2	2	2	3	3	0	0	0	0
Nov			2	0	2	1	2	3	3	0	0	0	0
Dec			3	0	3	1	3	4	4	0	0	0	0
Jan			1	0	1	1	1	2	2	0	0	0	0
Feb			1	0	1	1	1	2	2	0	0	0	0
Mar			2	0	2	1	2	3	3	0	0	0	0
Apr	1060		2	0	2	0	2	2	0	0	0	0	0
May			3	0	3	0	3	3	0	0	0	0	0
Jun													
Jul													
Aug													
Sep													
Total	1060	24	15	0	15	7	15	22	17	0	0	0	0

CONVERSIONS					
STORAGE WATER			CURRENT SCHEDULE		
M & I	Agr	Month	M & I	Agr	Month
0	0	Oct	0	0	Oct
0	0	Nov	0	0	Nov
0	0	Dec	0	0	Dec
0	0	Jan	0	0	Jan
0	0	Feb	0	0	Feb
0	0	Mar	0	0	Mar
0	0	Allocation	0	0	Allocation
0	0	Apr	93	(93)	Apr
0	0	May	-219	219	May
0	0	Jun	0	0	Jun
0	0	Jul	0	0	Jul
0	0	Aug	0	0	Aug
0	0	Sep	0	0	Sep

SCHEDULE AND REVISIONS						
	Total	M & I	Agr	M & I	Agr	Total
Begin Bal	24	24	0	0	0	0
Oct						0
Nov						0
Dec						0
Jan						0
Feb						0
Mar						0
Allocation						1,060
Apr ID #1 Ex+1					(3)	(3)
May ID #1 Ex+216				(93)	(123)	(216)
Jun						
Jul						
Aug						
Sep						

COUNTY PARKS		REMAINING BALANCES					
Month	A.F. Used	Total	M & I	Agr	M & I	Agr	Total
Oct	1.72	21	21	0	0	0	0
Nov	1.72	18	18	0	0	0	0
Dec	2.60	14	14	0	0	0	0
Jan	0.93	12	12	0	0	0	0
Feb	0.90	10	10	0	0	0	0
Mar	1.56	8	7	0	0	0	0
Apr	2.47	5	7	0	0	-3	1,057
May	3.22	2	7	0	0	-219	841
Jun							
Jul							
Aug							
Sep							

TOTAL 843

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

Contract Entity: **Santa Barbara Co. Water Agency**
 Last updated by **C.O.M.B. 5/31/17**

Contract Year: 10/1/16 to: 9/30/17

Month	Approved Schedule Current Year	Carryover Previous Year	TOTAL WATER USED				WATER USED CHARGED TO CARRYOVER BALANCES					WATER USED CHARGED TO CURRENT ENTITLEMENT		
			Acre-feet				Acre-feet			Allocation		Acre-feet		
			Used %	M & I	Agr	Total	Evap	Div	Total	M & I	Agr	M & I	Agr	Total
Oct	0	2,201	37.8%	652	36	688	145	688	832	755	77	0	0	0
Nov			65.2%	509	18	527	76	527	603	555	48	0	0	0
Dec			11.84%	246	0	246	15	246	261	252	9	0	0	0
Jan			0.18%	1	0	1	3	1	4	2	2	0	0	0
Feb			0.32%	1	0	1	6	1	7	2	5	0	0	0
Mar			0.30%	2	0	2	5	2	7	3	5	0	0	0
Apr	10,285		0.43%	2	0	2	7	2	9	0	7	0	0	0
May			0.59%	3	0	3	10	3	13	0	10	0	0	0
Jun														
Jul														
Aug														
Sep														
Total	10,285	2201	116.67%	1,416	54	1,470	266	1,470	1,736	1,569	163	0	0	0

CONVERSIONS					
STORAGE WATER			CURRENT SCHEDULE		
M & I	Agr		M & I	Agr	Month
-40	40		0	0	Oct
0	0		0	0	Nov
0	0		0	0	Dec
0	0		0	0	Jan
0	0		0	0	Feb
0	0		0	0	Mar
0	0		0	0	Allocation
0	0		0	0	Apr
0	0		93	-93	May
0	0		-219	219	Jun
0	0		0	0	Jul
0	0		0	0	Aug
0	0		0	0	Sep

SCHEDULE AND REVISIONS						
	Total	M & I	Agr	M & I	Agr	Total
Begin Bal	2,201	2,052	149	0	0	0
Oct				0	0	0
Nov				0	0	0
Dec				0	0	0
Jan				0	0	0
Feb				0	0	0
Mar				0	0	0
Allocation				0	0	10,285
Apr				1	(1)	0
May				(41)	41	0
Jun						
Jul						
Aug						
Sep						

COUNTY PARKS							
Month	A.F. Used	Total	M & I	Agr	M & I	Agr	Total
Oct	1.72	1,369	1,257	112	0	0	0
Nov	1.72	766	683	83	0	0	0
Dec	2.60	500	426	74	0	0	0
Jan	0.93	496	424	72	0	0	0
Feb	0.90	489	422	67	0	0	0
Mar	1.56	483	419	62	0	0	0
Apr	2.47	473	419	55	1	-1	10,285
May	3.22	460	419	45	53	-53	10,285
Jun							
Jul							
Aug							
Sep							

TOTAL 10,745

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

MONTH	DELVRD TO LAKE	Delvd to Lake	CVWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	MWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	S.B. Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	GWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	LCMWC Stored	Delvd to SC	Evap / Spill	Delvd to Lake	RSYS Stored	Delvd to SC	Delvd to Lake	MLC Stored	Delvd to SC		
																																2016	
Bal. Frwd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	0	0	0	0	0	0	0
January	653	54	38	16	0	0	0	0	0	0	0	367	0	367	0	0	200	136	64	0	0	30	160	10	0	0	0	0	0	2	0	2	
February	693	0	36	0	0	2	125	0	125	0	0	366	0	366	0	0	200	130	197	0	8	0	153	6	1	0	0	0	2	0	2		
March	965	0	33	0	0	3	0	0	0	0	0	367	0	367	0	0	596	523	192	1	10	0	138	14	0	0	0	2	0	2			
April	1283	0	0	29	0	4	0	0	0	0	0	677	178	476	24	0	600	696	357	5	65	0	87	49	2	3	0	3	0	3			
May	1309	0	0	0	0	0	0	0	0	0	0	522	155	492	24	28	783	958	405	5	111	0	35	44	8	1	0	1	3	0	3		
June	1261	0	0	0	0	0	0	0	0	0	0	466	112	463	26	20	700	982	551	4	121	85	0	85	0	5	5	5	0	5			
July	1342	100	0	100	0	0	0	0	0	0	0	541	75	534	28	17	600	923	513	5	141	91	52	39	0	3	0	3	7	0	7		
August	1372	135	135	0	0	0	0	0	0	0	0	549	615	0	0	9	600	869	541	4	109	80	51	75	6	3	0	3	5	0	5		
September	1310	225	246	96	4	14	250	0	240	10	0	311	1035	0	0	62	460	517	552	2	87	60	55	51	5	0	0	4	0	4			
October	1400	180	291	112	7	16	350	268	77	5	0	321	1289	0	0	68	511	438	554	2	34	35	70	17	3	0	0	0	3	0	3		
November	1369	150	401	24	0	16	328	533	48	0	15	352	1598	0	0	71	490	529	347	0	24	45	60	53	3	2	0	2	2	0	2		
December	1470	111	504	0	1	7	403	809	112	5	10	603	2098	84	2	28	338	747	99	1	10	0	0	21	1	12	11	1.42	3	1	2		
Total	14427	955	504	377	4	62	1456	809	602	20	25	5442	2098	3148	104	302	6078	747	4374	29	719	426	0	465	28	29	11	18.42	41	1	40		

Notes:

September 2016 - GWD transferred 170.64 AF SWP water to City of SB per overlap agreement

November 2016 - GWD transferred 28.6 AF SWP water to City of SB per overlap agreement (monthly reconciliation)

December 2016 - GWD transferred 10.12 AF SWP water to City of SB per overlap agreement (monthly reconciliation)

MONTH	DELVRD TO LAKE	Delvd to Lake	CVWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	MWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	S.B. Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	GWD Stored	Delvd to SC	Loss	Evap / Spill	Delvd to Lake	LCMWC Stored	Delvd to SC	Evap / Spill	Delvd to Lake	RSYS Stored	Delvd to SC	Delvd to Lake	MLC Stored	Delvd to SC	
																																2017
Bal. Frwd	0	0	504	0	0	0	0	809	0	0	0	0	2098	0	0	0	0	747	0	0	0	0	0	0	0	0	11	0	0	1	0	
January	1437	219	720	0	1	2	357	1102	58	3	3	357	2179	273	4	8	467	1144	58	0	3	35	23	10	2	0	11	0	2	1	2	
February	1250	196	809	96	4	7	296	1361	25	2	10	296	2252	197	5	21	445	1528	50	0	11	15	7	29	2	0	11	0	2	1	2	
March	990	135	753	180	4	7	226	1498	76	2	12	226	2340	112	7	20	339	1664	190	0	13	59	33	34	0	4	11	4	1	1	1	
April	634	96	686	134	17	11	144	1417	180	23	22	144	2218	210	21	35	217	1286	567	3	25	29	6	55	1	3	11	3	1	1	1	
May	1165	168	429	372	39	14	258	1392	229	24	29	258	2301	80	49	46	388	1124	520	3	27	86	29	63	0	4	12	3	3	0	4	
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5476	814	429	782	65	41	1281	1392	568	54	76	1281	2301	872	86	129	1856	1124	1384	6	78	224	29	190	5	11	12	10	9	0	10	

Notes:

Total SC Storage at month end (AF): 5247

Total Storage at month end (AF): 5288

January 2017 - GWD transferred 10.18 AF SWP water to City of SB per overlap agreement (monthly reconciliation)(USBR Daily Ops Reservoir storage 1/31/2017 - 24,867 AF)



CACHUMA DAILY OPERATIONS

Month & Year: June 2017

Time of Observations: 0830 Evaporation Pan Factor: 82%

Day	Beginning Storage: 98,721			Surface Area acres	Rainfall inches	Rainfall acre-feet	Evap. inches	Evap. acre-feet	CCWA Inflow acre-feet	Releases					Computed Inflow acre-feet	
	Elevation ft	Storage acre-feet	Change acre-feet							S. Coast acre-feet	Hilton acre-feet	WR8918 acre-feet	Outlet acre-feet	Spillway acre-feet		
1	715.00	98663	-59	1952			0.462	61.6	36.9	63.7	3.0				32.7	
2	714.98	98624	-39	1952			0.451	60.2	36.6	70.0	4.0				58.4	
3	714.95	98565	-59	1951			0.501	66.8	31.0	27.5	4.0				8.6	
4	714.93	98526	-39	1951			0.450	60.0	30.6	95.2	4.0				89.4	
5	714.91	98487	-39	1950			0.460	61.3	35.5	48.8	4.0				39.5	
6	714.89	98448	-39	1950			0.463	61.7	36.9	48.5	4.0				38.1	
7	714.86	98389	-59	1949			0.363	48.3	36.3	55.9	4.0				13.2	
8	714.84	98350	-39	1949			0.384	51.1	31.0	57.1	4.0				42.1	
9	714.81	98291	-59	1948			0.439	58.4	31.0	55.4	4.0				28.1	
10	714.78	98232	-59	1947			0.411	54.7	30.9	65.2	4.0				34.3	
11	714.74	98154	-78	1946			0.385	51.2	34.4	64.5	4.0				7.0	
12	714.70	98076	-78	1945			0.347	46.1	35.3	49.6	4.0				-13.9	
13	714.68	98037	-39	1945			0.366	48.6	35.3	62.1	4.0				40.3	
14	714.65	97978	-59	1944			0.352	46.8	35.3	73.3	4.0				30.0	
15	714.61	97900	-78	1943			0.397	52.7	35.3	101.9	4.0				45.3	
16	714.55	97784	-116	1941			0.453	60.1	31.9	44.0	4.0				-39.7	
17	714.51	97707	-77	1940			0.449	59.5	30.9	179.5	3.0				133.9	
18	714.49	97668	-39	1940			0.472	62.6	30.9	52.6	4.0				49.6	
19	714.48	97649	-19	1940			0.536	71.0	30.8	34.5	4.0				59.4	
20	714.45	97591	-58	1939			0.604	80.0	30.9	41.0	4.0				36.2	
21	714.41	97513	-77	1938			0.607	80.4	35.1	63.4	4.0				35.4	
22	714.38	97455	-58	1937			0.526	69.6	35.1	79.9	4.0				60.5	
23																
24																
25																
26																
27																
28																
29																
30																
TOTALS			-1266		0.00	0.0	9.878	1,312.9	0.0	737.9	0.0	1,433.6	86.0	0.0	0.0	828.5

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: **May 2017****

Cachuma Lake Recreation Area Launch Data -- May 2017		
Inspection Data		
Total Vessels entering Park		
Total Vessels launched	188	
Total Vessels Quarantined	14	
Returning with Boat Launch Tag	118	63%
New: Removed from Quarantine	*	
Kayak/Canoe: Inspected, launched	70	37%
4-stroke Engines	*	
2-strokes, w/CARB star ratings	*	
2-strokes, NO emissions ratings	*	
Quarantine Data		
Total Vessels Quarantined	14	
Quarantined 7 days	*	
Quarantined 14 days	*	
Quarantined 30 days	14	
Quarantine Cause		
Water on vessel*	*	
Debris on hull*	*	
Plug installed*	*	
From infected county	4	
Ballast tanks*	*	
Boat longer than 24 feet*	*	
Out-of-state	0	
Unspecified*	*	
Mandatory Quarantine All Untagged Boats	14	
Demographic Data		
Quarantined from infected county	4	
Quarantined from SB County	10	
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 Marina, Santa Barbara County, California

Inspection Date and Time: 2017.05.31; 12:00 – 14:00 PDT

Method: 4 PVC/Cement Sampling Stations; 52 linear feet of line

Surveyors: Rosey Bishop, John Viggianelli (SBCO Parks)

Lake elevation: Max feet: 753.00, current: 715.04; Max acre-feet: 193,305, current: 98,741;

Current capacity: 51.10%