LAS VIRGENES MUNICIPAL WATER DISTRICT

4232 Las Virgenes Road, Calabasas, CA 91302

AGENDA
REGULAR MEETING

Members of the public wishing to address the Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received. A live webcast of the meeting will be available at LVMWD.com. Also, a web-based version of the speaker card is available for those who would like to submit written comments electronically or request to make public comment by telephone during the meeting.

The Public Comments agenda item is presented to allow the public to address the Board on matters not on the agenda. The public may also present comments on matters on the agenda; speakers for agendized items will be recognized at the time the item is called up for discussion.

Materials prepared by the District in connection with the subject matter on the agenda are available for public inspection at 4232 Las Virgenes Road, Calabasas, CA 91302. Materials prepared by the District and distributed to the Board during this meeting are available for public inspection at the meeting or as soon thereafter as possible. Materials presented to the Board by the public will be maintained as part of the records of these proceedings and are available upon request to the Clerk of the Board.

9:00 AM April 9, 2019

PLEDGE OF ALLEGIANCE

1 **CALL TO ORDER AND ROLL CALL**

2 **APPROVAL OF AGENDA**

3 **PUBLIC COMMENTS**

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 **CONSENT CALENDAR**

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

A **List of Demands: April 9, 2019 (Pg. 5)**
Ratify

B **Minutes: Special Meeting of March 26, 2019 (Pg. 34)**
Approve

CONSENT CALENDAR - Separate Action Items

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

C **Directors' Per Diem: March 2019 (Pg. 44)**
Ratify

5 **ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS**

A **Legislative and Regulatory Updates**

B **Water Supply Conditions Update (Pg. 50)**

6 **TREASURER**

7 **BOARD OF DIRECTORS**

A **Backfill Funding for Paradise Irrigation District: Letter of Support (Pg. 52)**
Authorize the Board President to sign a letter of support for one-time financial assistance from the State's General Fund, in the amount of $21,693,203, to support the recovery of Paradise Irrigation District from the devastating Camp Fire.

B **Qualifying Events for Directors' Per Diem Compensation (Pg. 55)**
Pass, approve and adopt proposed Resolution No. 2549, adding events sponsored by the California Special Districts Association as qualifying events for directors' per diem compensation.

RESOLUTION NO. 2549

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT AMENDING RESOLUTION NO. 2468 (ADMINISTRATIVE CODE) AS IT RELATES TO QUALIFYING EVENTS FOR DIRECTORS' PER DIEM COMPENSATION

(Reference is hereby made to Resolution No. 2549 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

C **Board Member Life Insurance Coverage Limits: Consideration of Options (Pg. 60)**

Consider the options and associated costs to increase the life insurance coverage for Board Members and provide direction to staff on any proposed changes to the coverage limits.

8 **GENERAL MANAGER**

A **Proposed Organizational Changes: Approval (Pg. 62)**

Approve the following changes to the District's table of organization, resulting in the net addition of one full-time-equivalent position:

- Replacement of an existing, vacant Water System/Facilities Manager position (Salary Grade E122) with a Water Systems Manager/Engineer position (Salary Grade E114/E122) and a Facilities Manager/Engineer position (Salary Grade E114/E122);
- Reclassification of an existing, vacant Water Treatment Plant Operator II position (Salary Grade 46) to a new, flexible series Water Treatment Plant Operator I/II/III position (Salary Grade 32/42/64);
- Reclassification of an existing, vacant Water Reclamation Operator I/II position (Salary Grade 42/62) to a new flexible series Compost Worker/Operator position (Salary Grade 22/36);
- Replacement of an existing, vacant Account Clerk I/II position (Salary Grade 18/27) with an Accountant position (Salary Grade M66);
- Replacement of an existing, vacant Receptionist/Office Assistant position (Salary Grade 22) with a new Customer Service Office Supervisor position (Salary Grade M85);
- Reclassification of an existing, vacant Environmental Analyst I/II position (Salary Grade M63/M77) to a Resource Conservation Specialist I/II position (Salary Grade 32/46); and
- Retitling of an existing Water Conservation Coordinator position (Salary Grade M85) to a Resource Conservation Supervisor position (Salary Grade M85).

9 **FACILITIES AND OPERATIONS**

A **2018 Bioassessment Monitoring Report: Approval of Purchase Order (Pg. 68)**

Authorize the General Manager to approve a purchase order to Aquatic Bioassay Consulting Laboratories, Inc., in the amount of $48,866, for the 2018 Bioassessment Monitoring Report.

B **Award of Fiscal Year 2018-19 Vehicle Replacement Program (Pg. 129)**

Authorize the General Manager to issue purchase orders to Fritts Ford of

Riverside, in the aggregate amount of $165,586.70, for one Ford F350 4X4 regular cab utility bed service truck, one Ford F150 2X4 regular cab eight-foot bed truck, one Ford Transit 10-passenger van, one Ford Transit Connect seven-passenger van and one Ford Fusion Enegri Titanium electric hybrid sedan; and Pacific Trailer, in the amount of $5,299.00, for one boat trailer that will adapt to two accommodate two existing boats.

10 **NON-ACTION ITEMS**

A **Organization Reports**

B **Director's Reports on Outside Meetings**

C **General Manager Reports**

(1) General Business

(2) Follow-Up Items

D **Director's Comments**

11 **FUTURE AGENDA ITEMS**

12 **PUBLIC COMMENTS**

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13 **CLOSED SESSION**

A **Threat to Public Services or Facilities (Government Code Section 54957(a)):**

Consultation with Andrew Spear, Acting Security Operations Manager

14 **OPEN SESSION AND ADJOURNMENT**

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

LAS VIRGENES MUNICIPAL WATER DISTRICT

To: LYNDA LO-HILL, TREASURER

Payments for Board Meeting of : April 9, 2019

Deputy Treasurer has verified that all checks and wire transfers were issued in conformance with LVMWD Administrative Code Section 2-6.203.

Wells Fargo Bank A/C No. 4806-994448

Checks Nos. 81556 through 81673 were issued in the total amount of			**$**	**593,943.02**
Payments through wire transfers as follows:				
3/29/2019	Metropolitian Water District	Payment for water deliveries in the month of January 2019	$	1,604,990.95
		Sub-Total Wires	**$**	**1,604,990.95**
		Total Payments	**$**	**2,198,933.97**

(Reference is hereby to these demands on file in the District's Check Register and by this reference the same is incorporated herein and made a part hereof.)

CHECK LISTING FOR BOARD MEETING
04/09/19

Company Name	Company No.	Check No. 81556 thru 81634 03/26/19 Amount	Check No. 81635 thru 81673 04/02/19 Amount	Total
Potable Water Operations	101	72,354.52	10,541.24	82,895.76
Recycled Water Operations	102			-
Sanitation Operations	130	170.00	475.04	645.04
Potable Water Construction	201	1,970.50	809.40	2,779.90
Water Conservation Construction	203			-
Sani- Construction	230			-
Potable Water Replacement	301	9,948.24	1,612.75	11,560.99
Reclaimed Water Replace	302			-
Sanitation Replacement	330			-
Internal Service	701	73,340.61	59,175.46	132,516.07
JPA Operations	751	77,020.74	59,591.09	136,611.83
JPA Construction	752			-
JPA Replacement	754	90,797.30	136,136.13	226,933.43
				-
	Total Printed	**325,601.91**	**268,341.11**	**593,943.02**
Voided Checks/payment stopped:				
				-
	Net Total	**325,601.91**	**268,341.11**	**593,943.02**

MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
700 North Alameda Street
Los Angeles, CA, 90012-2944

INVOICE

Billed To:

Las Virgenes Municipal Water District

Service Address

4232 Las Virgenes Road
Calabasas, CA 91302

January 2019	Page No. 1 of 1
Mailed: 02/08/2019	Due Date: 03/29/2019
Invoice Number: 9619	Revision: 0

NOTICE

The MWD Administrative Code Section 4507 and 4508 require that payment must be made in "**Good Funds**" by the due date or the payment will be considered delinquent and an additional charge shall be assessed.

DELIVERIES	Volume (AF)
Total Water Treated Delivered	1,390.2
Total Water Untreated Delivered	

SALES	Type	Volume (AF)	Rate ($ /AF)	Total ($)
Full Service	Tier 1 Supply Rate	1,390.2	$209.00	$290,551.80
	System Access Rate	1,390.2	$326.00	$453,205.20
	Water Stewardship Rate	1,390.2	$69.00	$95,923.80
	System Power Rate	1,390.2	$127.00	$176,555.40
	Treatment Surcharge	1,390.2	$319.00	$443,473.80
	SUBTOTAL			$1,459,710.00

OTHER CHARGES AND CREDITS	Rate ($ /AF)
Capacity Charge(Payment Schedule: M)	$32,465.00
Readiness To Serve Charge(Payment Schedule: M)	$112,815.95
SUBTOTAL	$145,280.95

ADDITIONAL INFORMATION	Volume (AF)	Tier1 %	Peak Day	Flow (CFS)
Capacity Charge			7/26/2016	45.3
Purchase Order Firm Delivery To Date (Jan 2015 to Dec 2024)	80,181.8			
Tier 1 Annual Limit (For Current Calendar Year)	24,359.0			
Tier 1 YTD Deliveries (For Current Calendar Year)	1,390.2	5.7		
Tier 1 Current Month Deliveries	1,390.2			
Purchase Order Commitment (Jan 2015 to Dec 2024)	162,390.0			

	Volume AF	Amount Now Due
INVOICE TOTAL	**1,390.2**	**$1,604,990.95**

Note: Amount Due is based on highlighted fields

PAID
Wired @ 3/29/19
SC

Approved for Payment
David W. Pedersen, P.E. 03/11/19

Approved for Payment
David R. Lippman 3/11/19

Batch Number - 270355

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
81556	03/26/19	18965	ePOWER NETWORK, INC.	EATON 9PX UPS	PV	163298	001	00701	2,930.15	27319
				FREIGHT-EATON 9PX UPS	PV	163299	001	00701	50.00	27343
				Payment Amount					2,980.15	
81557	03/26/19	3077	AIRGAS USA, LLC	FEB'19 CYLINDER RENT	PV	163131	001	00701	1,010.85	9960415406
				SFTY GLASSES	PV	163142	001	00701	374.49	9086130807
		Alt Payee	6658 AIRGAS USA, LLC P. O. BOX 7423 PASADENA CA 91109-7423							
				Payment Amount					1,385.34	
81558	03/26/19	9631	AT&T LONG DISTANCE	LONG DIST 1/1~2/1/19	PV	163319	001	00701	8.27	806368136/030 419
				LONG DIST 1/1~2/1/19	PV	163319	002	00701	788.15	806368136/030 419
				LONG DIST 1/1~2/1/19	PV	163319	003	00701	1.32	806368136/030 419
				Payment Amount					797.74	
81559	03/26/19	21056	BATTERY SYSTEMS INC	BTTRY-#816,72 2 & 200	PV	163291	001	00701	415.29	4822832
				Payment Amount					415.29	
81560	03/26/19	20491	BEST BEST & KRIEGER LLP	P/E 2/28 FED LBBY	PV	163301	001	00701	5,000.00	844927
				P/E 2/28 ST LBBY	PV	163302	001	00701	5,000.00	844928
				Payment Amount					10,000.00	
81561	03/26/19	21235	PHILIPPE/STEPHANIE BRIEST	RFND BAL-CLOSED A/C	PV	163228	001	00101	163.41	074541
				Payment Amount					163.41	
81562	03/26/19	18129	CA STATE UNIVERSITY, CHANNEL ISLANDS	CAREER FAIR 4/17/19	PV	163287	001	00701	275.00	506569
∞				Payment Amount					275.00	
81563	03/26/19	18533	CALIFORNIA LUTHERAN UNIVERSITY (CLU)	ADV SUPV TRNG-MM/JK	PV	163281	001	00701	790.00	LVMWD 801

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				Payment Amount					790.00	
81564	03/26/19	20872	CANDU GRAPHICS	PRNTG-DOCS/PR OCS AIR	PV	163286	001	00701	1,482.63	75551
				Payment Amount					1,482.63	
81565	03/26/19	21236	DALE CAPEWELL	RFND BAL-CLOSED A/C	PV	163229	001	00101	250.00	047870
				Payment Amount					250.00	
81566	03/26/19	21141	CAVANAUGH & ASSOCIATES, P.A.	VLDTN BILLNG SYS-FEB'19	PV	163240	001	00701	9,975.00	WE.18.111-3
				Payment Amount					9,975.00	
81567	03/26/19	18860	CHEMTREAT, INC.	MAR'19 WTR TRMNT	PV	163289	001	00701	615.88	2749851
				Payment Amount					615.88	
81568	03/26/19	21237	BEVERLY COLLIER	RFND BAL-CLOSED A/C	PV	163230	001	00101	13.36	005454
				Payment Amount					13.36	
81569	03/26/19	4586	CONSOLIDATED ELECTRICAL DISTRIBUTORS	POLY PULL LINE	PV	163296	001	00701	376.55	9009-787218
				Payment Amount					376.55	
81570	03/26/19	20643	CSI SERVICES, INC.	CLRF#4&5 COATING INSPEC	PV	163126	001	00701	4,560.00	8836
				Payment Amount					4,560.00	
81571	03/26/19	21238	ALEXANDER DAVIS	RFND BAL-CLOSED A/C	PV	163231	001	00101	578.27	072381
				Payment Amount					578.27	
81572	03/26/19	19033	DENOVO VENTURES, LLC	APR'19 DIST RCVRY	PV	163124	001	00701	4,592.00	58102
				Payment Amount					4,592.00	
81573	03/26/19	11330	DIAL SECURITY	ID CARD PRINTER	PV	163284	001	00701	2,232.71	346173
				Payment Amount					2,232.71	
81574	03/26/19	10396	DLT SOLUTIONS, LLC	AUTOCAD 3/4/19~3/3/20	PV	163129	001	00701	2,159.92	SI424596
				Payment Amount					2,159.92	

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
81575	03/26/19	4943	ENVICOM CORPORATION	P/E 2/28 DRLK WTR TNK	PV	163305	001	00701	3,447.93	00014757
				SLR GEN MND 1/26~2/25/19	PV	163306	001	00701	973.35	00014751
				Payment Amount					4,421.28	
81576	03/26/19	2654	FAMCON PIPE	PIPE	PV	163144	001	00701	4,678.28	216738
				CLA-VAL	PV	163154	001	00701	3,812.05	216825
				FTTNGS/APPURTENCES	PV	163155	001	00701	6,816.88	216654/C216816
				NPPLS/BSHNGS/ADPTRS	PV	163156	001	00701	2,416.67	216739
				ADAPTERS	PV	163158	001	00701	219.00	216739
				Payment Amount					17,942.88	
81577	03/26/19	18815	FASTENAL COMPANY	FASTENERS & SPPLY-RLV	PV	163265	001	00751	146.27	CACHA32684
				FASTENERS & SPPLY-TAPIA	PV	163266	001	00751	367.79	CACHA32702
	Alt Payee	18835	FASTENAL COMPANY P. O. BOX 1286 WINONA MN 55987-1286							
				Payment Amount					514.06	
81578	03/26/19	2655	FERGUSON ENTERPRISES	AIR VACS	PV	163143	001	00701	7,344.11	0653307-1
	Alt Payee	3207	FERGUSON ENTERPRISES, INC. #1083 P. O. BOX 740827 LOS ANGELES CA 90074-0827							
				Payment Amount					7,344.11	
81579	03/26/19	2660	FISHER SCIENTIFIC	METHANOL/HEXANE	PV	163277	001	00701	493.23	4473229
	Alt Payee	3202	FISHER SCIENTIFIC FILE #50129 LOS ANGELES CA 90074-0129							
				Payment Amount					493.23	
81580	03/26/19	9347	GLEN GERSON	RFND BAL-CLOSED A/C	PV	163226	001	00101	150.00	052965
				Payment Amount					150.00	
81581	03/26/19	21187	CASON GILMER	EXP-GRD II RVW CRS 3/7~8	PV	163236	001	00701	282.88	030819
				Payment Amount					282.88	

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
81582	03/26/19	19548	GRM INFORMATION MANAGEMENT SERVICES-CA	MAR'19 RECORDS STORAGE	PV	163127	001	00701	118.64	0376025
				MAR'19 RECORDS STORAGE	PV	163128	001	00701	310.92	0376026
				Payment Amount					429.56	
81583	03/26/19	9470	LORI GUNASEKERA	RFND BAL-CLOSED A/C	PV	163227	001	00101	50.00	044154
				Payment Amount					50.00	
81584	03/26/19	20168	JOSEPHINE GUZMAN	MLG-ATHENIAN DIALOGUE 3/16	PV	163318	001	00701	48.02	031819
				Payment Amount					48.02	
81585	03/26/19	7421	HAMNER, JEWELL AND ASSOCIATES	TWN LK 1/16~2/15/19	PV	163307	001	00701	1,970.50	10072
				Payment Amount					1,970.50	
81586	03/26/19	4525	HARRINGTON INDUSTRIAL PLASTICS INC.	PIPE FITTINGS	PV	163267	001	00751	276.19	005C3490
		Alt Payee 7132	HARRINGTON INDUSTRIAL PLASTICS LLC P. O. BOX 5128 CHINO CA 91708-5128							
				Payment Amount					276.19	
81587	03/26/19	21239	BERT HENSLEY	RFND BAL-CLOSED A/C	PV	163232	001	00101	101.60	071983
				Payment Amount					101.60	
81588	03/26/19	10102	INFOSEND INC.	1/31~2/28/19 BILL/PMT MLNG	PV	163308	001	00701	9,050.35	150320
				Payment Amount					9,050.35	
81589	03/26/19	20883	JEFF McNEAL PRODUCTIONS	ANL FEE ON-HOLD MSG'19	PV	163283	001	00701	828.00	73152
				Payment Amount					828.00	
81590	03/26/19	4860	JWC ENVIRONMENTAL	MUFFIN MONSTER UPGD	PV	163259	001	00701	13,025.35	96127
				MUFFIN	PV	163259	002	00701	312.86	96127

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				MONSTER UPGD						
				Payment Amount					13,338.21	
81591	03/26/19	20584	KAMBRIAN CORPORATION	2 IPADS/KEYBOARD	PV	163285	001	00701	1,800.06	KINV2649
				Payment Amount					1,800.06	
81592	03/26/19	2611	LA DWP	RECTIFIER 2/13~3/15/19	PV	163315	001	00101	40.36	503850/031819
				TWN LKS P/S 2/12~3/15/19	PV	163316	001	00101	3,026.99	875698/031519
				RECTIFIER 2/12~3/14/19	PV	163317	001	00101	45.41	017698/031519
				Payment Amount					3,112.76	
81593	03/26/19	3352	LAS VIRGENES MUNICIPAL WATER DISTRICT	EQS TANK 1/29~2/26/19	PV	163208	001	00101	47.87	0896/030519
				RWPS 1/23~2/26/19	PV	163209	001	00701	129.95	2645/030619
				BD#8/RECL 1/23~2/26/19	PV	163210	001	00701	190.10	2646/030619
				BD#8/RW 1/23~2/26/19	PV	163211	001	00701	126.87	2652/030619
				BD#7/RW 1/23~2/26/19	PV	163212	001	00701	194.39	2655/030619
				IND HILLS 1/24~2/27/19	PV	163213	001	00751	25.01	0558/030619
				MORRSN P/S 1/24~2/27/19	PV	163214	001	00751	25.01	0331/030619
				WLK FLT 1/30~3/1/19	PV	163215	001	00101	149.25	0907/030619
				WLK FLT 1/30~3/1/19	PV	163216	001	00101	299.49	0909/030619
				Payment Amount					1,187.94	
81594	03/26/19	17295	MAILFINANCE	MAIL MCHN PMT 3/9~4/8/19	PV	163243	001	00701	325.50	N7621149
				Payment Amount					325.50	
81595	03/26/19	21241	SARABJIT MANGAT	RFND BAL-CLOSED A/C	PV	163234	001	00101	35.79	065652
				Payment Amount					35.79	

Batch Number - 270355

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
81596	03/26/19	21242	MELISSA MARKS	RFND BAL-CLOSED A/C	PV	163235	001	00101	114.05	071061
				Payment Amount					114.05	
81597	03/26/19	2814	MCMASTER-CARR SUPPLY CO	THREADED ROD,NUTS,TAPS	PV	163262	001	00751	450.60	88222391
				HEX NUTS	PV	163263	001	00751	12.64	88264271
				DOOR HOLDERS	PV	163264	001	00701	54.51	88523346
		Alt Payee 3197	MC MASTER-CARR P. O. BOX 7690 CHICAGO IL 60680-7690							
				Payment Amount					517.75	
81598	03/26/19	21243	DENNIS/JANE MCCOY	RFND BAL-CLOSED A/C	PV	163217	001	00101	1,804.16	013185
				Payment Amount					1,804.16	
81599	03/26/19	20890	MONTROSE AIR QUALITY SERVICES, LLC	2018 SCAQMD AER RPT	PV	163304	001	00701	1,200.00	INV1154771
				Payment Amount					1,200.00	
81600	03/26/19	21245	ROBERT MORELOCK	RFND BAL-CLOSED A/C	PV	163219	001	00101	92.26	055710
				Payment Amount					92.26	
81601	03/26/19	2839	MOTION INDUSTRIES, INC.	OIL SEALS	PV	163261	001	00701	40.12	CA22-640692
		Alt Payee 10317	MOTION INDUSTRIES INC. FILE 749376 LOS ANGELES CA 90074							
				Payment Amount					40.12	
81602	03/26/19	21244	DARLENE MOWRY	RFND BAL-CLOSED A/C	PV	163218	001	00101	401.33	072600
				Payment Amount					401.33	
81603	03/26/19	2842	NAPA AUTO PARTS	SOLINOID BUZZER	PV	163271	001	00701	92.21	4206-908263
				Payment Amount					92.21	
81604	03/26/19	20772	NATIONAL PAYMENT CORP.	FEB'19 ELECT PAYSTUBS	PV	163125	001	00701	69.55	773102

Batch Number - 270355

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				Payment Amount					69.55	
81605	03/26/19	2846	NATIONAL PLANT SERVICES INC	CLEAR WTR DEBRIS-TAPIA	PV	163303	001	00701	2,800.00	14603
				Payment Amount					2,800.00	
81606	03/26/19	16754	NATURAL SURROUNDINGS	MAR'19 FLORAL MAINT	PV	163242	001	00701	235.00	7139
				Payment Amount					235.00	
81607	03/26/19	16372	OLIN CORPORATION - CHLOR ALKALI	4,910 GAL HYPOCHLORITE	PV	163021	001	00701	3,955.34	2644351
				4,938 GAL HYPOCHLORITE	PV	163022	001	00701	3,977.90	2646491
				4,876 GAL HYPOCHLORITE	PV	163023	001	00701	4,036.97	2647028
				4,826 GAL HYPOCHLORITE	PV	163024	001	00701	3,887.67	2649063
	Alt Payee	16373	OLIN CORPORATION - CHLOR ALKALI P.O. BOX 402766 ATLANTA GA 30384-2766							
				Payment Amount					15,857.88	
81608	03/26/19	21246	RANDY/YULIANA OLSEN	RFND BAL-CLOSED A/C	PV	163220	001	00101	35.79	075381
				Payment Amount					35.79	
81609	03/26/19	18946	PACIFIC ADVANCED CIVIL ENGINEERING, INC.	ADDTL BID SRV CO#3	PV	163132	001	00701	23,000.00	2565
				Payment Amount					23,000.00	
81610	03/26/19	21247	ARISTIDIS PAPAZOGLOU	RFND BAL-CLOSED A/C	PV	163221	001	00101	86.99	067035
				Payment Amount					86.99	
81611	03/26/19	18821	LEONARD POLAN	EXP-ACWA DC CONF 2/25~3/5	PV	163237	001	00701	1,761.24	030519
				EXP-CASA DC FRM 2/24~25	PV	163238	001	00701	660.26	022519
				EXP-WTRUSE	PV	163314	001	00701	509.94	031919

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				CONF 3/17~19						
				Payment Amount					2,931.44	
81612	03/26/19	8484	PRAXAIR DISTRIBUTION, INC	BREATHING GRD AIR BTL	PV	163270	001	00101	461.78	87976836
		Alt Payee 8898	PRAXAIR DISTRIBUTION INC. DEPT. LA 21511 PASADENA CA 91185-1511							
				Payment Amount					461.78	
81613	03/26/19	2905	RAIN FOR RENT	HIGH LINE-MWD SHTDWN	PV	163280	001	00101	1,593.06	1317810
		Alt Payee 3200	RAIN FOR RENT FILE 52541 LOS ANGELES CA 90074-2541							
				Payment Amount					1,593.06	
81614	03/26/19	20861	RETRO-TEK ENERGY SERVICES, INC.	PMT#2-RLV LIGHTG UPGD	PV	163311	001	00701	59,684.00	10687/PMT#2
				RTN#2-RLV LIGHTG UPGD	PD	163312	001	00754	2,984.20-	10687/RTN#2
				Payment Amount					56,699.80	
81615	03/26/19	21248	KYMBERLI REY	RFND BAL-CLOSED A/C	PV	163222	001	00101	194.68	072717
				Payment Amount					194.68	
81616	03/26/19	21249	LEONARD C. ROSSON	RFND BAL-CLOSED A/C	PV	163223	001	00101	101.97	007347
				Payment Amount					101.97	
81617	03/26/19	16170	SAM HILL & SONS, INC.	MAIN VLVS-MULHLND/ TRTDALE	PV	163288	001	00701	34,035.81	2788
				Payment Amount					34,035.81	
81618	03/26/19	21250	ARON SCHIFMAN	RFND BAL-CLOSED A/C	PV	163224	001	00101	400.00	071224
				Payment Amount					400.00	
81619	03/26/19	20898	SDI PRESENCE LLC	P/E 2/28 ERP CONSLT SRV	PV	163290	001	00701	525.00	2219

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		Alt Payee 20936	SDI PRESENCE LLC 29290 NETWORK PLACE CHICAGO IL 60673-1292							
				Payment Amount					525.00	
81620	03/26/19	19169	SJM INDUSTRIAL RADIO	RPR RADIOS	PV	163278	001	00701	1,799.99	245235
				RPR RADIOS	PV	163279	001	00701	677.09	245233
				2018 WEBTRACKER GPS	PV	163300	001	00701	4,500.00	41778
				Payment Amount					6,977.08	
81621	03/26/19	2949	SNAP ON TOOLS	RIVIT TOOL	PV	163268	001	00701	71.18	02271956747
				Payment Amount					71.18	
81622	03/26/19	2952	SOFTWARE HOUSE INTL.	MC AFEE SPRT 3/13/19~3/12/21	PV	163130	001	00701	2,866.88	B09613239
		Alt Payee 7422	SOFTWARE HOUSE INTERNATIONAL P. O. BOX 952121 DALLAS TX 75395-2121							
				Payment Amount					2,866.88	
81623	03/26/19	20648	STANTEC CONSULTING SERVICES INC.	P/E 2/15 DSGN MOD RLVCF	PV	163133	001	00701	6,537.50	1480364
				Payment Amount					6,537.50	
81624	03/26/19	12149	THATCHER CO. OF CALIFORNIA	4,126 GAL SOD BISULFITE	PV	163297	001	00701	6,065.22	262157
				Payment Amount					6,065.22	
81625	03/26/19	21240	THE IRREVOCABLE RAVENSCROFT TRUST	RFND BAL-CLOSED A/C	PV	163233	001	00101	171.04	071931
				Payment Amount					171.04	
81626	03/26/19	19135	TRANSUNION RISK & ALTERNATIVE DATA SOLUT	BAD DEBT SRCH-FEB'19	PV	163282	001	00701	123.00	974571/FEB'19
				Payment Amount					123.00	
81627	03/26/19	21154	UTILIWORKS CONSULTING,	P/E 2/28 AMR/AMI CNSLT	PV	163239	001	00701	9,948.24	5499

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			LLC	SRV						
				Payment Amount					9,948.24	
81628	03/26/19	3022	VAUGHANS INDUSTRIAL REPAIR	JOHNSTON PUMP RPR	PV	163257	001	00701	13,576.28	026235
				Payment Amount					13,576.28	
81629	03/26/19	21251	VENTERRA ENVIRONMENTAL , INC.	RFND BAL-CLOSED A/C	PV	163225	001	00101	990.31	9999537
				Payment Amount					990.31	
81630	03/26/19	2436	VINCE BARNES AUTOMOTIVE	BRKS/ROTORS/R PR TAILGT	PV	163292	001	00701	529.41	023780
				RPLC DOOR PNL ASMBLY #896	PV	163293	001	00701	99.09	023783
				SRV FUEL INJ/OIL/FLTRS #836	PV	163295	001	00701	494.49	023788
				Payment Amount					1,122.99	
81631	03/26/19	3035	VWR SCIENTIFIC	TIP 1000ML/COND STD	PV	163272	001	00701	96.47	8085430487
				PROPANOL 70%	PV	163273	001	00701	89.81	8085459168
				PHOS BUFFER	PV	163274	001	00701	156.80	8085417314
				SULFURIC ACID	PV	163275	001	00701	15.79	8085421164
				AMB 32 OZ BOTTLES	PV	163276	001	00701	272.96	8085424303
	Alt Payee	3216	VWR INTERNATIONAL, INC P. O. BOX 640169 PITTSBURGH PA 15264-0169							
				Payment Amount					631.83	
81632	03/26/19	19685	W. LITTEN INC.	SPRYFLD 3/4~3/8/19	PV	163241	001	00701	5,168.62	19014
				REMOVE TREE-TAPIA	PV	163309	001	00701	208.28	19016
				SPRYFLD 3/11~3/15/19	PV	163310	001	00701	5,217.70	19015
				Payment Amount					10,594.60	
81633	03/26/19	18914	WECK LABORATORIES, INC.	TAPIA GRNDWTR-9A080 64	PV	163145	001	00701	7.43	W9B0269-LV

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				TAPIA GRNDWTR-9A22046	PV	163146	001	00701	26.52	W9B0740-LV
				MALIBU CRK-9A29032	PV	163147	001	00701	60.47	W9C0034-LV
				MC-DIAZINON-9A29027	PV	163148	001	00701	1,103.20	W9C0035-LV
				MALIBU CRK-9A08068	PV	163149	001	00701	10,245.97	W9C0038-LV
				TAPIA EFFLNT-9A15020	PV	163150	001	00701	590.37	W9C0039-LV
				TAPIA INFLNT-9A08067	PV	163151	001	00701	1,100.20	W9C0588-LV
				DIONIZED WTR-9A80866	PV	163152	001	00701	68.34	W9C0589-LV
				TAPIA INFLNT-8G10081	PV	163153	001	00701	7.14	W9C0895-LV
				Payment Amount				13,209.64		
81634	03/26/19	3048	WEST COAST AIR CONDITIONING	PM/FLTRS-BLDG 8	PV	163244	001	00701	650.00	S99115
				PM/FLTR-BLDG 2	PV	163245	001	00701	30.00	S99125
				PM/FLTRS-BLDG 7	PV	163246	001	00701	265.00	S99126
				PM/FLTR-LV 2	PV	163247	001	00701	115.00	S99127
				PM/FLTRS-WLK	PV	163248	001	00701	45.00	S99128
				PM/FLTR-CORNELL P/S	PV	163249	001	00701	50.00	S99129
				PM/FLTRS-TAPIA	PV	163250	001	00701	135.00	S99130
				PM/FLTRS-RLV	PV	163251	001	00701	385.00	S99131
				PM/FLTRS-L/S#1	PV	163252	001	00701	108.00	S99132
				PM/FLTRS-L/S#2	PV	163253	001	00701	62.00	S99133
				ADDTL MTRL-SRV 2/28	PV	163254	001	00701	35.73	S99338

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				BLDG 7						
				ADDTL	PV	163255	001	00701	176.74	S99339
				MATRL-SRV						
				2/28 LV#2						
				ADDTL	PV	163256	001	00701	21.85	S99340
				MTRL-SRV 2/28						
				RLV						
				Payment Amount					2,079.32	
				Total Amount of Payments Written					325,601.91	
				Total Number of Payments Written			79			

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81635	04/02/19	19269	ACC BUSINESS	INTERNET 2/11~3/10/19	PV	163408	001	00701	913.82	190724539
				Payment Amount					913.82	
81636	04/02/19	20389	AIRGAS SPECIALTY PRODUCTS	31,300 LB HYDROXIDE	PV	163352	001	00701	3,084.62	131586497
		Alt Payee 20559	AIRGAS SPECIALTY PRODUCTS P. O. BOX 934434 ATLANTA GA 31193-4434							
				Payment Amount					3,084.62	
81637	04/02/19	18941	AMERICAN COLLISION CENTER	RPR DAMAGE-VEH#908	PV	163407	001	00701	6,592.34	4554
				Payment Amount					6,592.34	
81638	04/02/19	19264	ARNOLD LAROCHELLE MATHEWS VANCONAS &	JPA COUNSEL SRV 2/4/19	PV	163375	001	00751	462.00	55184
				Payment Amount					462.00	
81639	04/02/19	2869	AT&T	SRV 3/14~4/13/19	PV	163370	001	00701	46.93	4639/031419
				SRV 3/20~4/19/19	PV	163415	001	00101	46.93	2150/032019
				Payment Amount					93.86	
81640	04/02/19	9631	AT&T LONG DISTANCE	LONG DIST 1/1~2/1/19	PV	163433	001	00701	9.95	806368136/020 419
				LONG DIST 1/1~2/1/19	PV	163433	002	00701	3.17	806368136/020 419
				LONG DIST 1/1~2/1/19	PV	163433	003	00701	1,008.40	806368136/020 419
				LONG DIST 1/1~2/1/19	PV	163433	004	00701	1.64	806368136/020 419
				Payment Amount					1,023.16	
81641	04/02/19	7770	AUTOMATIONDIRECT.COM	HEATER-TORCHWOOD TNK	PV	163383	001	00101	113.00	9684679
				PANEL METER-RLV	PV	163384	001	00751	294.00	9695656
				Payment Amount					407.00	
81642	04/02/19	2425	BANK OF AMERICA	VISA CHG-FIN ADM-FEB'19	PV	163320	001	00701	105.69	1670/030719

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				VISA CHG-FIN ADM-FEB'19	PV	163320	002	00701	333.47	1670/030719
				VISA CHG-FIN ADM-FEB'19	PV	163320	003	00701	149.90	1670/030719
				VISA CHG-FIN ADM-FEB'19	PV	163320	004	00701	130.00	1670/030719
				VISA CHG-ALMAGUER-FEB'19	PV	163321	001	00701	95.95	7112/030719
				VISA CHG-ARENAS-FEB'19	PV	163322	001	00701	1,000.00	9030/030719
				VISA CHG-ARENAS-FEB'19	PV	163322	002	00701	1,000.00	9030/030719
				VISA CHG-ARENAS-FEB'19	PV	163322	003	00701	496.76	9030/030719
				VISA CHG-BAIRD-FEB'19	PV	163323	001	00701	225.00	7536/030719
				VISA CHG-BAIRD-FEB'19	PV	163323	002	00701	43.48	7536/030719
				VISA CHG-BOCKELMAN-FEB'19	PV	163324	001	00701	535.00	8102/030719
				VISA CHG-BOCKELMAN-FEB'19	PV	163324	002	00701	19.80	8102/030719
				VISA CHG-BOCKELMAN-FEB'19	PV	163324	003	00701	19.27	8102/030719
				VISA CHG-BOCKELMAN-FEB'19	PV	163324	004	00701	22.06	8102/030719
				VISA CHG-CASPARY-FEB'19	PV	163325	001	00701	314.00	7651/030719
				VISA CHG-GARMAN-FE	PV	163326	001	00701	700.00	3954/030719

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				B'19 VISA CHG-GARMAN-FE	PV	163326	002	00701	60.00	3954/030719
				B'19 VISA CHG-GARMAN-FE	PV	163326	003	00701	264.53	3954/030719
				B'19 VISA CHG-GIL-FEB'19	PV	163327	001	00101	27.35	5151/030719
				VISA CHG-GIL-FEB'19	PV	163327	002	00101	13.11	5151/030719
				VISA CHG-GIL-FEB'19	PV	163327	003	00101	81.51	5151/030719
				VISA CHG-GIL-FEB'19	PV	163327	004	00101	54.65	5151/030719
				VISA CHG-GIL-FEB'19	PV	163327	005	00101	10.90	5151/030719
				VISA CHG-GIL-FEB'19	PV	163327	006	00101	171.06	5151/030719
				VISA CHG-GUZMAN-FE B'19	PV	163328	001	00701	138.70	6935/030719
				VISA CHG-JOHNSON-F EB'19	PV	163329	001	00701	395.00	7572/030719
				VISA CHG-JOHNSON-F EB'19	PV	163329	002	00701	395.00	7572/030719
				VISA CHG-JOHNSON-F EB'19	PV	163329	003	00701	395.00	7572/030719
				VISA CHG-JOHNSON-F EB'19	PV	163329	004	00701	525.00	7572/030719
				VISA	PV	163330	001	00701	27.57	3713/030719

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				CHG-JONES-FEB '19						
				VISA CHG-JONES-FEB '19	PV	163330	002	00701	127.55	3713/030719
				VISA CHG-JONES-FEB '19	PV	163330	003	00701	202.70	3713/030719
				VISA CHG-KORKOSZ-F EB'19	PV	163331	001	00701	207.44	0544/030719
				VISA CHG-KORKOSZ-F EB'19	PV	163331	002	00701	46.87	0544/030719
				VISA CHG-KREIDER-F EB'19	PV	163332	001	00101	151.48	1112/030719
				VISA CHG-KREIDER-F EB'19	PV	163332	002	00101	145.89	1112/030719
				VISA CHG-LEWITT-FE B'19	PV	163333	001	00701	758.68	1175/030719
				VISA CHG-LIPPMAN-F EB'19	PV	163334	001	00701	85.01	0760/030719
				VISA CHG-MCDERMOTT -FEB'19	PV	163335	001	00751	108.95	1975/030719
				VISA CHG-MCDERMOTT -FEB'19	PV	163335	002	00751	36.00	1975/030719
				VISA CHG-MCDERMOTT -FEB'19	PV	163335	003	00751	538.00	1975/030719
				VISA CHG-MCDERMOTT -FEB'19	PV	163335	004	00751	842.59	1975/030719
				VISA CHG-MCNUTT-FE B'19	PV	163336	001	00701	274.30	6549/030719

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				VISA CHG-MCNUTT-FEB'19	PV	163336	002	00701	22.00-	6549/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	001	00701	90.00	5953/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	002	00701	96.36	5953/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	003	00701	1,029.00	5953/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	004	00701	417.80	5953/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	005	00701	95.99	5953/030719
				VISA CHG-MEREDITH-FEB'19	PV	163337	006	00701	219.43	5953/030719
				VISA CHG-PANIAGUA-FEB'19	PV	163338	001	00701	546.96	6009/030719
				VISA CHG-PANIAGUA-FEB'19	PV	163338	002	00701	91.71	6009/030719
				VISA CHG-PANIAGUA-FEB'19	PV	163338	003	00701	10.00	6009/030719
				VISA CHG-PANIAGUA-FEB'19	PV	163338	004	00701	90.00	6009/030719
				VISA CHG-PATTERSON-FEB'19	PV	163339	001	00701	280.00	6347/030719
				VISA CHG-PATTERSON-FEB'19	PV	163339	002	00701	30.00	6347/030719
				VISA CHG-PEDERSEN-	PV	163340	001	00701	102.51	1924/030719

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				FEB'19 VISA CHG-PEDERSEN-FEB'19	PV	163340	002	00701	30.03	1924/030719
				VISA CHG-PEDERSEN-FEB'19	PV	163340	003	00701	525.00	1924/030719
				VISA CHG-PEDERSEN-FEB'19	PV	163340	004	00701	880.66	1924/030719
				VISA CHG-PETERS-FEB'19	PV	163341	001	00751	83.46	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	002	00751	111.47	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	003	00751	42.35	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	004	00751	480.00	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	005	00751	349.00	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	006	00751	197.10	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	007	00751	44.48	3252/030719
				VISA CHG-PETERS-FEB'19	PV	163341	008	00751	349.00	3252/030719
				VISA CHG-POLAN-FEB'19	PV	163342	001	00701	842.59	5664/030719
				VISA CHG-RENGER-FEB'19	PV	163343	001	00701	725.00	6305/030719
				VISA	PV	163344	001	00701	90.24	5442/030719

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				CHG-SACCARECC IA-FEB'19						
				VISA CHG-SACCARECC IA-FEB'19	PV	163344	002	00701	209.96	5442/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	001	00701	51.19	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	002	00701	509.68	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	003	00701	30.62	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	004	00701	82.47	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	005	00701	31.94	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	006	00701	2.53	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	007	00701	131.39	0615/030719
				VISA CHG-TRIPLETT-FEB'19	PV	163345	008	00701	239.90	0615/030719
				VISA CHG-ROBERTS-FEB'19	PV	163346	001	00701	28.00	8400/030719
				VISA CHG-ROBINS-FEB'19	PV	163347	001	00701	205.00	8913/030719
				VISA CHG-VOLLMAR-FEB'19	PV	163348	001	00751	101.60	0751/030719
				VISA CHG-VOLLMAR-FEB'19	PV	163348	002	00751	52.54	0751/030719

Batch Number - 270526
Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				VISA CHG-VOLLMAR-FEB'19	PV	163348	003	00751	226.83	0751/030719
				VISA CHG-VOLLMAR-FEB'19	PV	163348	004	00751	257.93	0751/030719
				VISA CHG-WINK-FEB'19	PV	163349	001	00701	379.59	8239/030719
				VISA CHG-WINK-FEB'19	PV	163349	002	00701	583.94	8239/030719
				VISA CHG-WINK-FEB'19	PV	163349	003	00701	41.80	8239/030719
				Payment Amount					22,270.27	
81643	04/02/19	18071	BLUE DIAMOND MATERIALS	1.62 TN A/C FINE 1/2	PV	163389	001	00701	89.32	1420520
				3 TN A/C FINE 1/2	PV	163390	001	00701	162.61	1420522
				6.82 TN A/C FINE 1/2	PV	163391	001	00701	365.48	1420524
				3.03 TN A/C FINE 1/2	PV	163392	001	00701	224.44	1426092
				2.06 TN A/C FINE 3/8	PV	163393	001	00701	113.82	1433148
				CREDIT-PRICE CORRECTION	PV	163398	001	00701	675.71-	1420497~516
				Payment Amount					279.96	
81644	04/02/19	8327	CAL-COAST MACHINERY	RPR SPRYFLD TRACTOR	PV	163409	001	00701	14,779.19	536261
				Payment Amount					14,779.19	
81645	04/02/19	18739	CALIFORNIA HAZARDOUS SERVICES, INC.	MAR'19 SITE VISIT	PV	163353	001	00701	105.00	64041
				Payment Amount					105.00	
81646	04/02/19	20655	CANNON CORPORATION	P/E 2/28 SP/CORD TANK REHAB	PV	163364	001	00701	1,612.75	68372
				P/E 2/28	PV	163364	002	00701	1,612.75	68372

Batch Number - 270526

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				SP/CORD TANK REHAB						
				Payment Amount					3,225.50	
81647	04/02/19	18107	CAROLLO ENGINEERING, INC	P/E 2/28-PURE WTR DEMO	PV	163359	001	00701	107,843.38	0175191
				Payment Amount					107,843.38	
81648	04/02/19	19270	COMMUNICATION S RELAY, LLC	APR'19 SITE RENT SCADA	PV	163371	001	00101	983.74	57586
				Payment Amount					983.74	
81649	04/02/19	15755	CORE & MAIN LP	GAUGES/DAMPEN ERS	PV	163358	001	00701	590.62	K221102
		Alt Payee 15948	CORE & MAIN LP P. O. BOX 28330 ST. LOUIS MO 63146							
				Payment Amount					590.62	
81650	04/02/19	2658	FEDERAL EXPRESS CORP	PKG DLVRD 3/13/19	PV	163374	001	00101	321.92	6-498-70325
				Payment Amount					321.92	
81651	04/02/19	4971	FUGRO USA LAND, INC.	2/1~3/21/19 MNTG LRNZO	PV	163362	001	00701	2,663.75	04.61190009-1
				1/25~2/21/19 MNTG LRNZO	PV	163363	001	00701	1,432.50	04.62150074-2 OR
		Alt Payee 6803	FUGRO USA LAND, INC. P. O. BOX 301083 DALLAS TX 75303-1083							
				Payment Amount					4,096.25	
81652	04/02/19	6770	G.I. INDUSTRIES	SHOP BLDG 3/1~3/15/19	PV	163411	001	00701	398.55	2899516-0283-7
		Alt Payee 6771	G.I. INDUSTRIES P. O. BOX 541065 LOS ANGELES CA 90054-1065							
				Payment Amount					398.55	
81653	04/02/19	2691	GIERLICH-MITCHELL, INC.	CLIPS/STRIPS/ HRDWR KIT	PV	163350	001	00701	6,111.74	15447
				CLIPS/STRIPS/ HRDWR KIT	PV	163350	004	00701	440.00	15447
		Alt Payee 8003	GIERLICH-MITCHELL, INC. 179 NIBLICK ROAD #210							

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
			PASO ROBLES CA 93446							
				Payment Amount					6,551.74	
81654	04/02/19	2701	GRAINGER,	ROOF RPR	PV	163387	001	00101	145.92	9099613458
			INC.	MTRL-WFP						
				(2)	PV	163388	001	00751	1,776.75	9099436009
				TRNSMTTRS-TAP						
				IA						
		Alt Payee	5453 GRAINGER, INC.							
				DEPT 805178142						
				PALATINE IL 60038-0001						
				Payment Amount					1,922.67	
81655	04/02/19	5230	KENNEDY/JENKS	P/E 2/22-TWN	PV	163367	001	00701	809.40	128466
			CONSULTANTS	LKS PS DSGN						
				Payment Amount					809.40	
81656	04/02/19	3352	LAS VIRGENES	L/S #2	PV	163379	001	00130	50.58	0570/032019
			MUNICIPAL	2/7~3/14/19						
			WATER							
			DISTRICT							
				L/S #1	PV	163380	001	00130	50.58	1775/032019
				2/7~3/14/19						
				JED SMTH P/S	PV	163381	001	00101	47.87	0254/032019
				2/13~3/11/19						
				RLV FARM	PV	163382	001	00751	149.25	2080/032019
				2/14~3/13/19						
				TAPIA	PV	163397	001	00751	439.32	1760/032019
				2/13~3/13/19						
				RLV	PV	163399	001	00751	337.92	2090/032019
				2/14~3/13/19						
				HQ BLDG#1	PV	163400	001	00101	287.44	2620/032019
				2/13~3/13/19						
				HQ BLDG#8	PV	163401	001	00701	292.98	2647/032019
				2/13~3/13/19						
				FIRE PRTCN#8	PV	163402	001	00701	7.50	2650/032019
				2/13~3/13/19						
				FIRE PRTCN#7	PV	163403	001	00701	7.50	2654/032019
				2/13~3/13/19						
				BLDG#7	PV	163404	001	00701	732.98	2656/032019
				2/13~3/13/19						
				BLDG#2	PV	163405	001	00701	333.79	2658/032019
				2/13~3/13/19						

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				Payment Amount				2,737.71		
81657	04/02/19	19396	JAY LEWITT	EXP-CASA DC FRM 2/24~26	PV	163413	001	00701	420.24	022619
				MLG-WTRWS MTG 2/21	PV	163414	001	00701	11.02	022119
				Payment Amount				431.26		
81658	04/02/19	2789	LIEBERT CASSIDY WHITMORE	P/E 2/28-MPC NGTN	PV	163366	001	00701	1,403.00	1474625
				SRV P/E 2/28 RE:GEN	PV	163377	001	00701	37.00	1474624
				Payment Amount				1,440.00		
81659	04/02/19	3483	DAVID LIPPMAN	CELL PHN 2/4~3/3/19	PV	163376	001	00701	100.00	7898/030319
				EXP-WTRUSE CONF 3/17~19	PV	163378	001	00701	83.44	031919
				Payment Amount				183.44		
81660	04/02/19	20973	MERRIMAC ENERGY GROUP	8,730 GAL REG GAS	PV	163357	001	00701	20,615.17	2190348
				Payment Amount				20,615.17		
81661	04/02/19	2839	MOTION INDUSTRIES, INC.	OIL SEALS	PV	163406	001	00701	248.41	CA22-640806
		Alt Payee 10317	MOTION INDUSTRIES INC. FILE 749376 LOS ANGELES CA 90074							
				Payment Amount				248.41		
81662	04/02/19	21134	NEW EARTH USA, LLC	DISP BIOSOLIDS-FEB '19	PV	163351	001	00701	25,933.29	004
				Payment Amount				25,933.29		
81663	04/02/19	18575	OAKSTONE GLASS CORPORATION	RPLC GLASS-RLV REACTR BD	PV	163386	001	00751	450.00	66808
				Payment Amount				450.00		
81664	04/02/19	21253	PATRICK PRINCE CONSULTING	TRAINING SRV 2/27/19	PV	163412	001	00701	1,500.00	102019-1
				Payment Amount				1,500.00		
81665	04/02/19	20002	PETTY CASH -	CASH	PV	163368	001	00701	43.00	032719

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
			SUSAN BROWN	EXP-9/27/18~3 /21/19 CASH EXP-9/27/18~3 /21/19	PV	163368	002	00701	19.73	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	003	00701	10.29	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	004	00701	42.36	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	005	00701	6.99	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	006	00701	30.92	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	007	00701	46.98	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	008	00701	17.97	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	009	00701	13.62	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	010	00701	13.48	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	011	00701	16.39	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	012	00701	21.74	032719
				CASH EXP-9/27/18~3 /21/19	PV	163368	013	00701	40.02	032719
				Payment Amount					323.49	
81666	04/02/19	20583	RT LAWRENCE CORPORATION	LOCKBOX FEES-MAR'19	PV	163355	001	00701	1,089.69	43137

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Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				Payment Amount					1,089.69	
81667	04/02/19	2945	SKAUG TRUCK BODY WORKS	RPR BIN DOOR-VEH#890	PV	163385	001	00701	522.50	39711
				Payment Amount					522.50	
81668	04/02/19	8645	SOUTHERN CALIFORNIA TROPHY COMPANY	EE ANNVRSY GIFT	PV	163373	001	00701	103.31	030072-19
				Payment Amount					103.31	
81669	04/02/19	15196	TOTAL COMPENSATION SYSTEMS, INC.	GASB 75 VALUATION SRV	PV	163365	001	00701	2,610.00	6945
				Payment Amount					2,610.00	
81670	04/02/19	20680	TPX COMMUNICATIONS	SRV 3/16~4/15/19	PV	163369	001	00701	915.86-	114585717-0
				SRV 3/16~4/15/19	PV	163369	002	00701	203.82	114585717-0
				SRV 3/16~4/15/19	PV	163369	003	00701	186.36	114585717-0
				SRV 3/16~4/15/19	PV	163369	004	00701	170.06	114585717-0
				SRV 3/16~4/15/19	PV	163369	005	00701	203.82	114585717-0
				SRV 3/16~4/15/19	PV	163369	006	00701	1,121.41	114585717-0
				SRV 3/16~4/15/19	PV	163369	007	00701	1,123.14	114585717-0
				SRV 3/16~4/15/19	PV	163369	008	00701	2,244.79	114585717-0
				SRV 3/16~4/15/19	PV	163369	009	00701	219.82	114585717-0
				SRV 3/16~4/15/19	PV	163369	010	00701	203.82	114585717-0
				SRV 3/16~4/15/19	PV	163369	011	00701	969.16	114585717-0
				Payment Amount					5,730.34	
81671	04/02/19	18604	VENTURA PEST CONTROL	PEST CNTRL SRV-MAR'19	PV	163354	001	00701	100.00	663666
				PEST CNTRL SRV-MAR'19	PV	163354	003	00701	340.00	663666

Batch Number - 270526

Bank Account - 00146807 Cash-General

Payment Number	Payment Date	Address Number	Name	Payment Stub Message	Document Ty	Document Number	Key Itm	Key Co	Amount	Invoice Number
				PEST CNTRL	PV	163354	008	00701	135.00	663666
				SRV-MAR'19						
				Payment Amount					575.00	
81672	04/02/19	8510	WORK BOOT WAREHOUSE	SFTY FTWEAR-J.A.	PV	163372	001	00701	225.00	2-53279
				Payment Amount					225.00	
81673	04/02/19	19537	WUNDERLICH-MA LEC SYSTEMS, INC.	P/E 2/28-RPLC RAMIRA RDG	PV	163360	001	00701	187.51	42369
				P/E 2/28-TAPIA PLC UPGRADE	PV	163361	001	00701	26,680.00	57922
				Payment Amount					26,867.51	
				Total Amount of Payments Written					268,341.11	
				Total Number of Payments Written			39			

LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 Las Virgenes Road, Calabasas CA 91302

MINUTES
SPECIAL MEETING

5:00 PM March 26, 2019

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Brett Dingman.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Vice President Polan in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. Josie Guzman, Clerk of the Board, conducted the roll call.

Present:	Directors Charles Caspary, Lynda Lo-Hill, Len Polan, and Lee Renger.
Absent:	Director Jay Lewitt
Staff Present:	David Pedersen, General Manager
	David Lippman, Director of Facilities and Operations
	Joe McDermott, Director of Resource Conservation and Public Outreach
	Don Patterson, Director of Finance and Administration
	Josie Guzman, Clerk of the Board
	Keith Lemieux, District Counsel

2. APPROVAL OF AGENDA

General Manager David Pedersen asked that Item 5D be postponed to the April 23, 2019 Board meeting, so Board President Lewitt could be present for the presentation.

Director Renger moved to approve the agenda as amended with the removal of Item 5D. Motion seconded by Director Caspary. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A List of Demands: March 26, 2019: Ratify

B Minutes: Regular Meeting of March 12, 2019: Approve

C Monthly Cash and Investment Report: February 2019

Receive and file the Monthly Cash and Investment Report for February 2019.

D Annual Supply and Delivery of Polymer: Award

Accept the bid from Polydyne, Inc., and authorize the General Manager to issue a one-year purchase order, in the amount of $162,607.50, with four one-year renewal options for the supply and delivery of polymer.

E Annual Supply and Delivery of Unleaded and Diesel Petroleum Products: Amendment

Authorize the General Manager to increase the purchase order with Merrimac Energy Group by $12,182.03, from $103,150.39 to $115,332.42, for the period of April 16, 2018 through April 15, 2019, and to increase the annual amount of the remaining renewal options to $110,000.

F Ultimate (Roth) Staffing Services: Amendment

Authorize the General Manager to increase the annual amount of the contract with Ultimate (Roth) Staffing Services by $28,500, from $35,000 to $63,500.

Director Lo-Hill moved to approve the Consent Calendar. Motion seconded by Director Caspary. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A MWD Representative Report

General Manager David Pedersen summarized MWD Representative Glen Peterson's written report, which included an update on the approval of the Colorado River Drought Contingency Plan. He noted that Congressional approval was pending. He reported that the MWD Communications and Legislation Committee voted to support SB 669 (Caballero), Safe Drinking Water Trust Addressing Sustainable Funding, Without a Tax. He also reported that three new Directors joined the MWD Board: Gail Goldberg, representing San Diego County Water Authority, and Robert Apodaca and Frank Heldman, representing Central Basin Municipal Water District.

B Legislative and Regulatory Updates

Joe McDermott, Director of Resource Conservation and Public Outreach, reported that staff continues to monitor several bills related to a proposed water tax, along with a budget trailer bill submitted by Governor Gavin Newsom. He also reported that the District's lobbyist, Best Best & Krieger, provided oral and written testimony in opposition to the budget trailer bill's proposed tax on water service. He noted that AB 217 (Garcia), the Safe Drinking Water for All Act, was amended last week and includes a portfolio approach to funding safe, clean and affordable water. He also noted that the District received a request to support backfilling funding for Paradise Irrigation District to address its damaged infrastructure and water quality issues stemming from the 2018 Camp Fire. It was the consensus of the Board to have an item brought back at the next Board meeting to consider supporting the request by Paradise Irrigation District.

Director Caspary requested that a copy of SB 474 (Stern), Department of Water Resources: Appropriations of Water, be provided at the March 28 JPA Board meeting.

C Water Supply Conditions Update

Joe McDermott, Director of Resource Conservation and Public Outreach, presented the report. He noted that the State Water Project allocation increased to 70 percent, and that State law continues to require the efficient use of water.

D Emergency Response and Earthquake Preparedness - (This item was removed from the agenda)

6. TREASURER

Director Lo-Hill stated that the Treasurer's report was in order.

7. BOARD OF DIRECTORS

A Qualifying Events for Per Diem Compensation

Review the information on qualifying events for director's per diem compensation and determine whether or not clarification is necessary.

General Manager David Pedersen presented the report.

Director Lo-Hill expressed interest in attending the California Special District Association's (CSDA) Leadership Academy in July, and she suggested that this event be included on the list for per diem compensation. She also noted that she attended the kickoff meeting on March 13th for the Phase 2 White Paper on Tapping into Available Capacity in Existing Infrastructure to Create Water Supply and Water Quality Solutions Study, and she inquired whether attendance for this type of meeting could be included as a qualifying event.

Vice President Polan requested an item on the next Board meeting agenda for the Board to discuss adding CSDA events to the list of qualifying events for per diem compensation and a discussion to consider per diem compensation for Director Lo-Hill's attendance at the Phase 2 White Paper kickoff meeting.

8. FACILITIES AND OPERATIONS

A Cornell Pump Station Improvements Project: Award of Contract for Technical Memorandum

Accept the proposal from Cannon and authorize the General Manager to execute a professional services agreement, in the amount of $58,084, for preparation of a technical memorandum for the Cornell Pump Station Improvements Project.

David Lippman, Director of Facilities and Operations, presented the report.

Director Renger moved to approve Item 8A. Motion seconded by Director Lo-Hill.

Mr. Lippman responded to questions related to the analysis for replacing equipment with new natural gas engines or electrifying with emergency generation, and meeting current emissions requirements.

Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

B Woolsey Fire Facility Repair Project Nos. 1, 2, and 3: Award of Design Contracts

Accept the proposal from M6 Consulting, Inc.; authorize the General Manager to

execute a professional services agreement, in the amount of $121,380 contingent upon the JPA's approval of its share of the cost; and appropriate $74,425 for the District's share of the engineering design and support services during construction for the Woolsey Fire Facility Repair Project Nos. 1 and 2.

Accept the proposal from L. Newman Design Group; authorize the General Manager to execute a professional services agreement, in the amount of $122, 105 contingent upon the JPA's approval of its share of the cost; and appropriate $75,992.75 for the District's share of the engineering design and support services during construction for the Woolsey Fire Facility Repair Project No. 3.

Eric Schlageter, Senior Engineer, presented the report.

Director Renger moved to approve Item 8B. Motion seconded by Director Caspary.

Mr. Schlageter responded to questions, explaining that the Westlake Filtration Plant was operational with the use of temporary chemical feed pumps, utilizing L. Newman Design Group to identify the damages incurred from the Woolsey Fire and assisting in the determination of whether or not to replace the landscaping in-kind.

Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

C Stationary Emergency Generators for Critical Potable Water Pump Stations: Award of Design Contract

Accept the proposal from Michael Baker Corporation; authorize the General Manager to execute a professional services agreement, in the amount of $193,359; and appropriate $169,840.42 for design and support services during construction for the Stationary Emergency Generators for Potable Pump Stations Project.

John Zhao, Principal Engineer, presented the report.

Director Renger moved to approve Item 8C. Motion seconded by Director Caspary.

Mr. Zhao responded to questions related to constraints for storing and rotating diesel fuel for the generators, and pumping and storage capacity at the pump station.

David Lippman, Director of Facilities and Operations, responded to a question related to contracts with local diesel suppliers to deliver fuel to emergency generators in the field. He also addressed the need for the additional appropriation and exploring ways to participate in a local Hazard Mitigation Plan to apply for CalOES 404 Hazard Mitigation Grants.

Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

D Infrastructure Investment Plan: Fiscal Years 2019-20 through 2023-24

Receive and file the Infrastructure Investment Plan for Fiscal Years 2019-20 through 2023-24.

Doug Anders, Administrative Services Coordinator, presented the report.

Director Lo-Hill moved to receive and file Item 8D. Motion seconded by Director Renger.

Don Patterson, Director of Finance and Administration, responded to a question related to budgeting $5.9 million as an expenditure for the Woolsey Fire Recovery Projects, pending insurance and FEMA reimbursement.

Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

9. FINANCE AND ADMINISTRATION

A Travel Expense Policy: Proposed Update

Adopt the proposed update to the Travel Expense Policy.

Don Patterson, Director of Finance and Administration, presented the report.

Director Lo-Hill moved to approve Item 9A. Motion seconded by Director Caspary. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

B Request for Proposals for FEMA Assistance: Approval

Authorize the issuance of a Request for Proposals for assistance in managing the Federal Emergency Management Agency disaster relief and mitigation processes

and pursuing available hazard mitigation grant funding related to the Woolsey Fire.

Don Patterson, Director of Finance and Administration, presented the report.

Director Renger moved to approve Item 9B. Motion seconded by Director Lo-Hill.

Mr. Patterson responded to a question related to entering into a professional services agreement, including standard insurance provisions, with the selected firm.

Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

C Responsibility of Property Owner for Unpaid Balances of Tenant or Lessee

Pass, approve, and adopt proposed Resolution No. 2551, specifying that property owners shall be responsible for unpaid balances of a tenant or lessee.

RESOLUTION NO. 2551

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT AMENDING RESOLUTION NO. 2468 (ADMINISTRATIVE CODE) AS IT RELATES TO TENANT AND LESSEE RESPONSIBILITY FOR SERVICE

(Reference is hereby made to Resolution No. 2551 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

General Manager David Pedersen presented the report. He noted a correction to the proposed resolution, which should include the effective date of July 1, 2019, in order to allow staff to provide sufficient notice to customers.

Director Caspary moved to approve Item 9C as amended with effective date of July 1, 2019. Motion seconded by Director Renger. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Polan, Renger
NOES: None
ABSTAIN: None
ABSENT: Lewitt

10. INFORMATION ITEMS

A Claim by Southern California Gas Company

11. NON-ACTION ITEMS

A Organization Reports

None.

B Director's Reports on Outside Meetings

Vice President Polan reported that he attended the Association of Water Agencies of Ventura County WaterWise Breakfast meeting on March 21st, where a legal briefing was provided regarding Sustainable Groundwater Management Act lawsuits related to the Las Posas Basin and the Ventura River Watershed. He noted the Susan Mulligan, General Manager of Calleguas Municipal Water District, announced her resignation. He also reported that he attended the WateReuse Annual Conference, where a presentation was given regarding the historical use of recycled water on greenbelts.

C General Manager Reports

(1) General Business

General Manager David Pedersen noted that the Las Virgenes-Triunfo Joint Powers Authority would meet on March 28th at the Oak Park Library. He also noted that LVWMD Directors Polan and Lewitt, TSD Directors Orkney and Tjulander, TSD General Manager Mark Norris, Director of Resource Conservation and Public Outreach Joe McDermott, and he would be traveling to Washington D.C. the following week for the annual lobbying trip. He reported that Bobbi Larsen announced her retirement from the California Association of Sanitation Agencies (CASA), effective December 31, 2019.

(2) Follow-Up Items

D Directors' Comments

None.

12. FUTURE AGENDA ITEMS

None.

13. PUBLIC COMMENTS

None.

14. CLOSED SESSION

None.

15. OPEN SESSION AND ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **6:26 p.m.**

Jay Lewitt, President
Board of Directors
Las Virgenes Municipal Water District

ATTEST:

Charles Caspary, Secretary
Board of Directors
Las Virgenes Municipal Water District

(SEAL)

April 3, 2019

To: Payroll

From: David W. Pedersen
General Manager

RE: Per Diem Request – March 2019

Attached are the Director statements of attendance for meetings, conferences and miscellaneous functions, which are summarized in the table below. If you have any questions, please contact me. Thank you.

On April 25, 2017, the Board adopted Resolution No. 2513, amending the per diem rate to $220.

	Director	No. of Meetings	Rate	Total
8014	Charles Caspary	5	$220.00	$1,100.00
19447	Jay Lewitt	10	$220.00	$2,200.00
21169	Lynda Lo-Hill	8	$220.00	$1,760.00
18856	Leonard Polan	10	$220.00	$2,200.00
14702	Lee Renger	5	$220.00	$1,100.00

*LVMWD Code Section 2-2.106(a): "not exceeding a total of ten (10) days in any calendar month"

**LVMWD Code Section 2-2.106(b): MWD director "not exceeding a total of ten (10) additional days in any calendar month."

LAS VIRGENES MUNICIPAL WATER DISTRICT - PER DIEM REPORT

To: Clerk of the Board

Director's Name: Charles Caspary

Month of: March 2019

Division: Division 1

The following are Las Virgenes Municipal Water District Board of Directors Meetings, Committee Meetings/Conferences I have attended:

Date(s)	# of Days Claimed			Reimbursible Expenses[2] (Y/N)	Check One		Event Title
	Event	Travel [1]	Total		MWD	LVMWD	
3/4/2019	1		1	N		X	LV-TSD JPA BOARD MEETING
3/12/2019	1		1	N		X	LVMWD - REGULAR BOARD MEETING
3/15/2019	1		1	Y		X	ACWA - STATE LEG. COMMITTEE - SACRAMENTO
3/25/2019				N		X	CEREMONIAL - PROCLAMATION TO M. LANDON - CITY OF HIDDEN HILLS
3/26/2019	1		1	N		X	LVMWD - SPECIAL BOARD MEETING
3/28/2019	1		1	N		X	LV-TSD JPA - SPECIAL BOARD MEETING
		TOTAL	5				

Date Submitted: April 3, 2019

Director Signature: CHARLES CASPARY (SUBMITTED VIA EMAIL)

NOTES: **1.** Travel the day before and/or after an authorized meeting or seminar outside of LA, Ventura and Orange Counties may be paid in accordance with Board Policy. **2.** Attach completed Statement of Account and Claim for Personally Incurred Expenses form.

LAS VIRGENES MUNICIPAL WATER DISTRICT - PER DIEM REPORT

To: Josie Guzman, Clerk of the Board

Director's Name: Jay Lewitt

Month of: March 2019

Division: 2

The following are Las Virgenes Municipal Water District Board of Directors Meetings, Committee Meetings/Conferences I have attended:

Date(s)	# of Days Claimed			Reimbursible Expenses[2] (Y/N)	Check One		Event Title
	Event	Travel [1]	Total		MWD	LVMWD	
3/4/2019	1		1			x	JPA Regular Board Meeting
03/05/19 - 03/06/19	1	Y	2	Y		x	ACWA Legislative Symposium, Sacramento
3/12/2019	1		1			x	LVMWD Regular Board Meeting
03/17/19 - 03/19/19	1	Y	3	Y		x	WateReuse Conference, Garden Grove
3/21/2019	1		1	Y		x	AWAVC WaterWise Breakfast Meeting, Oxnard
3/22/2019	1		1			x	Washington DC Lobbying Trip Prep Meeting
3/31/2019	1	Y	1	Y		x	Washington DC Lobbying Trip
		TOTAL	10				

Date Submitted: 4/4/19

Director Signature: Josie Guzman for Jay Lewitt

NOTES: **1**. Travel the day before and/or after an authorized meeting or seminar outside of LA, Ventura and Orange Counties may be paid in accordance with Board Policy. **2.** Attach completed Statement of Account and Claim for Personally Incurred Expenses form.

LAS VIRGENES MUNICIPAL WATER DISTRICT - PER DIEM REPORT

To: Josie Guzman, Clerk of the Board

Director's Name: Lynda Lo-Hill

Month of: March 2019

Division: 2

The following are Las Virgenes Municipal Water District Board of Directors Meetings, Committee Meetings/Conferences I have attended:

Date(s)	# of Days Claimed			Reimbursible Expenses[2] (Y/N)	Check One		Event Title
	Event	Travel[1]	Total		MWD	LVMWD	
March 4 2019	1		1	N		✓	JPA meeting
March 12	1		1	N		✓	LVMWD meeting
March 13	1		1	N		✓	Phase 2 White Paper Tapping into existing infrastructure, - Whittier - David Pedersen
March 17-19	3		3	Y		✓	Watereuse Conference Orange County
March 26	1		1	N		✓	LVMWD meeting
March 28	1		1	N		✓	JPA meeting
		TOTAL	8				

Date Submitted: March 29, 2019

Director Signature: Lynda Lo-Hill

NOTES: 1. Travel the day before and/or after an authorized meeting or seminar outside of LA, Ventura and Orange Counties may be paid in accordance with Board Policy. 2. Attach completed Statement of Account and Claim for Personally Incurred Expenses form.

LAS VIRGENES MUNICIPAL WATER DISTRICT - PER DIEM REPORT

To: Josie Guzman, Clerk of the Board

Director's Name: Len Polan

Month of: March 2019

Division: 4

The following are Las Virgenes Municipal Water District Board of Directors Meetings, Committee Meetings/Conferences I have attended:

Date(s)	# of Days Claimed			Reimbursible Expenses[2] (Y/N)	Check One		Event Title
	Event	Travel [1]	Total		MWD	LVMWD	
3/4/2019	1		1			x	JPA Regular Board Meeting
3/12/2019	1		1			x	LVMWD Regular Board Meeting
03/17/19 - 03/19/19	1	Y	3	Y		x	WateReuse Conference, Garden Grove
3/21/2019	1		1	Y		x	AWAVC WaterWise Breakfast Meeting, Oxnard
3/22/2019	1		1			x	Washington DC Lobbying Trip Prep Meeting
3/25/2019	1		1			x	ACWA Region 8 Committee Meeting
3/26/2019	1		1			x	LVMWD Special Board Meeting
3/28/2019	1		1			x	JPA Special Board Meeting
3/31/2019	0	Y	0	Y		x	Washington DC Lobbying Trip
		TOTAL	10				

Date Submitted: 4-Apr-19

Director Signature: *Len Polan via email*

NOTES: **1.** Travel the day before and/or after an authorized meeting or seminar outside of LA, Ventura and Orange Counties may be paid in accordance with Board Policy. **2.** Attach completed Statement of Account and Claim for Personally Incurred Expenses form.

LAS VIRGENES MUNICIPAL WATER DISTRICT - PER DIEM REPORT

To: Josie Guzman, Clerk of the Board

Director's Name: Lee Renger

Month of: March, 2019

Division: 3

The following are Las Virgenes Municipal Water District Board of Directors Meetings, Committee Meetings/Conferences I have attended:

Date(s)	# of Days Claimed			Reimbursible Expenses[2] (Y/N)	Check One		Event Title
	Event	Travel[1]	Total		MWD	LVMWD	
3/4/2019	1		1	N		X	JPA BOARD MEETING
3/12/2019	1		1	N		X	LVMWD BOARD MEETING
3/21/2019	1		1	N		X	AWA CONFERENCE
3/26/2019	1		1	N		X	LVMWD BOARD MEETING
3/28/2019	1		1	N		X	JPA BOARD MEETING
		TOTAL	5				

Date Submitted: 3-Apr-19

Director Signature: Lee Renger

NOTES: 1. Travel the day before and/or after an authorized meeting or seminar outside of LA, Ventura and Orange Counties may be paid in accordance with Board Policy. 2. Attach completed Statement of Account and Claim for Personally Incurred Expenses form.

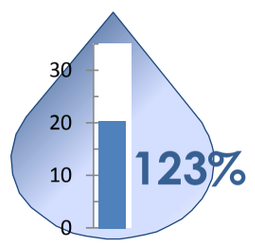
Water Supply Conditions Report

As of: 03/27/2019

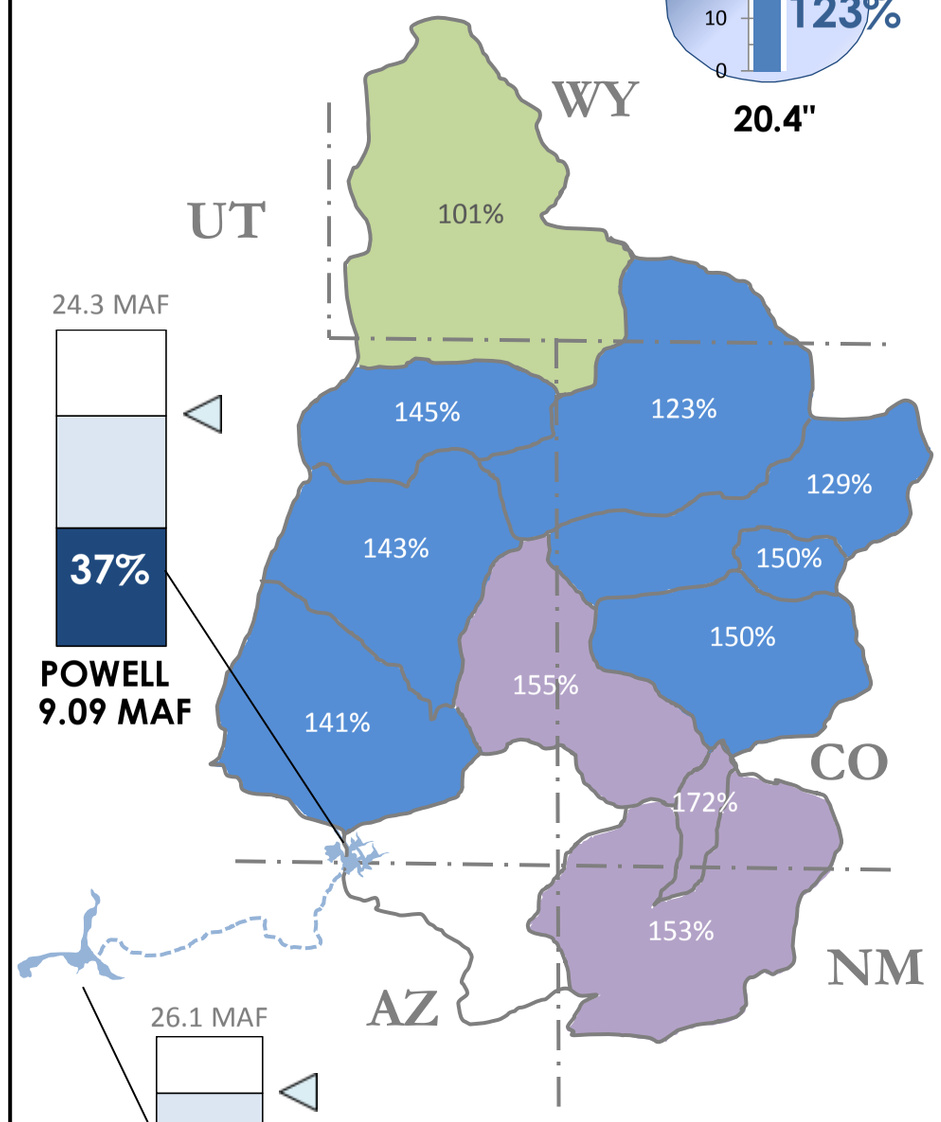
2019 Colorado River

956,103 AF
76% of full CRA
Does not include storage withdrawals

Upper Colorado River Basin
135%



20.4"



Snow Water Equivalent (% of Normal)

Snowpack % of Normal

- No Data
- Less than 50
- 50 - 80
- 81 - 120
- 121 - 150
- Greater than 150

Turn page for more CRA Data

Flip Over for SWP Data

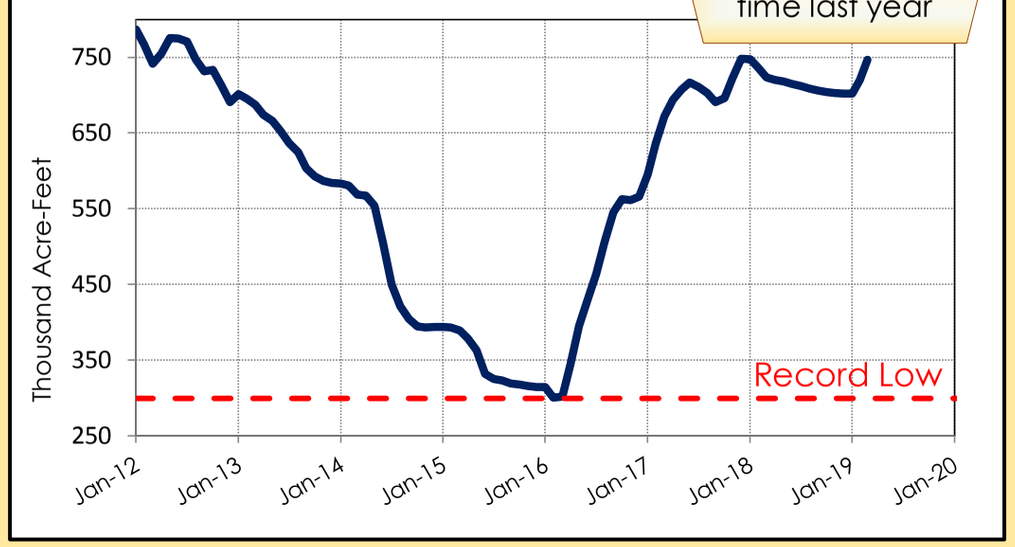
Highlights

- Oroville storage levels continue to gain and approaching the flood control boundary trigger
- San Luis Reservoir is at capacity
- Northern Sierra snowpack is at 162% of normal
- Upper Colorado River Basin snowpack is at 135% of normal

Diamond Valley Lake Storage

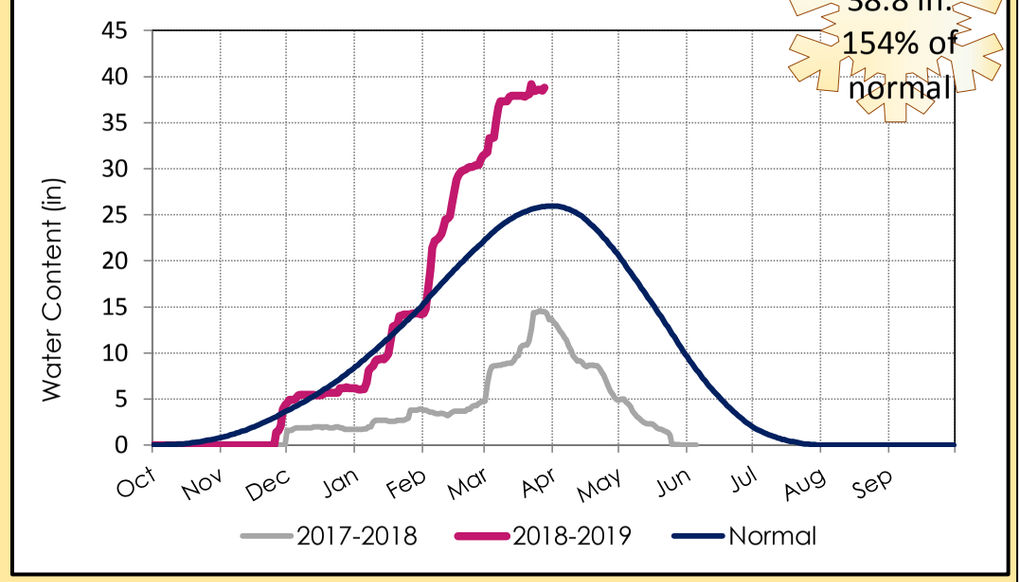
Capacity: 810 TAF

23 TAF more in storage than this time last year

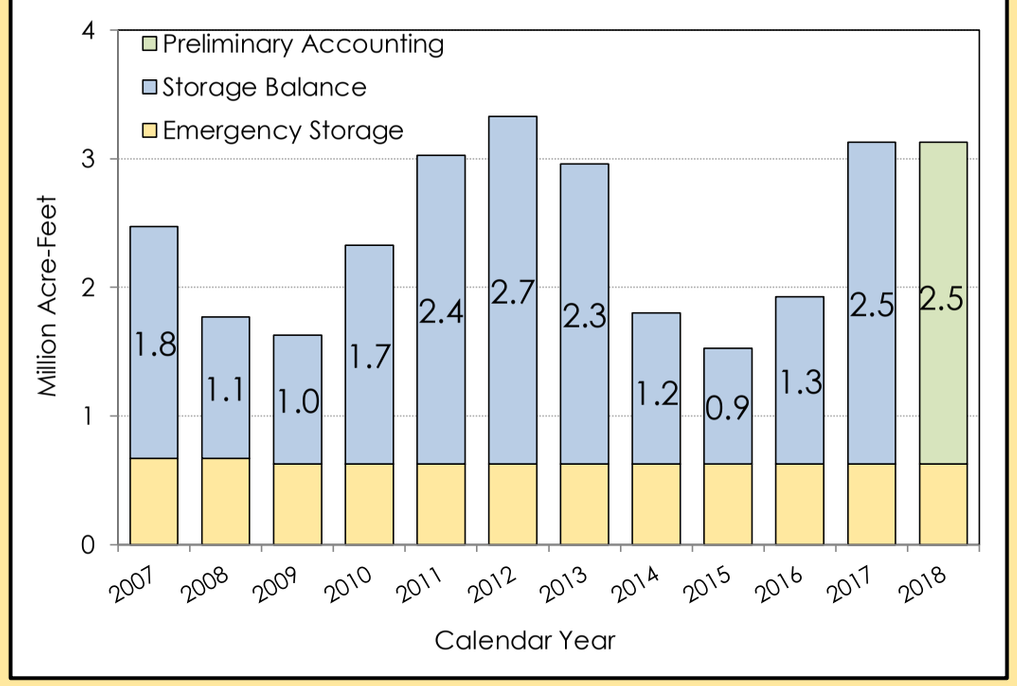


Southern Sierra Snowpack

38.8 in.
154% of normal



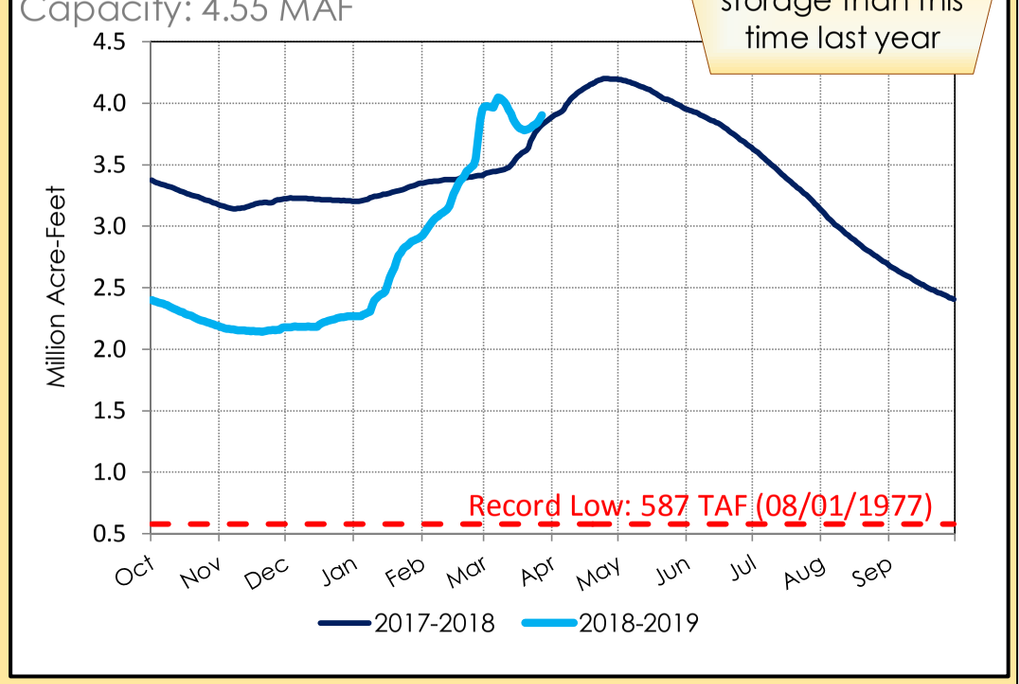
MWD Storage Reserve Levels



Lake Shasta Reservoir Storage

Capacity: 4.55 MAF

76 TAF more in storage than this time last year



http://www.mwdh2o.com/WSCR

This report is best printed double sided on legal size paper (8.5" x 14") and folded in quarters

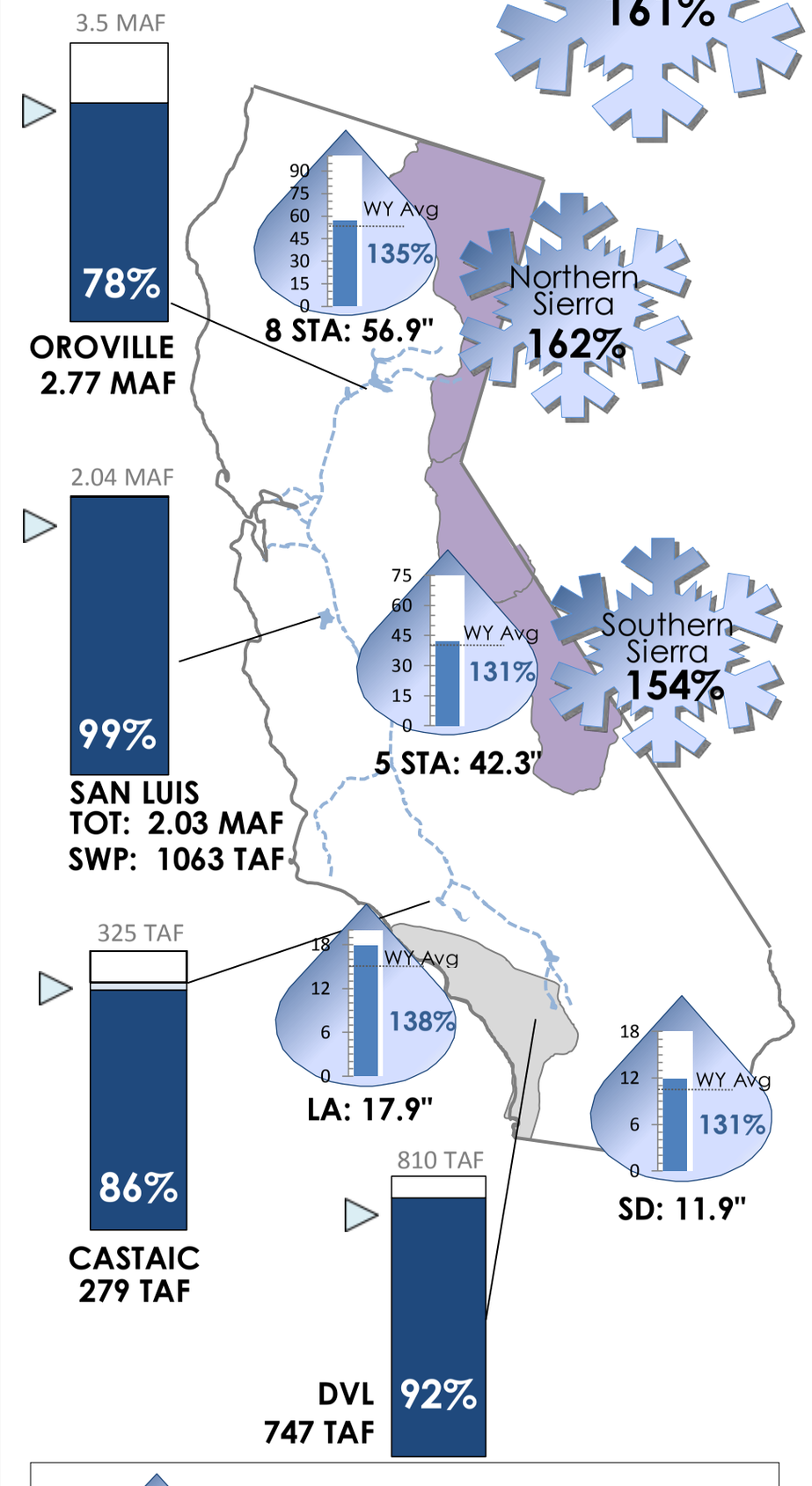
Water Supply Conditions Report

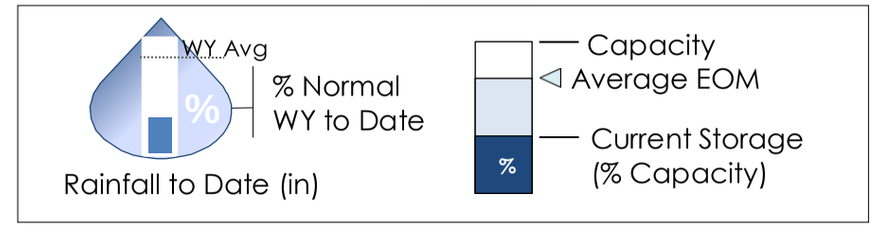
As of: 03/27/2019

2019 SWP Allocation

1,338,050 AF
70% of Table A

Statewide
161%





Flip Over for CRA Data

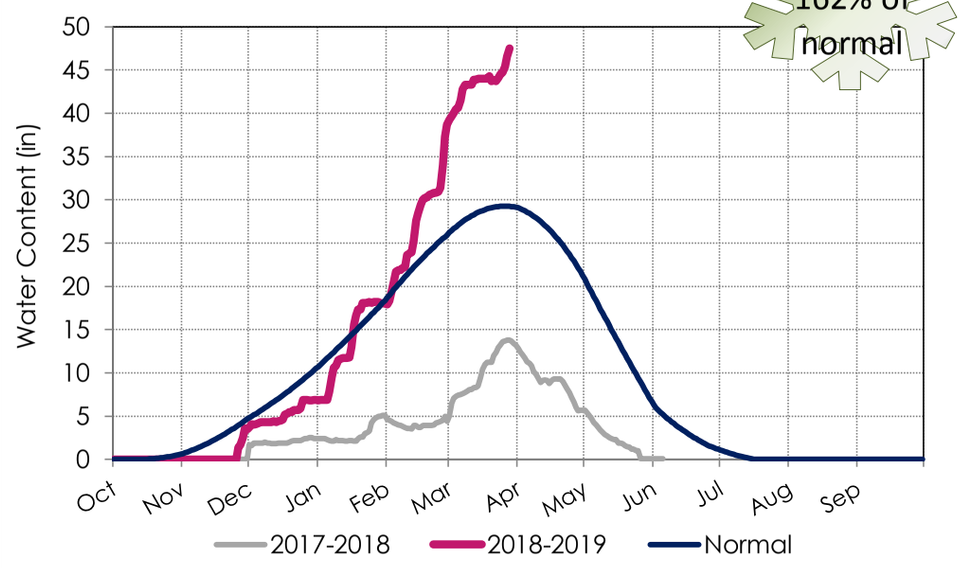
Turn page for more SWP Data

State Water Project Resources

As of: 03/27/2019

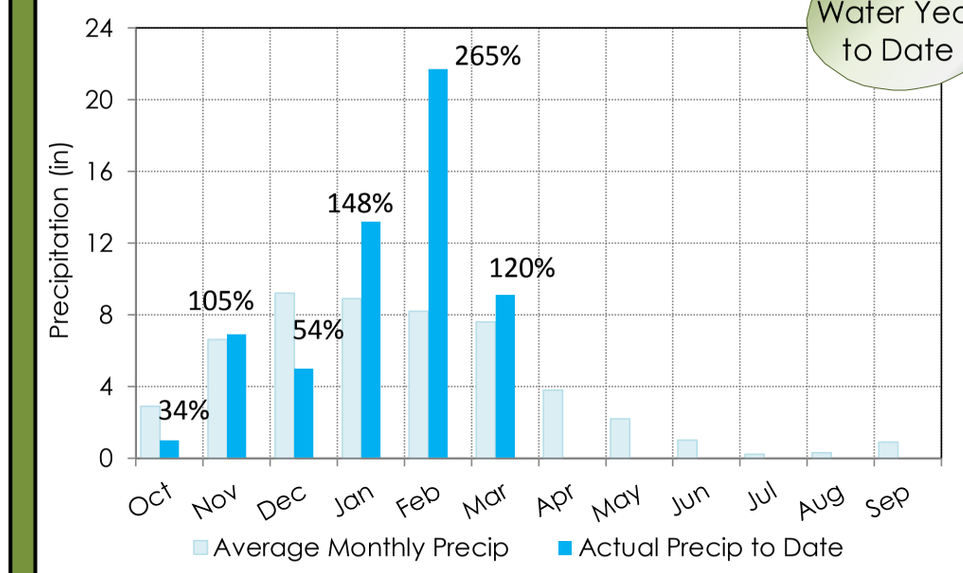
Northern Sierra Snowpack

47.5 in.
162% of normal



8 Station Index Precip

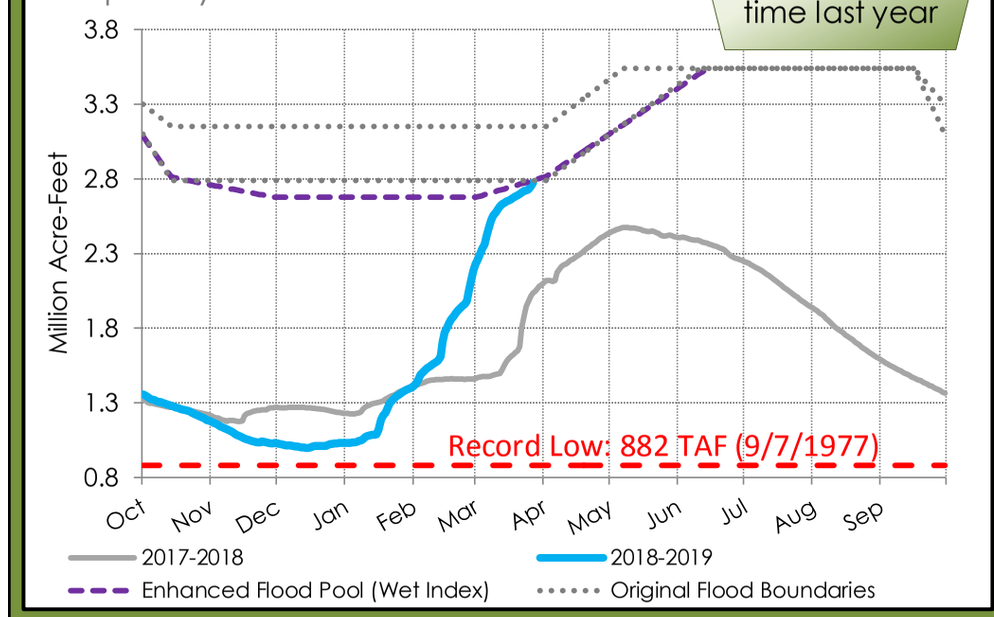
56.9 in.
Water Year to Date



Oroville Reservoir Storage

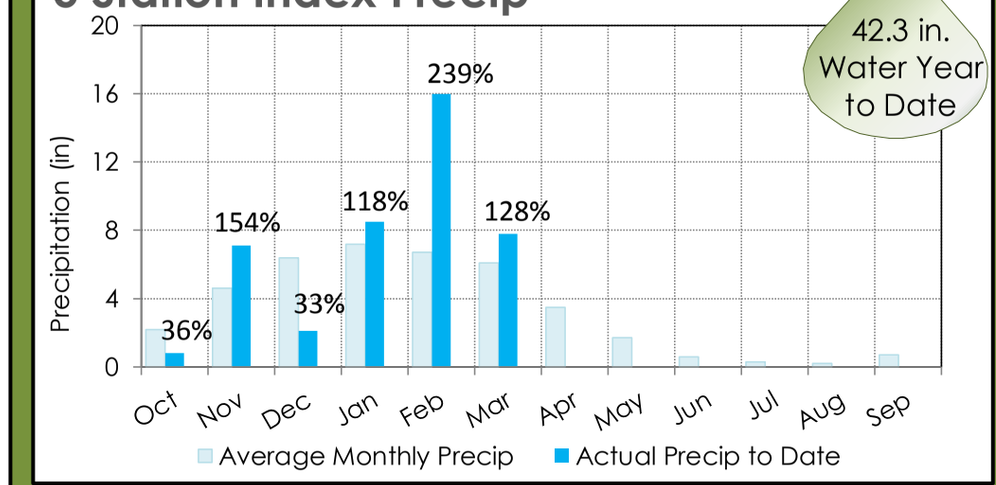
Capacity: 3.5 MAF

739 TAF more in storage than this time last year



5 Station Index Precip

42.3 in.
Water Year to Date



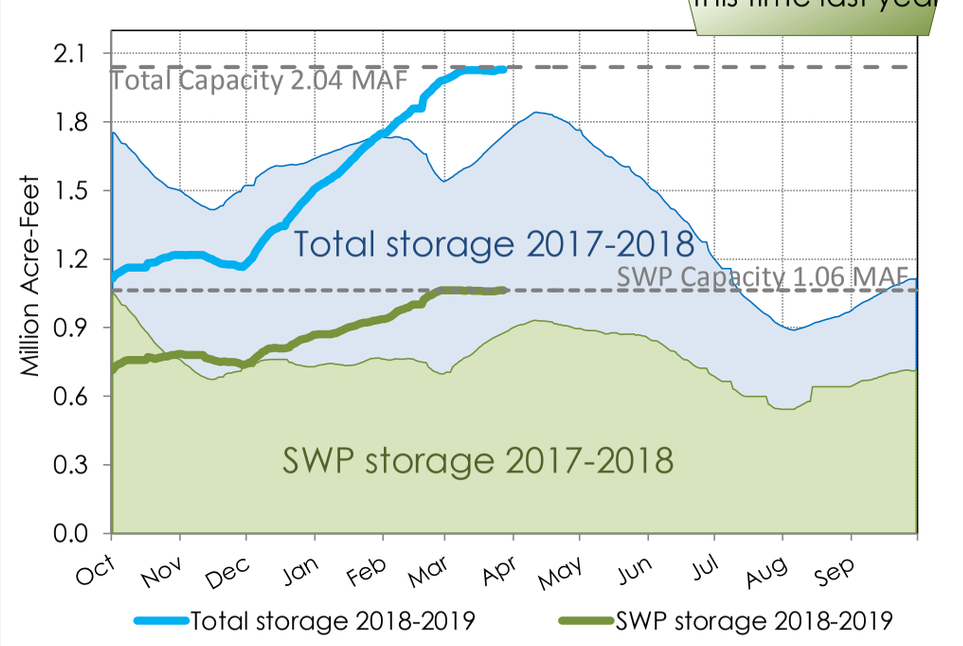
Other SWP Contract Supplies for 2019 (AF)

Article 21	60,000
Carryover	101,000

San Luis Reservoir Storage

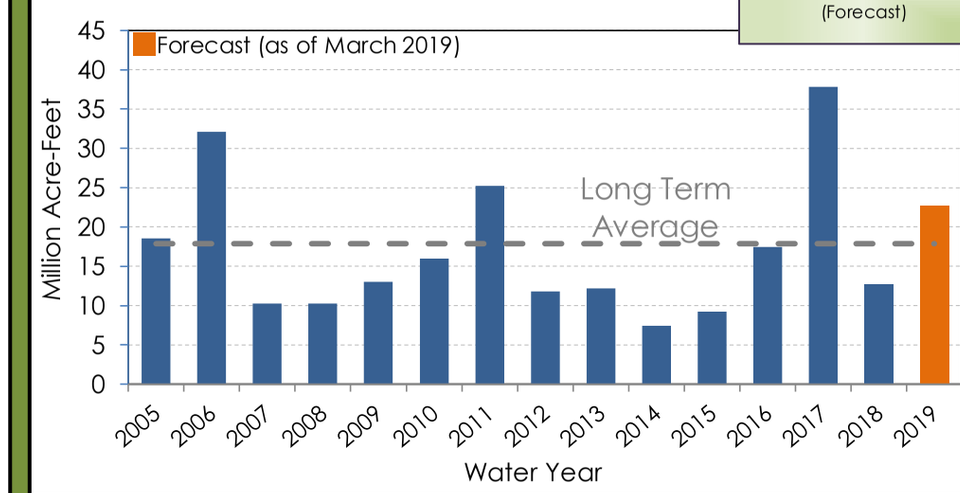
Capacity: 2.04 MAF

186 TAF more in SWP storage than this time last year



Sacramento River Runoff

WY 2019
127% of normal
(Forecast)

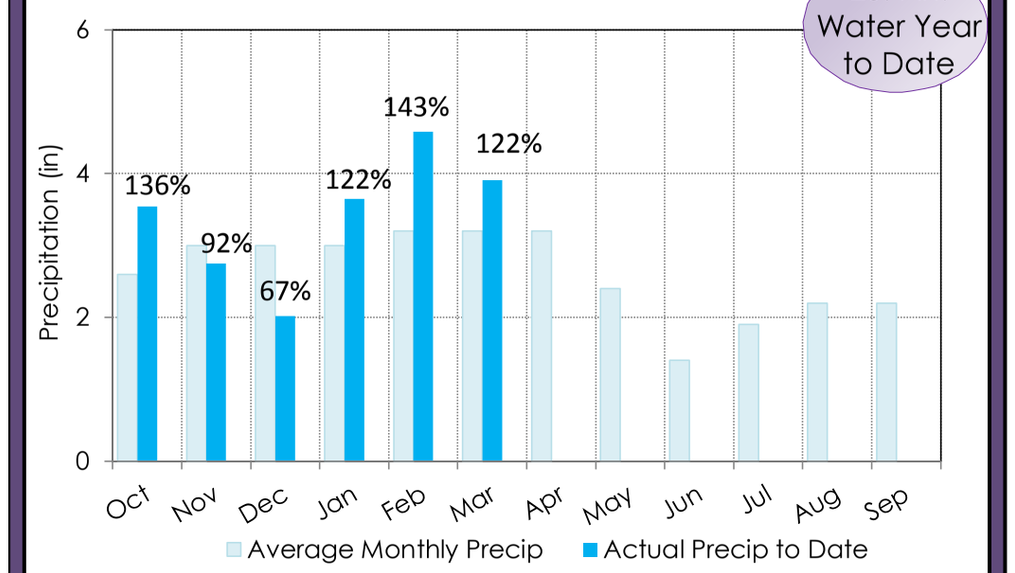


Colorado River Resources

As of: 03/27/2019

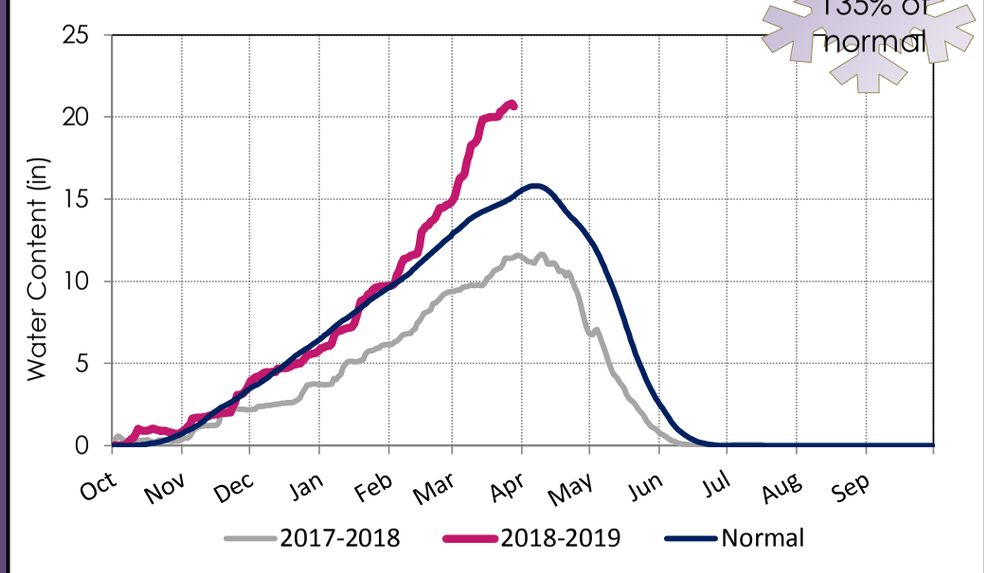
Upper Colorado Basin Precip

20.4 in.
Water Year to Date

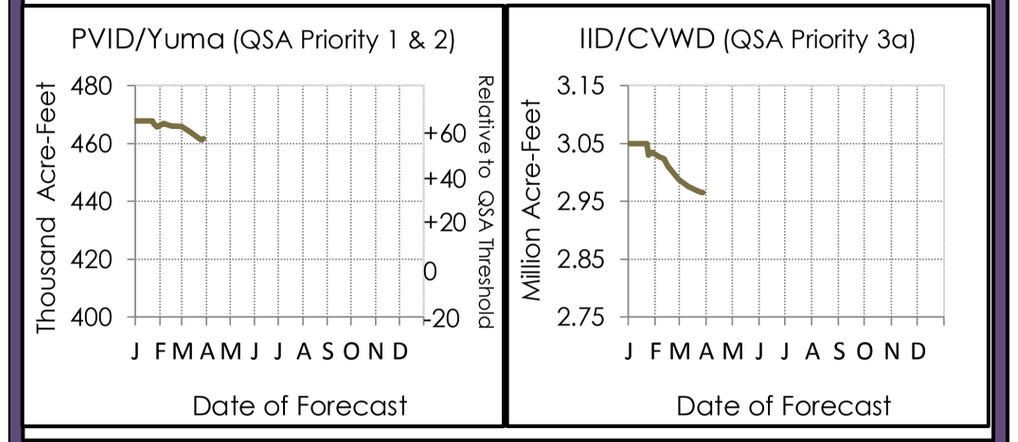


Upper Colorado Basin Snowpack

20.6 in
135% of normal



2019 Colorado River Ag Use

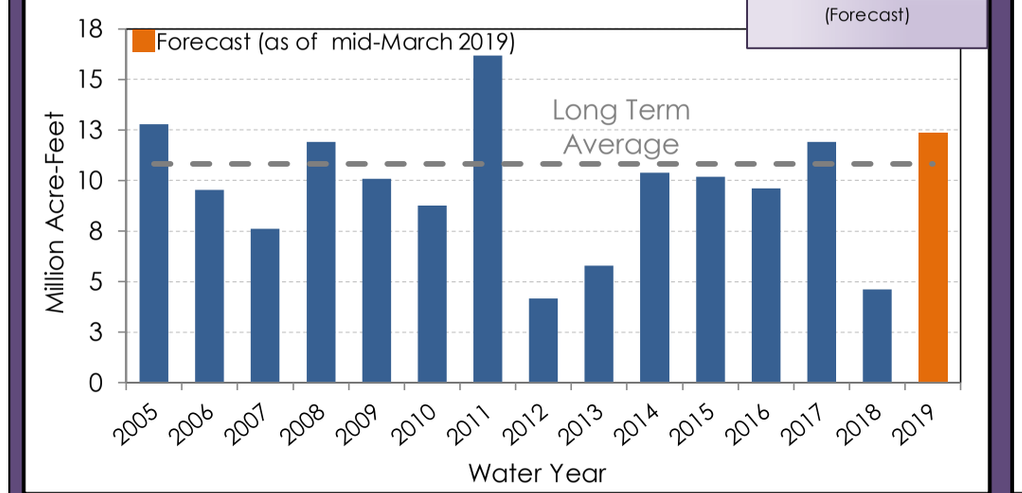


Lake Mead Shortage/Surplus Outlook

This table will be updated once Reclamation publishes the next 24-month study in April 2019.

Powell Unregulated Inflow

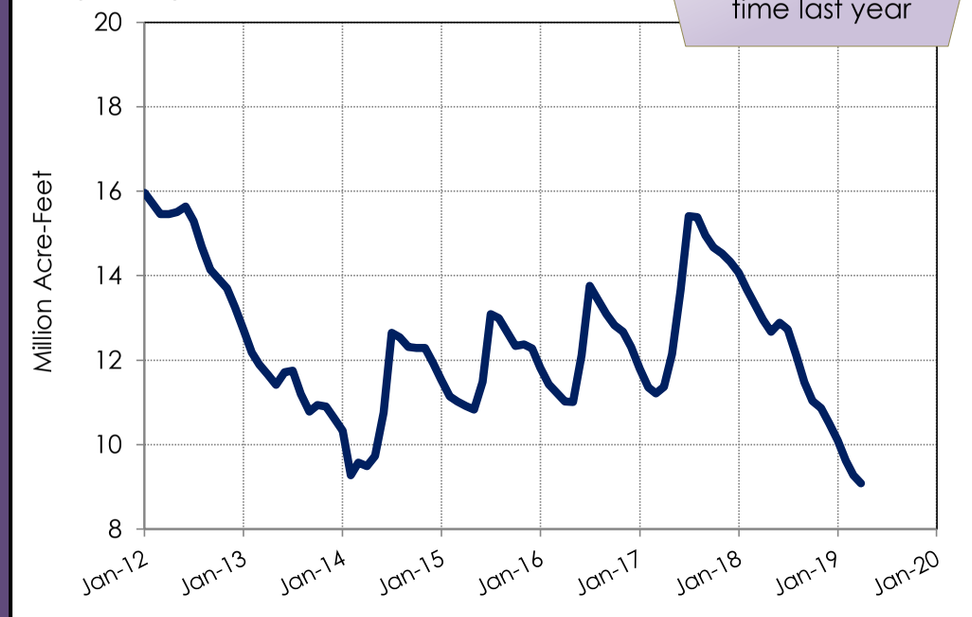
WY 2019
114% of normal
(Forecast)



Lake Powell Storage

Capacity: 24.3 MAF

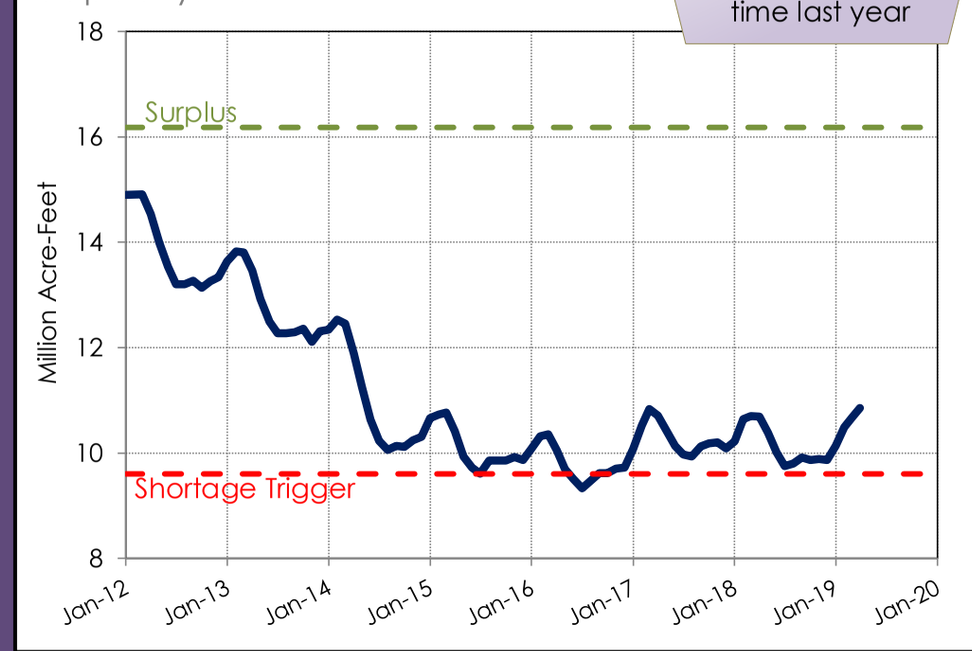
3.92 MAF less in storage than this time last year



Lake Mead Storage

Capacity: 26.1 MAF

160 TAF more in storage than this time last year



April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Resource Conservation & Public Outreach

Subject : Backfill Funding for Paradise Irrigation District: Letter of Support

SUMMARY:

The Paradise Irrigation District (PID), in Butte County, California, is requesting help from the State with one-time financial assistance, in the amount of $21,693,203. The funds would support PID to remain financially solvent over the next few years, allowing the Town of Paradise to rebuild after the devastating Camp Fire in 2018. The fire reduced PID's customer base from about 10,500 to 700 water service connections. In addition, most of PID's employees lost their homes in the fire.

RECOMMENDATION(S):

Authorize the Board President to sign a letter of support for one-time financial assistance from the State's General Fund, in the amount of $21,693,203, to support the recovery of Paradise Irrigation District from the devastating Camp Fire.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact to the District as a result of this action. The one-time financial assistance requested by PID would be from the State's General Fund.

DISCUSSION:

Paradise Irrigation District (PID) is a special district that provides water service to the Town of

Paradise in Butte County, California. PID was hit very hard by the Camp Fire in late 2018 and faces a significant reduction in its operating revenues for the next few years. Although PID currently has approximately $3 million in reserves, it anticipates insolvency in less than six months without assistance from the State.

PID has explored funding opportunities to address damaged infrastructure and significant water quality issues; however, no funding avenues are currently available for its on-going operations and maintenance costs. Even though the agency currently serves a smaller population, PID's cost of service is mostly fixed (over 95%), meaning the cost of providing service is close to the same as if its customer base had not been reduced. The one-time funding from the State would allow PID to develop a long-term financing plan and ensure that the residents returning to the Town of Paradise continue to have access to safe, clean drinking water. Funds from the State would also ensure that the employees of PID, the majority of whom were also affected by the fire, would be able to keep their jobs and provide a measure of economic stability to the region.

On March 26, 2019, Director Charles Caspary requested that the Board consider a letter of support for the request by PID at its next regular meeting. Letters of support for matters that align with Board-adopted Legislative Policy Principles are normally signed by the General Manager. However, the matter of supporting PID's request is unique and, therefore, was not contemplated in the existing Legislative Policy Principles. As a result, staff recommends that the Board consider the item individually. It would be a kind gesture to support PID given the tragedy the Town of Paradise has endured. The District's recent experience with the Woolsey Fire, and the associated losses suffered during that event, remind us that we are all susceptible to catastrophic events. It is prudent to help our fellow agencies in their times of need.

Attached for reference is a copy of the draft support letter.

GOALS:

Sustain Community Awareness and Support

Prepared by: Joe McDermott, Director of Resource Conservation and Public Outreach

ATTACHMENTS:

Letter of Support for Backfill Funding for Paradise Irrigation District

LAS VIRGENES MUNICIPAL WATER DISTRICT
EST. 1958

Dedicated to Providing High-Quality Water Service in a Cost-Effective and Environmentally Sensitive Manner

OFFICERS

President
Jay Lewitt
Director, Division 5

Vice President
Leonard E. Polan
Director, Division 4

Secretary
Charles P. Caspary
Director, Division 1

Treasurer
Lynda Lo-Hill
Director, Division 2

Lee Renger
Director, Division 3

David W. Pedersen, P. E.
General Manager

W. Keith Lemieux
Counsel

HEADQUARTERS
4232 Las Virgenes Road
Calabasas, CA 91302
(818) 251-2100
Fax (818) 251-2109

WESTLAKE
FILTRATION PLANT
(818) 251-2370
Fax (818) 251-2379

TAPIA WATER
RECLAMATION FACILITY
(818) 251-2300
Fax (818) 251-2309

RANCHO LAS VIRGENES
COMPOSTING FACILITY
(818) 251-2340
Fax (818) 251-2349

www.LVMWD.com

MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

April 10, 2019

Senator Jim Nielsen
State Capitol, Room 5064
Sacramento, CA 95814-4900

Assemblyman James Gallagher
P.O. Box 942849
Sacramento, CA 94249-0003

RE: SUPPORT FOR BACKFILL FUNDING FOR PARADISE IRRIGATION DISTRICT

Dear Senator Nielsen and Assemblyman Gallagher,

Las Virgenes Municipal Water District writes to support backfill funding for Paradise Irrigation District (PID). The one-time appropriation of $21,693,203 from the General Fund is essential and necessary to keep PID operating while Paradise recovers and rebuilds from the November 2018 Camp Fire.

The Camp Fire devastated the Town of Paradise, which mirrors PID's service area. Pre-fire, PID served approximately 10,500 customer connections in the Town of Paradise. Today, there are only 700 active connections as a result of the fire. Funding for PID's infrastructure damage and fire-related water quality issues are being addressed through FEMA/OES and insurance proceeds. However, there is no current funding source to sustain PID's operational expenses given the overwhelming property losses suffered by PID's customers. Even though PID currently serves a smaller population, PID's cost of service is mostly fixed (over 95%).

Maintaining PID as a viable public agency water supplier is vital to the recovery and rebuilding effort in Paradise. This short-term funding solution allows PID to continue to focus its efforts on fire recovery, and will allow time for it to develop long-term funding models as Paradise rebuilds over the coming years. It will also ensure that the men and women who work for PID and serve the community, most of whom were also affected by the fire, will be able to maintain their employment.

Sincerely,

Jay Lewitt
Board President

cc: Paradise Irrigation District

April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: General Manager

Subject : Qualifying Events for Directors' Per Diem Compensation

SUMMARY:

On March 26 2019, Director Lynda Lo-Hill requested a future agenda item for the Board to consider adding events sponsored by the California Special Districts Association as qualifying events for directors' per diem compensation. These events would include Special District Leadership Academy courses that support newly-elected officials to be most effective in participating in the governance of their special districts.

RECOMMENDATION(S):

Pass, approve and adopt proposed Resolution No. 2549, adding events sponsored by the California Special Districts Association as qualifying events for directors' per diem compensation.

RESOLUTION NO. 2549

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT AMENDING RESOLUTION NO. 2468 (ADMINISTRATIVE CODE) AS IT RELATES TO QUALIFYING EVENTS FOR DIRECTORS' PER DIEM COMPENSATION

(Reference is hereby made to Resolution No. 2549 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is a minimal financial impact associated with this action.

DISCUSSION:

Section 2-2.106 of the Las Virgenes Municipal Water District Code (Code) describes per diem compensation for directors. Specifically, directors are to be paid a specified per diem amount for *"each day's service rendered as Director by request of the Board, not exceeding a total of ten (10) days in any calendar month."* There are generally three categories of events, seminars and/or meeting that qualify for per diem compensation, as follows:

- General meetings and educational seminars of certain organizations that have been pre-approved by the Board, including those held by the Association of California Water Agencies, California Association of Sanitation Agencies, California Water Policy Planning Committee, Association of Water Agencies of Ventura County, WateReuse Association and Southern California Water Coalition.
- Various other meetings if appointed by the Board to serve as the Board's delegate or representative.
- Meetings and seminars conducted by other organizations on subjects related to District operations when Board authorization is provided in response to a verbal or written request from a director.

Based on past practice, the District has not typically provided per diem compensation to directors for attendance at ceremonial events (i.e. presenting proclamations to outgoing City Council Members or attending a parade for a City-sponsored event).

On March 26, 2019, Director Lynda Lo-Hill requested that the Board consider adding events sponsored by the California Special Districts Association (CSDA) as qualifying events for directors' per diem compensation. These events would include Special District Leadership Academy courses that support newly-elected officials to be most effective in participating in the governance of their special districts. Proposed Resolution No. 2549 is presented for the Board's consideration.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: David W. Pedersen, General Manager

ATTACHMENTS:

Proposed Resolution No. 2549

RESOLUTION NO. 2549

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT AMENDING RESOLUTION NO. 2468 (ADMINISTRATIVE CODE) AS IT RELATES TO QUALIFYING EVENTS FOR DIRECTORS' PER DIEM COMPENSATION

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT as follows:

Section 1. Purpose.

This resolution amends Resolution No. 2468 (Administrative Code), regarding Title 2, Chapter 2, as it relates to rules of order for Board meetings.

Section 2. Amendment.

Title 2, Chapter 2 of Resolution No. 2468 (Administrative Code) is amended and reenacted to read as follows:

"2-2.106 COMPENSATION

(a) Each Director shall be paid $220.00 for each day's attendance ("per diem compensation") at meetings of the Board, and for each day's service rendered as Director by request of the Board, not exceeding a total of ten (10) days in any calendar month. A Director shall be compensated for no more than one authorized meeting per day even if more than one meeting is attended in one day.

(b) Each representative of the District on the Board of Directors of the Metropolitan Water District of Southern California shall be paid $220.00 for each day's attendance at meetings of the Board of Directors of the Metropolitan Water District of Southern California or committees thereof, and for each day's service rendered as Director, not exceeding a total of ten (10) additional days in any calendar month. The representative shall be compensated for no more than one meeting per day even if more than one meeting is attended in one day.

(c) On the first Board meeting in January of each year, compensation to each Director and each representative of the District on the Metropolitan

Water District of Southern California Board of Directors may be increased prospectively up to a maximum of five percent (5%), upon approval by the Board each calendar year following the operative date of the last adjustment.

(d) Directors, other than Directors who have not been reelected to office, and including Directors-elect, may attend general meetings and educational seminars conducted by Association of California Water Agencies (ACWA), the California Association of Sanitation Agencies (CASA), California Water Policy Planning Committee, Association of Water Agencies of Ventura County (AWA), WateReuse Association, Southern California Water Committee, and California Special Districts Association (CSDA). Directors are also authorized to attend various other meetings and committee meetings if appointed to serve by the Board as the Board's delegate/committee member. Directors may request, verbally or in writing, the Board to authorize attendance at meetings and seminars conducted by other organizations on subjects related to District operations. At least annually, the Board shall determine the meetings for which Directors shall be compensated.

(e) Directors shall submit claims for compensation. The Secretary of the Board shall authorize payment for meetings and service and shall report such payments at a regular meeting following the month of submittal at which time the Board may ratify or disapprove payment of the claim(s).

(f) Directors shall be entitled to per diem compensation for actual travel associated with authorized meetings or educational seminars as follows:

(1) For travel outside California, up to one day prior to the start of the event and one day following conclusion of the event;

(2) For travel in California but outside Los Angeles, Orange and Ventura Counties, up to one day prior to the start of the event or one day following conclusion of the event; or

(3) For travel in Los Angeles, Orange and Ventura Counties, per diem compensation is not normally provided for travel except under extenuating circumstances as approved by the Board."

Section 3. Other.

Except as provided herein, Resolution No. 2468 (Administrative Code) is hereby

reaffirmed and readopted.

PASSED, APPROVED AND ADOPTED on_____, 2019.

_____

Jay Lewitt, President

ATTEST:

_____

Charles Caspary, Secretary

(Seal)

APPROVED AS TO FORM:

_____

Keith Lemieux, District Counsel

April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Board Member Life Insurance Coverage Limits: Consideration of Options

SUMMARY:

The District currently contracts with Anthem Blue Cross to provide employees and Board Members with insurance coverage for life, accidental death and dismemberment (AD&D), short- and long-term disability and an Employee Assistance Program (EAP). Currently, Board Member benefits include life and AD&D coverage, in the amount of $25,000. On March 12, 2019, Director Lynda Lo-Hill requested that staff evaluate the cost for the District to increase the coverage provided to Board members from $25,000 to $50,000.

Poms & Associates Insurance Brokers, LLC (Poms) serves as the District's broker for the various insurance benefits. Staff worked with Poms to obtain quotes for the requested insurance coverage of $50,000, together with an additional option of $100,000 due to the age reduction schedule that is included in the current coverage terms. This items presents the cost of both options for the Board's consideration.

RECOMMENDATION(S):

Consider the options and associated costs to increase the life insurance coverage for Board Members and provide direction to staff on any proposed changes to the coverage limits.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

The annual cost of increasing the life and AD&D insurance benefits for Board Members to

$50,000 and $100,000 would be $3,050 and $4,972, respectively.

DISCUSSION:

On March 12, 2019, Director Lynda Lo-Hill requested that staff evaluate the cost for the District to increase the life coverage provided to Board members from $25,000 to $50,000. Staff coordinated with Poms to obtain quotes for the amount requested by the Board and included an additional quote for $100,000 for comparison purposes and considering the age reduction schedule that is included in the District's current life insurance coverage plan.

Age reduction schedules are standard to most life insurance plans. The District's plan has two age reduction provisions. At age 70, the benefit amount is reduced by 35%. The benefit amount is reduced by 50% at age 75. In light of these provisions, staff requested quotes for coverage limits at both $50,000 and $100,000, recognizing that these amounts are reduced by up to 50% depending on the age of the individual.

Currently, the annual premium for life insurance and AD&D coverage for all employees and Board Members is approximately $40,000. Increasing the coverage limit for Board Members from $25,000 to $50,000 would increase the annual premium by $3,050, or approximately 7.6%. Increasing the coverage for Board members from $25,000 to $100,000 would increase the annual premium by $4,972, or approximately 12.3%.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Sherri Paniagua, Human Resources Manager

April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Proposed Organizational Changes: Approval

SUMMARY:

Resignations and retirements present an opportunity for the District to evaluate its organizational structure to ensure that it is best aligned to serve the District's operational needs, achieve its strategic plan goals and support long-term succession planning. Currently, the District has nine vacancies spread throughout its three departments. These vacancies allowed each Department Head, together with the support of the General Manger and Human Resources Manager, to evaluate current and anticipated resources needs. Based on those evaluations, staff recommends a series of organizational changes as described in this report.

RECOMMENDATION(S):

Approve the following changes to the District's table of organization, resulting in the net addition of one full-time-equivalent position:

- Replacement of an existing, vacant Water System/Facilities Manager position (Salary Grade E122) with a Water Systems Manager/Engineer position (Salary Grade E114/E122) and a Facilities Manager/Engineer position (Salary Grade E114/E122);
- Reclassification of an existing, vacant Water Treatment Plant Operator II position (Salary Grade 46) to a new, flexible series Water Treatment Plant Operator I/II/III position (Salary Grade 32/42/64);
- Reclassification of an existing, vacant Water Reclamation Operator I/II position (Salary Grade 42/62) to a new flexible series Compost Worker/Operator position (Salary Grade 22/36);
- Replacement of an existing, vacant Account Clerk I/II position (Salary Grade 18/27) with an Accountant position (Salary Grade M66);
- Replacement of an existing, vacant Receptionist/Office Assistant position (Salary Grade 22) with a new Customer Service Office Supervisor position (Salary Grade M85);
- Reclassification of an existing, vacant Environmental Analyst I/II position (Salary Grade M63/M77) to a Resource Conservation Specialist I/II position (Salary Grade 32/46); and
- Retitling of an existing Water Conservation Coordinator position (Salary Grade M85) to a Resource Conservation Supervisor position (Salary Grade M85).

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

The total maximum annual cost of the proposed organizational changes is $371,905.24. However, the near-term annual cost is expected to be lower, depending on the placement of selected candidates for the various positions within the salary ranges.

Following is a summary of the net cost of the proposed changes by Department:

Department	Cost
Facilities & Operations	
Managers (net)	$269,711.84
Water Treatment Plant Operator I/II/III (net)	$20,462.55
Compost Worker/Operator (net)	($18,012.63)
Subtotal	**$283,960.03**
Finance & Administration	
Accountant (net)	$65,247.90
Subtotal	**$65,247.90**
Resource Conservation & Public Outreach	
Customer Service Office Supervisor	$182,911.80
Receptionist/Office Assistant	($104,142.63)
Resource Conservation Specialist I/II (net)	($44,273.59)
Resource Conservation Supervisor (net)	$0
Subtotal	**$34,495.58**
TOTAL	**$371,905.24**

DISCUSSION:

With the completion of the District's Succession Plan last year, the General Manager, Department Heads and Human Resources Manager have worked together to evaluate the District's organizational structure when vacancies arise due to retirements and/or resignations. The objectives are to ensure that the organizational structure meets the District's operational needs, enables staff to achieve the Board's strategic objectives and supports long-term succession planning. With nine current vacancies, staff proposes a series of organizational changes to support the District's long-term success.

Following is a detailed description of the proposed organizational changes.

Facilities and Operations Department

With a vacancy for the position of Water Systems/Facilities Manager due to a recent retirement, the District has an opportunity to evaluate the organizational structure to ensure continued regulatory compliance, while maintaining a comprehensive focus on maintenance and replacement of the District's aging infrastructure. The Division is expected to be impacted in the future by workload increases associated with operation of the Pure Water Demonstration Project, Pure Water Project Las Virgenes-Triunfo, increasingly complex regulatory requirements, the application of new technology and an increase in fixed assets. The Division also currently has a vacant Water Treatment Operator II position.

Based on an assessment of current and future needs, staff proposes replacement of the existing, vacant Water System/Facilities Manager position with a Water Systems Manager/Engineer position and a Facilities Manager/Engineer position.

Water Systems Manager/Engineer (Salary Grade E114/E122):

The Water Systems Manager/Engineer would report to the Director of Facilities and Operations and oversee the operation of potable and recycled water distribution systems, Las Virgenes Reservoir and the Westlake Filtration Plant. The manager would also be responsible for regulatory compliance for the potable and recycled water systems, reservoir and Westlake Filtration Plant. In the future, this manager would be responsible for the operation and regulatory compliance associated with the Pure Water Demonstration Project and Pure Water Project Las Virgenes-Triunfo. Initially, the Water Treatment and Production Division would report to the Water Systems Manager/Engineer with one direct report and 11 staff members. However, It is very likely that a second division, including a supervisor and staff, would be added in the future, separating the functions of treatment and production from transmission and distribution. The position is recommended to be paid at Salary Grade E114 or E122, depending on whether or not the selected candidate is a Professional Engineer.

Facilities Manager/Engineer (Salary Grade E114/E122):

The Facilities Manager/Engineer would also report to the Director of Facilities and Operations and would oversee all maintenance activities for the District, including facility maintenance, electrical and instrumentation, construction and fleet. This Manager would also be responsible for the trunk sewer system and compliance activities for the facilities regulated by the South Coast Air Quality Management District and Los Angeles County Fire Department. Three divisions (Facilities Maintenance, Electrical and Instrumentation, and Construction) would report to the Facilities Manager/Engineer with three direct reports and 21 staff members. The position is also recommended to be paid at Salary Grade E114 or E122, depending on whether or not the selected candidate is a Professional Engineer.

Water Treatment Operator I/II/III Series (Salary Grade 32/42/64):

The District's Westlake Filtration Plant is classified as a T4 facility by State Water Resources Control Board, Division of Drinking Water. The group currently has a Chief Water Treatment Plant Operator (CWTO), which requires a T4 certification, a Water Treatment Plant Operator III (WTPO III), which requires a T3 certification, and a vacant Water Treatment Plant Operator II (WTPO II).

The WTPO II requires T3 and D3 certifications because the position required work at both the treatment plant and in the distribution system. To obtain a T3 certification, an individual must have one year's experience as a T2 operator and one additional year's experience as a certified treatment operator, plus additional educational requirements. Although the District has several employees with T2 certifications, it is difficult for employees to gain treatment experience because of the seasonal operation of the Westlake Filtration Plant. As a result, there is currently no line of succession for water treatment operators, so this is a critical area to consider changes for succession planning. The proposed change will create a flexible series position to allow for operators to begin as a WTPO I (Salary Grade 32) and flex into the WTPO II (Salary Grade 42) and III (Salary Grade 64).

Compost Worker/Operator (Salary Grade 22/36):

The current vacancy for a Water Reclamation Operator I/II is recommended to be changed to a new flexible series position of Compost Worker/Operator. The Rancho Las Virgenes Composting Facility does not require certified operators to work in the reactor or cure portions of the process. This recommended position change allows the District to attract applicants who have minimal experience and provides the opportunity for individuals to start as a Compost Worker and eventually flex to a Compost Operator. The Compost Operator would require an Operator-in-Training certificate from the State Water Resources Control Board. Compost Operators could work in the digestion and dewatering portions of the composting facility under the direction of a certified operator. The Compost Operator position would provide an opportunity to compete for a Water Reclamation Operator position in the future.

Finance and Administration Department

Over recent years, the Finance Division has experienced a steady increase in workload and complexity of it assignments. There have been a series of new Government Accounting Standard Board (GASB) pronouncements requiring implementation with several more on the horizon. In addition, State reporting has increased and become more complex.

Accountant (Salary Grade M66):

The Finance Division is comprised of nine employees. The accounting series is currently comprised of five different positions: Account Clerk, Accounting Technician (Payroll), Accounting Technician (General), Senior Accounting Technician and Senior Accountant. Last year, the Account Clerk was promoted to Accounting Technician, creating a vacancy. Due to the increased complexity of workload and reporting requirements, upcoming implementation of a new Enterprise Resource Planning (ERP) system, and importance of succession planning, staff recommends filling an Accountant position in lieu of the Account Clerk position.
The change to an Accountant position would provide a career path through the accounting series by bridging an existing gap between Senior Accounting Technician and Senior Accountant. The Accountant would also be able to perform higher level work in support of the Senior Accountant and implementation of the ERP system. This position is recommended to be paid at Salary Grade M66, which is unchanged from when this position was previously filled.

Resource Conservation and Public Outreach Department

Additional workload associated with monthly billing, budget-based rates, new reporting requirements are expected to impact customer service operations and support the need for

more emphasis on water conservation efforts in the Resource Conservation and Public Outreach Department. Organizational changes are recommended to improve overall operational efficiency, provide enhancements to customer service and support meeting the performance targets outlined in the Comprehensive Water Conservation Plan.

Customer Service Office Supervisor (Salary Grade M85):

A Customer Service Office Supervisor position is recommended, would report to the Customer Service Manager and oversee four Customer Service Representatives. The new position would direct and coordinate all office customer service responsibilities, including reception, phone response, customer inquiries and complaints, billing, payments, collections, customer service records, service initiation and termination, reporting to the state and issue resolution. In addition, the position would provide much needed backup for the office customer service function, which does not currently exist when Customer Service Representatives are out on vacation or due to illness. The Customer Service Office Supervisor position is recommended to be paid at the Salary Grade M85.

This change would also require a revision to the job description for the Customer Service Operations Supervisor position, which would no longer include the supervision of office Customer Service Representatives and would be focused on supervision of the Field Customer Service Representatives. This change has the added benefit of allowing the Customer Service Operations Supervisor to focus more time and effort on field operations and maintenance activities, which will help further enhance overall customer service. In addition, the field customer service operations function is expected to require additional effort as the District implements Automated Meter Reading/Advanced Metering Infrastructure (AMR/AMI) and can proactively identify customer issues such as leaks.

Resource Conservation Specialist I/II (Salary Grade 32/46):

The existing, vacant Environmental Analyst I/II position is recommended to be changed to a Resource Conservation Specialist I/II position, reporting to the Resource Conservation Supervisor and participating in various programs and projects related to the conservation and efficient use of potable water, recycled water, biosolids and other resources. This change would allow more flexibility in assignments and better align with the District's conservation efforts. The position is recommended to be paid at Salary Grade 32/46.

Resource Conservation Supervisor (Salary Grade M85):

The title of the Water Conservation Coordinator is recommended to be changed to Resource Conservation Supervisor to better reflect the duties of the position. The Resource Conservation Supervisor would report to the Resource Conservation Manager and be responsible for planning and coordinating the District's programs to enable and encourage customers to value and conserve water. The Resource Conservation Supervisor would provide leadership, creativity and proactive guidance to staff in maintaining the District's leadership in water conservation, consistent with its strategic conservation goals. The position would also be responsible for integrating the District's conservation programs with public outreach, customer service and watershed management programs, as well as managing services for landscaping and the Las Virgenes Farm Sprayfields. There are no changes to this position other than a title change to better reflect its function and responsibilities. In addition, the new job description would specify that the position would be responsible for supervision of the Resource Conservation Specialist I/II. There is no proposed change to

the pay grade for the position because the existing classification for Water Conservation Coordinator included supervisory responsibilities.

GOALS:

Assure a Quality, Continually Improving Workforce

Prepared by: Sherri Paniagua, Human Resources Manager

April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : 2018 Bioassessment Monitoring Report: Approval of Purchase Order

The Las Virgenes-Triunfo Joint Powers Authority (JPA) approved funding for this matter in the JPA Budget. This recommendation is before the LVMWD Board for action, as Administering Agent of the JPA, as authorized by the JPA Agreement.

SUMMARY:

Since 2006, the JPA has submitted an annual bioassessment monitoring report as required by Tapia's NPDES Permit. The report is intended to assess the "eco-health of the stream" by measuring the physical condition of the receiving waters and their biological communities. The work involves sampling and characterizing the habitat potential of the creek, as well as identifying and quantifying the species of benthic macroinvertebrates at eight receiving water stations.

In 2010, new requirements were established for the JPA to conduct sampling and taxonomic identification of algal biomass taken from the substrate. This task is labor intensive and requires the use of specialized consultants and laboratories. As a result, the overall cost of the bioassessment monitoring has increased.

The 2018 bioassessment monitoring report cost is $48,866, which exceeds the $35,000 limit on purchase orders that can be approved by the General Manager. Therefore, the issuance of a purchase order needs to be approved by the Board.

RECOMMENDATION(S):

Authorize the General Manager to approve a purchase order to Aquatic Bioassay Consulting Laboratories, Inc., in the amount of $48,866, for the 2018 Bioassessment Monitoring Report.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available for this work in the adopted Fiscal Year 2018-19 JPA Budget.

DISCUSSION:

Bioassessment monitoring for Malibu Creek sampling sites is required by Tapia's NPDES Permit. The monitoring consists of creek site sampling and observations, together with laboratory and data analysis for each site under protocols established by the Surface Water Ambient Monitoring Program (SWAMP) and the U.S. EPA estuarine sampling guidance documents for RSW-MC011D (Malibu Lagoon).

Site observations include stream flow measurements and a physical habitat assessment, which evaluates stream bank conditions, potential sediment impairment and canopy cover. It was noted that the stream flows were below average at the time of sampling. Receiving water site RSW-MC009U was not evaluated due to dry conditions. Physical habitat assessments for most sites were suboptimal with RSW-007U and RSW-001D having the lowest (marginal) score due to sediment deposition and channel alteration.

The laboratory analyses of the site samples identified 3,636 benthic macroinvertebrates from 50 different taxa. The majority of the samples were seed shrimp from the Malibu Lagoon. The upstream sample sites included disturbance tolerant species including clams, amphipods, midges, nemertean worms, mayflies and New Zealand mudsnails. New Zealand Mudsnails were found at sites RSW-004D, RSW-003D and RSW-001U in similar numbers to previous bioassessments.

Results from sampling and laboratory analyses were used to determine scores using the Southern California Index of Biological Integrity (SoCA IBI), the California Stream Condition Index (CSCI) and the Southern California Algae Index of Biological Integrity (SoCA Algae IBI). SoCA IBI and CSCI scores are determined by the composition of the benthic macroinvertebrate community, while SoCA Algae IBI scores are determined by the abundances and composition of diatom and soft-bodied algae communities. The SoCA IBI scores for the receiving water stations were all either "non-reference" or "reference," and CSCI scores were either "possibly altered", "likely altered" or "very likely altered."

One of the potential reasons given for the low scores in the bioassessment report was the water quality in Malibu Creek. Because of high sulfate and phosphate concentrations in the water due to the influence of the Monterey Formation, there is a detrimental effect on benthic macroinvertebrates.

GOALS:

Construct, Manage and Maintain All Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

The Bioassessment Report evaluates the ecological health of Malibu Creek.

Prepared by: Brett Dingman, Water Reclamation Manager

ATTACHMENTS:

2018 Bioassessment Monitoring Report
Invoice from Aquatic Bioassay Consulting Laboratories, Inc.

March 18th, 2019

Brett Dingman, P.E.
Water Reclamation Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Rd.
Calabasas, CA 91302

Dear Mr. Dingman:

In accordance with the agreement between the Las Virgenes Municipal Water District and Aquatic Bioassay and Consulting Laboratories, Inc., we are pleased to present the 2018 Bioassessment Monitoring Report for the Tapia Water Reclamation Facility (MRP No. CI-4760). The enclosed report includes the results for the summer 2018 annual requirements set forth by the California Regional Water Quality Control Board, Los Angeles Region.

Yours very truly,

Scott Johnson
Laboratory Director, Senior Scientist
scott@aquaticbioassay.com · (805) 643-5621 x11
29 north olive · ventura · ca 93001
www.aquaticbioassay.com

Las Virgenes Municipal Water District
Tapia Water Reclamation Facility
Spring 2018 Bioassessment Monitoring Report
(NPDES CA0056014)

Submitted to:

Las Virgenes Municipal Water District
731 Malibu Canyon Rd.
Calabasas, CA 91302

Submitted by:

Aquatic Bioassay and Consulting Laboratories
29 N Olive Street
Ventura, CA 93001

March 2019

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Introduction

Watershed Background

The Malibu Creek watershed is located about 30 miles west of Los Angeles, California and drains an area of 109 square miles. The watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Santa Monica Bay at Malibu State Beach. Malibu Lagoon, currently about 31 acres in size, occupies the area behind the beach at the mouth of Malibu Creek. The entire watershed lies within Level 3 sub-ecoregion 6 (Southern and Central California Chaparral) within aggregate nutrient ecoregion 3 (USEPA, 2000a). The watershed is a predominately chaparral ecosystem with a Mediterranean climate that includes mild, wet winters and hot, dry summers. Annual precipitation ranges from an average of 13.2 inches near the coast to 25.4 inches in the mountains.

Malibu Creek runs 10 miles from Malibu Lake to Malibu Lagoon. The predominant land cover in the Malibu Creek sub-watershed is open land. The Tapia Water Reclamation Facility (TWRF) is in this sub-watershed and contributes significant flow to the Creek in the winter months. Malibu Creek receives flow from Las Virgenes Creek, which runs eleven miles and drains an area of 12,456-acres. Land cover in the Las Virgenes Creek sub-watershed is predominantly open, with some residential and commercial/industrial land. Malibu Lagoon is located at the mouth of Malibu Creek before its discharge to the Pacific Ocean. The wetland acreage includes 2/3 mile of the creek corridor east of the Pacific Coast Highway and 92 acres of wetland habitat. The Lagoon has been the focus of a remediation effort aimed at returning it to a more naturally functioning wetland.

Bioassessments

Major issues facing streams and rivers in California include modification of in-stream and riparian structure (hydromodification), contaminated water, and increases in impervious surfaces that has led to the increased runoff to local creeks, streams and rivers. There have been many studies and reports showing the deleterious effects of land-use activities to macroinvertebrate and fish communities (Jones and Clark 1987; Lenat and Crawford 1994; Weaver and Garman 1994; and Karr 1998). A major focus of freshwater scientists has been the prevention of further degradation and restoration of streams to their more pristine conditions (Karr et al. 2000).

Biological communities act to integrate the effects of water quality conditions in a stream by responding with changes in their population abundances and species composition over time. These populations are sensitive to multiple aspects of water and habitat quality, and provide the public with more familiar expressions of ecological health than the results of chemical and toxicity tests (Gibson 1996). Furthermore, biological assessments, when integrated with physical and chemical assessments, better define the effects of point-source discharges of contaminates and provide a more appropriate means for evaluating discharges of non-chemical substances (e.g. nutrients and sediment).

Water resource monitoring using benthic macroinvertebrates (BMI) is by far the most popular method used throughout the world. BMIs are ubiquitous, relatively stationary, and their large species diversity provides a spectrum of responses to environmental stresses (Rosenberg and Resh 1993). Individual species of BMIs reside in the aquatic environment for a period of months to several years and are sensitive, in varying degrees, to temperature, dissolved oxygen, sedimentation, scouring, nutrient enrichment, and chemical and organic pollution (Resh and Jackson 1993). BMIs represent a significant food source for aquatic and terrestrial animals, and provide a wealth of ecological and bio-geographical information (Erman 1996).

Attached algae have also been used as indicators of biological condition extensively in Europe and United States (Komulaynen 2002; Perrin and Richardson 1997; Cascallar, et al. 2003). As indicators, algae tend to respond to different stressors than BMIs, especially nutrients (Marinelarena and Di Giorgi 2001). In addition, the growth and maturation of algal communities is more rapid than BMIs making their assemblages more representative of recent water quality conditions (Nelson and Lieberman 2002; Robinson and Minshall 1998; Suren et al. 2003).

Program Objectives

This report includes the results of bioassessment monitoring (including both benthic macroinvertebrates (BMIs) and attached algae) conducted for the Las Virgenes Municipal Water District (LVMWD) at eight sampling locations in the Malibu Creek Watershed during the summer of 2018. This monitoring program was initiated, at the request of the Los Angeles Regional Water Quality Control Board (LARWQCB), in compliance with the Tapia Water Reclamation Facilities (TWRF) NPDES permit CA0056014 (MRP No. CI-4760).

Bioassessment monitoring followed the protocols established by the State of California's, Surface Water Ambient Monitoring Program (Ode et al. 2016).

In response to this requirement, Aquatic Bioassay and Consulting Laboratories, Inc. (Aquatic Bioassay) was contracted to conduct sampling in the Malibu Creek Watershed. On July 16th through August 3rd, 2019, Aquatic Bioassay scientists conducted the thirteenth year of bioassessment sampling.

The goal of this program is to:

1. Provide a comparison of the macroinvertebrate and attached algae assemblages on the Malibu Creek to assess the aquatic health of locations both upstream and downstream of the TWRF outfall; and,

2. Evaluate the physical/habitat condition of these sampling sites.

This report includes all the physical, chemical, and biological data collected during the spring survey, photographic documentation of each site, QA/QC procedures and documentation followed by biological metrics and the California Stream Condition Index (CSCI), along with interpretation of these results with comparisons between sample locations, and across years. In addition, the most recent update of the TWRF NPDES permit (2010) included a provision that required the collection and analysis of attached algae from each of the sites in conjunction with the macroinvertebrate samples. These data were evaluated using the Southern California Algae Index of Biological Integrity (SoCA Algae IBI).

Materials and Methods

Sampling Site Descriptions

Eight sampling locations were visited in the Malibu Creek Watershed from July 16th through August 3rd, 2018 (Table 1, Figure 1). Station identifiers, as specified in the NPDES permit, are presented in all tables and figures, but are abbreviated in the text to improve readability. Photographs of each site are displayed in Appendix B, Figure 7. Of the eight sites sampled, six are located in Malibu Creek, one is located in Las Virgenes Creek (station R-7), and one is located in Malibu Lagoon (station R-11). When the berm separating Malibu Lagoon from the ocean is breached, station R-11 is subject to tidal flushing and therefore, higher salinities. Stations R-3 and R-4 are located above the Lagoon and below Rindge Dam. Stations R-2 and R-13 are located on Malibu Creek downstream of the TWRF outfall, and stations R-1 and R-9 are located just upstream of the discharge. Station R-7 is located on Las Virgenes Creek in the upper portion of the watershed.

Table 1. Sampling location descriptions in the Malibu Creek Watershed.

Station ID	Sample Date	Name	Watershed	Position From TWRF Outfall	Distance (m) from TWRF Outfall	Latitude (N)	Longitude (W)	Elev. (m)
RSW-MC011D	8/3/2018	Malibu Lagoon	Malibu	Downstream	7470	34.03381	118.68287	1
RSW-MC004D	8/3/2018	Malibu Creek	Malibu	Downstream	6290	34.04382	118.68497	8
RSW-MC003D	8/3/2018	Malibu Creek	Malibu	Downstream	5860	34.04576	118.68776	13
RSW-MC013D	7/16/2018	Malibu Creek	Malibu	Downstream	930	34.07610	118.70278	140
RSW-MC002D	7/16/2018	Malibu Creek	Malibu	Downstream	150	34.08122	118.70463	143
RSW-MC001U	7/17/2018	Malibu Creek	Malibu	Upstream	560	34.08382	118.71141	146
RSW-MC009U	Dry	Malibu Creek	Malibu	Upstream	2500	34.09862	118.72150	151
RSW-MC007D	7/17/2018	Las Virgenes Creek	Malibu	Upper Watershed	7650	34.13389	118.70647	220

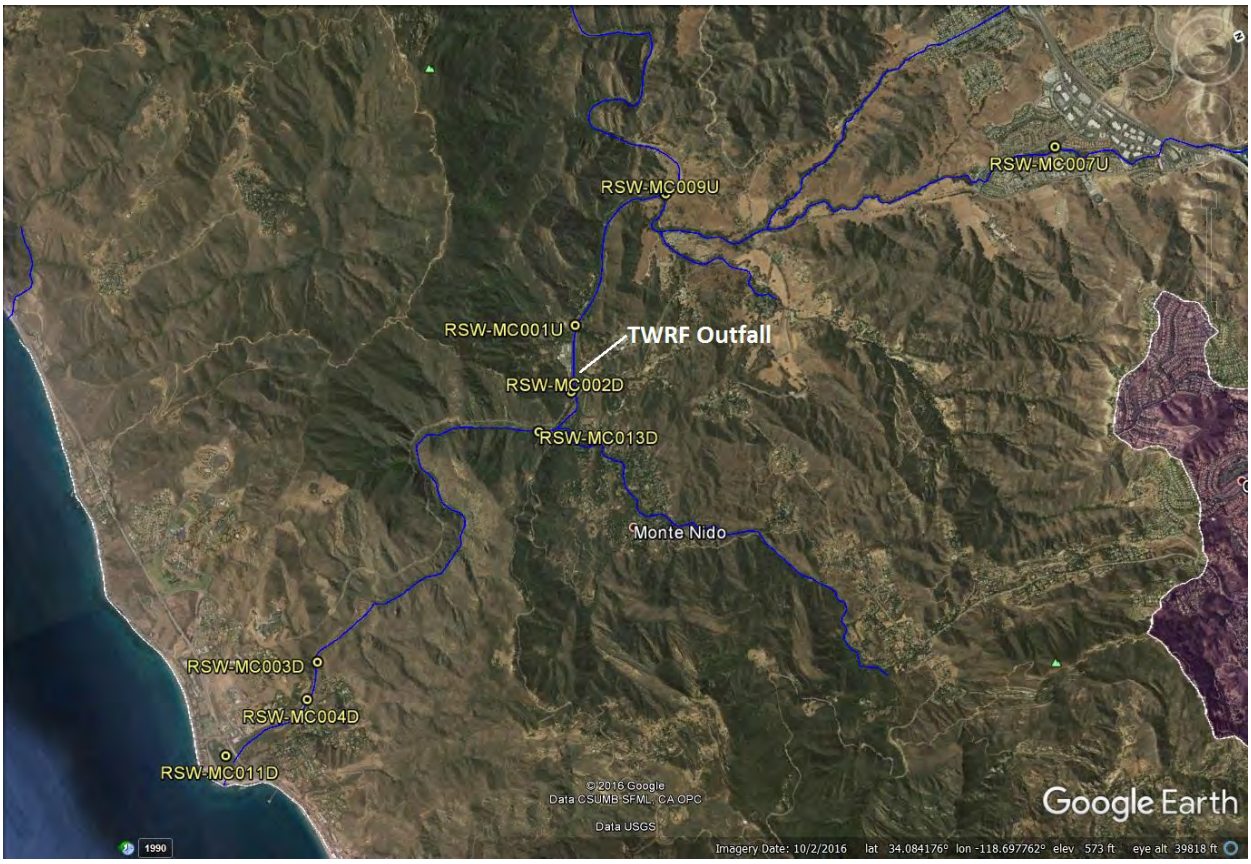


Figure 1. BMI sampling locations in the Malibu Creek Watershed in the vicinity of the Las Virgenes Municipal Water District Tapia Water Reclamation Facilities (LVMWD TWRF) discharge.

Collection of Benthic Macroinvertebrates

Wadeable Streams Protocols:

The field protocols and assessment procedures for collection of BMIs and attached algae followed the Surface Water Ambient Monitoring Program protocols (Ode et al. 2016). Samples were collected in strict adherence to the SWAMP protocols in terms of both sampling methodology and QC procedures. At each station, a 150-meter (m) reach was measured and 11 transects were established equidistance apart from the downstream to upstream end of the reach. If access to the full 150 m reach was not possible due to obstacles (i.e. bridges, or abutments), the total reach length was divided by 11 and transects were established as above. At each site the SWAMP Worksheet was used to collect all of the necessary station information and physical habitat data.

BMI samples were collected, starting with the downstream transect and working upstream, following the Reach Wide Benthos (RWB) sampling protocol:

1. At the most downstream transect, a single location was sampled 25% of the distance from the right wetted width. On the second upstream transect, a sample was collected 50% of the distance from the right wetted width and, on the third transect, 75% of the distance from the right wetted width. This process was repeated until each of the 11 transects had been sampled.

    a) All samples of the benthos were collected within a 0.09 m^2 area upstream of a 0.03 m wide, 0.5 mm mesh D-frame kick-net.

    b) Sampling of the benthos was performed manually by rubbing cobble and boulder substrates in front of the net, followed by disturbing the upper layers of substrate to dislodge any remaining invertebrates.

    c) The duration of sampling ranged from 60-120 seconds, depending on the amount of boulder and cobble-sized substrate that required rubbing by hand; complex substrates require a greater amount of time to process.

2. The 11 samples (per station) were combined into a single composite sample that represented a 0.99 m^2 area of the total reach sampled. The composited samples were transferred into separate two liter wide-mouth plastic jars containing approximately 300 ml of 95% ethanol.

3. Chain of Custody (COC) sheets were completed for samples as each station was completed.

Malibu Lagoon Sampling Protocol (Station R-11):

Station R-11 was located at the lower end of Malibu Creek in the Lagoon. This site is within the tidal prism and is therefore subject to brackish water conditions. As a result, sampling was conducted in adherence to protocols more specific to estuaries (USEPA 2000b). Triplicate benthic samples were collected at station R-11 using a 0.05 m^2 Petite Ponar Grab. Each sample was sieved through a 0.5 mm mesh screen and composited into a two-liter wide-mouth plastic jar containing approximately 300 ml of 95% ethanol.

Collection of Attached Algae

Stream attached algae collection was conducted in strict accordance with SWAMP sampling procedures (Ode et al. 2016) at all stations except R-11 which was in the Malibu Lagoon. Attached algae samples were collected at the same time as the BMI samples. Algae quantitative samples are collected a meter directly above where the BMIs were collected. The collection procedure is variable depending on the substrate found at the collection point but all samples are composited together into a wash bucket for further processing.

1. If the substrate type is removable and is in a depositional habitat (e.g. fine gravel, silt or sand) and has an exposed area of less than 12.6 cm^2, then a PVC delimiter, which is plastic coring device with an internal diameter of 4 cm, is used to collect the loose substrate up to 1 cm deep. Then a metal spatula is placed directly underneath the PVC delimiter to collect the loose material.

2. If the habitat type is erosional (e.g. cobble or a piece of wood) and removable then a rubber delimiter, which is comprised of bicycle tire with a reinforced hole of the desired area, is used to isolate a 12.6 cm^2 area of algae. The delimiter is wrapped around the object collected and a toothbrush is used to scrub the algae from the surface.

3. If the surface substrate cannot be removed (e.g. concrete, bedrock or large boulder), then a “syringe scrubber” is used to collect the algae from the surface underwater. Once the collection area has been scrubbed clean, the syringe plunger is retracted and the scrubber is removed and rinsed into the wash bucket.

Once algae samples from all 11 transects are collected and composited into the wash bucket, they are processed in the field. There are four different indicators targeted at each site, chlorophyll a (Chl-a), ash free dry weight (AFDW), diatoms and soft-bodied algae. For Chl-a and AFDW a 25 mL of composite sample are filtered through glass fiber pre-filters using a hand pump. The filter is placed in a petri dish, covered in aluminum foil and placed on dry ice until analyzed.

Diatom samples were prepared by combining 40 mL of composite water and 10 mL of 10% neutral buffered formalin preservative to a 50 mL centrifuge tube. The tube was covered in foil and placed on wet ice for future identification. Soft-bodied algae samples were prepared by adding 45 mL of composite water and 5 mL of 5% glutaraldehyde solution to a 50 mL centrifuge tube, covered in foil and placed on wet ice for identification.

Diatoms and soft-bodied algae samples were then sent to Rhithron Associates, Inc. in Missoula, MT for identification and enumeration. AFDM and Chl-a were sent to Sierra Environmental in Reno, NV for analysis.

Physical/Habitat Quality Assessment and Water Chemistry

Bioassessment sampling included a measure of the instream physical habitat conditions using a method originally developed by the USEPA and modified by SWAMP (Ode et al. 2016) for use in California. This method focuses on the habitat conditions found in the streambed and banks. The team collected the physical habitat measurements at each station, according to the full method outlined in the SWAMP manual, and recorded the information on the SWAMP worksheets.

Assessment of the P-Hab conditions of a stream reach is necessary to determine the quality of the stream reach as a habitat for BMIs. In many cases, organisms might not be exposed to chemical contaminants, yet their populations indicate that impairment has occurred. These population shifts can be the result of degraded stream bed and/or a degraded riparian habitat. Excess sediment is the leading pollutant in streams and rivers of the United States (Harrington and Born 2000). Sediments fill pools and interstitial areas of the stream substrate, where invertebrates live, and cause invertebrate populations to decline and/or community compositions to be altered. Three important measures of physical habitat quality include epifaunal substrate cover, sediment deposition and channel alteration. A streambed with good epifaunal cover is characterized by a highly irregular and complex habitat composed of cobble, gravel, organic debris, etc. These conditions provide optimum

conditions for BMI organisms. Conversely, when a streambed has little epifaunal cover, a large amount of sediment deposition, or its banks have been altered, conditions for BMIs are generally not as good.

Techniques for measuring physical habitat were as follows:

1. Water temperature, specific conductance, pH, and dissolved oxygen were measured using a hand held YSI 556 MPS water quality meter that was pre-calibrated in the laboratory. A water sample was collected for alkalinity and analyzed using the USEPA's Titrimetric (pH 4.5) 3101 method in the lab.

2. Wetted width, and depth were measured in meters using a stadia rod or measuring tape at each transect.

3. The total length of the stream reach was measured in meters.

4. Substrate size class was measured at five evenly spaced points along each transect to the nearest millimeter.

5. Discharge was measured on a single transect, using a hand held flow meter, following the velocity area method specified in the SWAMP bioassessment protocol.

6. A handheld densitometer was used to measure percent canopy cover.

7. Flow habitat regimes were visually estimated.

8. Stream gradient was measured using either an auto level or clinometer.

Aquatic Bioassay field teams are audited each year for proficiency using the SWAMP protocols by the Southern California Coastal Research Project (SCCWRP) and for the Southern California Stormwater Monitoring Coalition's (SMC) Regional Monitoring Program.

Sample Analysis/Taxonomic Identification of Benthic Macroinvertebrates (BMIs)

Sample sorting and taxonomy were conducted by Aquatic Bioassay in Ventura, California. Identifications were made using standard taxonomic keys (Literature Cited, Taxonomic References) and in most cases, taxa for this study were identified to the species level in adherence with the Standard Taxonomic Effort (STE) Level 2a, specified by the Southwest Association of Freshwater Invertebrate Taxonomists (SAFIT). Chironomids were identified to subfamily. Identifications were rolled up to the appropriate taxonomic level for the

calculation of biological metrics used in the CSCI. Samples entering the lab were processed as follows:

600 organisms were sub-sampled from the composite sample using a Katon tray, and then sorted into major taxonomic groups. All remnants were stored for future reference. The 600 organisms were identified to the genus level for most insects, and order or class for non-insects. As new species to the survey area were identified, examples of each were added to the voucher collection. The voucher collection includes at least one individual of each species collected and ensures that naming conventions can be maintained and changed as necessary into the future.

The taxonomic QA/QC procedures followed for this survey included:

1. Sorting efficiencies were checked on all samples and a minimum required sorting efficiency was 95% (i.e. no more than 5% of the total number of organisms sorted from the grids could be left in the sub-sample) was maintained. At least 10% of all processed material from each sample was inspected by the laboratory supervisor for the aforementioned efficiency. Sorting efficiency results were documented on each station's sample tracking sheet.

2. Once identification work was completed, Aquatic Bioassay taxonomists conduct QC as follows:

    a. Ten percent of all stations sampled were randomly selected for internal QC by another Aquatic Bioassay taxonomist. Samples were checked for both enumeration and identification accuracy, which must both pass a 95% efficiency criterion. Discrepancies were resolved and the database was updated.

    b. Ten percent of all samples (n = 15 QC samples) collected each season in the southern California region (n = ~150 samples) by Aquatic Bioassay are sent to the California Department of Fish and Game (CDFG) offices in Chico California for an external QA/QC check. Samples were sorted by species into individual vials that included an internal label. Any discrepancies in counts or identification found by the CDFG taxonomists were discussed, and then resolved. All data sheets were corrected and, when necessary, bioassessment metrics were updated.

3. It is a requisite of our QC program that all staff members involved in taxonomy belong to SAFIT, an organization dedicated to the standardization of freshwater organism naming conventions.

Sample Analysis/Taxonomic Identification of Attached Algae

Samples for algal analysis were conducted by the Rhithron Associates, Inc. located in Missoula, MT. Laboratory identification procedures for soft algae and diatoms followed SWAMP protocols (Kociolek *et. al* 2011; Stancheva and Sheath, 2011) and are summarized as follows:

Qualitative Soft Algae Analysis

Using a dissecting scope, analysts performed a qualitative scan to identify as many microalga taxa as possible. Specimens were identified to species or lowest practical taxonomic level, and then photos were taken for all determined taxa.

Quantitative Soft Macroalgae Analysis

Using a dissecting scope, analysts processed samples to determine the representative portion of macroalgae (and mosses, vascular plant tissues or roots if present). Bio-volumes were determined by original water displacement. Specimens were identified to species or lowest practical taxonomic resolution.

Quantitative Soft Microalgae Analysis

Using a compound microscope, analysts enumerated 300-500 natural units of soft microalgae. Specimens were identified to species or lowest practical taxonomic resolution. The total bio-volumes of microalgae were calculated using appropriate literature (ie. Hillebrand *et al*. 1999) for measurement designations. Photos were taken of all taxa to compile a synoptic reference collection.

Diatom Analysis

Samples were prepared using the Nitric Acid diatom cleaning method. Cleaned diatom material was diluted to acceptable counting ranges and mounted onto slides. Completed slides were delivered to the processing analyst. Samples were enumerated to 600 valves and identified to the species, or lowest practical taxonomic resolution. Photos were taken of all taxa and a synoptic reference collection was made.

Identification Quality Control

Internal QC protocols included re-identification of the digital synoptic reference collection.

Chlorophyll a and Ash Free Dry Mass of Attached Algae

Chlorophyll a (chl-a) and ash free dry mass (AFDM) analysis was conducted by Sierra Environmental (Reno, NV).

Laboratory	AFDM	Chl a
Silver State Analytical Laboratories	SM 2540	SM 10200

Data Development and Analysis

Benthic Macroinvertebrate Biological Metrics:

As species were identified and counted they were included in an Excel data sheet, checked for errors, and then imported into the Aquatic Bioassay BMI database system. The California Stream Condition Index (CSCI) and metrics were calculated using GIS and the CSCI package 1.1.2 R script (Mazor et al., 2015). The following metrics were calculated and their responses to impaired conditions are listed in Table 2:

- Percent Clinger Taxa is the percent of taxa in a sample that are adapted for attachment to plants or other hard surfaces in flowing water. A higher number of clinger taxa is indicative of a healthier community than if absent.
- Percent Coleoptera Taxa is the percent of taxa in a sample comprised of beetles (Coleoptera). This order is generally sensitive to impairment and when present, are usually indicative of a healthier community than if absent.
- Taxonomic Richness is a measure of the total number of species found at a site. This relatively simple index can provide much information about the integrity of the community. Few taxa at a site indicate that some species are being excluded, while a large number of taxa indicate a healthier community.
- Percent EPT Taxa is the percent of taxa in sample comprised of mayflies (Ephemeroptera), stoneflies (Plecoptera) and caddisflies (Trichoptera). These orders are generally sensitive to impairment and when present, are usually indicative of a healthier community than if any or all are absent.
- Shredder Taxa is the percent of taxa that shreds coarse particulate matter. Functional Feeding Group (FFG) indices provide information regarding the balance of feeding strategies represented in an aquatic assemblage. Shredder taxa are

generally sensitive to disturbance and increased number of taxa generally indicate a healthier community.

- Percent Intolerant Individuals is the percent of organisms in the sample that are highly intolerant to impairment. BMI species are assigned a literature cited tolerance value ranging from 0 (highly intolerant) to 10 (highly tolerant). The percent intolerant individuals have tolerance values ranging from 0 to 2. A site with many intolerant organisms is considered more pristine and indicate a healthier community.

Table 2. Bioassessment metrics used to describe characteristics of the BMI community.

MMI Metric	Description	Response to Impairment
% Clinger Taxa	Percent of taxa that are adapted for attachment to surfaces in flowing water.	Decrease
% Coleoptera Taxa	Percent taxa from the insect order coleoptera.	Decrease
Taxonomic Richness	Total number of individual taxa.	Decrease
% EPT Taxa	Percent taxa in the orders Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly).	Decrease
Shredder Taxa	Number of taxa that shreds coarse particulate matter.	Decrease
% Intolerant Individuals	Percent of organisms in the sample that are highly intolerant to impairment as indicated by a tolerance value of 0, 1, or 2.	Decrease

California Stream Condition Index (CSCI)

The California Stream Condition Index (CSCI) is a new statewide biological scoring tool that translates complex data about benthic macroinvertebrates (BMIs) found living in a stream into an overall measure of stream health (Mazor et al. 2016). The CSCI combines two separate types of indices, each of which provides unique information about the biological condition at a stream: a multi-metric index (MMI) that measures ecological structure and function, and an observed-to-expected (O/E) index that measures taxonomic completeness. Unlike previous MMI or O/E indices that were applicable only on a regional basis or under-represented large portions of the state, the CSCI was built with a statewide dataset (n = 1,985 sites) that represents the broad range of environmental conditions across California.

The CSCI was calibrated during its development so that the mean score of reference sites is 1. Scores that approach 0 indicate great departure from reference condition and degradation of biological condition. Scores > 1 can be interpreted to indicate greater taxonomic richness and more complex ecological function than predicted for a site given its natural environmental setting. In practice, CSCI scores observed from nearly 2000 study reaches sampled across California range from about 0.1 to 1.4. Mazor (et al. 2016) and Rhen (2015) suggested that for the purposes of making statewide assessments, three thresholds be established based on the 30th; 10th; and 1st percentiles of CSCI scores at reference sites. These three thresholds divide the CSCI scoring range into 4 categories of biological condition as follows: ≥0.92 = likely intact condition; 0.91 to 0.80 = possibly altered condition; 0.79 to 0.63 = likely altered condition; ≤0.62 = very likely altered condition. While these ranges do not represent regulatory threshold, they provide a useful method for interpreting CSCI results.

Historical Southern California CSCI scores:

To assess the condition of BMI communities at all stations over time, CSCI scores were averaged (± 95% CI) by station for surveys conducted between the 2015 through 2018. This historical data is presented in Figure 5.

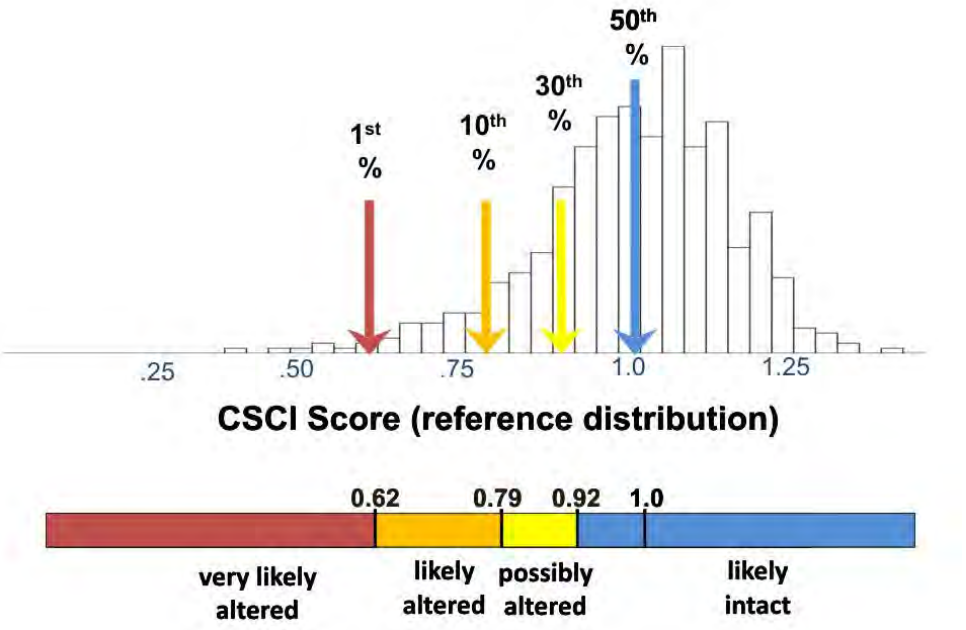


Figure 2. Distribution of CSCI scores at CA reference sites with thresholds and condition categories (Rhen et al., 2015).

Southern California Algae IBI (SoCA Algae IBI)

Soft-bodied algae and diatom community structure can be used to assess many aspects of stream water quality including the effects of nutrient loading and other contaminants (e.g. dissolved metals and organics). The Southern California Coastal Water Research Project (SCCWRP) scientists recently created the Southern California Algae IBI which is similar to the one used for BMIs to assess anthropogenic impacts (Fetscher et al. 2013). Algae samples were collected from 2007 thru 2010 at a total of 451 distinct southern California stream reaches were used to develop the IBI scoring system. The SoCA Algal IBI is composed of three indices; a diatom IBI (D18) is based solely on diatom metrics, a soft algae IBI (S2) is based solely on non-diatom (soft) algae metrics, and a hybrid (H20) of both diatom and soft bodied algae metrics. IBIs are composed of metrics chosen for their ability to differentiate between reference and non-reference stream conditions. Table 3 shows the metrics that were used to calculate the SoCA Algae IBI and their responses to human disturbance.

The boundary chosen to delineate between reference and non-reference condition (57 on a scale from 0 to 100) was based purely on statistical grounds, and was calculated as two standard deviations below the mean distribution of reference sites. As a result, it does not

represent an ecologically meaningful change point in community composition and cannot be used in a regulatory framework (e.g. to evaluate attainment of water body “aquatic life” goals; Fetscher et al. 2013).

Table 3. Diatom and soft bodied algae metrics used in the SoCA Algae IBI (grayed) and their responses to human disturbance.

Metric Category	Metric Theme	Metric	Data Type	Description	Response to Human Disturbance
Diatom					
Autecological Guild	Dissolved Oxygen	Proportion Requiring Nearly 100% DO	Proportion of Valves	Proportion of valves that require nearly 100% DO saturation	Decrease
		Proportion Requiring >50 % DO	Proportion of Valves	Proportion of valves that require at least 50 % DO saturation (sum 50+75+100)	Decrease
	Ionic Strength/Salinity	Proportion Halobiontic	Proportion of Valves	Proportion of valves that are brackish-fresh + brackish (i.e., they have a tolerance of, or requirements for, dissolved salt)	Increase
	Nutrients	Proportion Poly- & Eutrophic	Proportion of Valves	Proportion of valves that are polytrophic + eutrophic	Increase
	Organic Pollution	Proportion Nitrogen Heterotrophs	Proportion of Valves	Proportion of valves that are heterotrophs (includes both obligate and facultative heterotrophs)	Increase
		Proportion Oligo- & Beta-mesosaprobic	Proportion of Valves	Proportion of valves that are oligosaprobous + (beta-mesosapprobus)	Decrease
Morphologic Guild	Sedimentation	Proportion of Highly Motile	Proportion of Valves	Proportion of valves that are highly motile	increase
		Proportion of Sediment Tolerant (highly motile)	Proportion of Valves	Proportion of valves for which there is information that are highly motile (NOT moderately) + all planktonic	increase
Taxonomic Group	A. minutissimum	Proportion A. minutissimum	Proportion of Valves	Proportion of the valves that are Achnanthidium minutissimum	Decrease
Tolerance/Sensitivity	Nitrogen	Proportion of Low TN Indicators	Proportion of Valves	Proportion of valves that are indicators for high TN levels (>3 mg/L)	Decrease
	Phosphorous	Proportion of Low TP Indicators	Proportion of Valves	Portion of valves that are indicators for high TP levels (>0.1 mg/L)	Decrease
Soft Algae					
Relationship to Reference	Reference	Proportion of "non-reference" Indicators (Biovolume)	Relative Biovolumes	Proportion of total micro + macro biovolume composed of indicators of "non-reference" sites	Increase
		Proportion "non-reference" Indicators (Species)	Relative Species Numbers	Proportion of total species richness composed of indicators of "non-reference" sites	Increase
Taxonomic Group	Chlorphyta	Proportion Chlorophyta	Relative Biovolumes	Proportion of total micro + macro biovolume composed of Chlorophyta	Increase
		Proportion of green algae belonging to CRUS	Relative Biovolumes	Proportion of green algae (Chlorophyta + Charophyta) micro + macro biovolume composed of Cladophora golmerata, Rhizoclonium hieroglyphicum, Ulva flexosa, and Stigeoclonium sp.	Increase
	ZygnHeteroRhod	Proportion ZHR (Mean)	Relative Species Number and Biovolumes	Mean of scores for the corresponding species number and biovolume metrics	Decrease
		Proportion ZHR (Biovolume)	Relative Biovolumes	Zygnemataceae + Heterocystous Cyanobacteria + Rhodopyta	Decrease
Tolerance/Sensitivity	Copper	Proportion of High Cu Indicators	Relative Species Numbers	Proportion of total species richness composed of high copper (dissolved) indicators	Increase
	Organic Pollution	Proportion High DOC Indicators (Biovolume)	Relative Biovolumes	Proportion of total micro + macro biovolume composed of indicators of high DOC	Increase
		Proportion High DOC Indicators (Species)	Relative Species Numbers	Proportion of total species richness composed of high DOC indicators	Increase
	Phosphorous	Proportion of Low TP Indicators	Relative Species Numbers	Proportion of total species richness composed of low TP indicators	Decrease

Results

Physical Habitat Characteristics and Water Chemistry

Malibu Creek Watershed above Malibu Lagoon

General Physical Habitat Characteristics

The physical characteristics of the reaches sampled in Malibu Creek during the spring 2018 survey are presented in Table 5.

- The reach length was a maximum 150 m at each site, except at R-9 where the reach was dry. The average wetted width was greatest at R-2 (10.6 m) and least at R-7 (3.2 m). Average depth was greatest at R-1 (26.7 cm) and least at R-3 (5.4 cm). Stream discharge was low at all sites ranging from < 0.01 m^3/s (R-4, R-3 and R-7) to 0.07 m^3/s at R-1. The slope of all stations ranged from 0.02% (R-1) to 2.0% (R-3).
- Vegetative canopy cover was relatively high at all sites ranging from 92% at R-7 on Las Virgenes Creek, to 21% at R-4. The average thickness of microalgae was low across sites, ranging from 0.01 to 0.05 mm. The presence of macroalgae was greatest at R-4 (21%) and least at R-7 (2%). The presence of macrophytes ranged from 2% at R-13 to 21% at R-7.
- Bank stability is the observed potential of a bank to erode. All the stations sampled were considered vulnerable to erosion (9% to 95%), with stations R-3, R-13, R-2 and R-7 considered stable (91%, 59%, 23% and 5%, respectively). Banks were eroded (5% to 32%) at stations sampled except R-3 (0%).
- Flow habitats were represented by combinations of riffles, glides and pools. Glides (43% to 94%) were the most predominant flow habitats. Riffle habitats ranged from 3% at stations R-4 and R-1 to 33% at R-13. Pool habitat ranged from 1% at downstream station R-4 to 24% upstream at stations R-2.
- The substrate class size is another indicator of available benthic invertebrate habitat. Stations R-4, R-3, R-13 and R-2 had relatively even mixtures of boulders (15% to 38%), cobble (3% to 25%), gravel (17% to 40%) and sand (4% to 32%). Stations R-1, and R-7 were mostly gravel (35% and 42% respectively), sand (29% and 20% respectively) and other (roots; 29% and 25% respectively), and lacked the percentages of boulders found at the downstream sites.

Water Quality Measures

Water quality measures were within ranges typical of southern California streams (Table 5).

- Water temperatures ranged from 20.5 °C at R-3 to 25.2 °C at R-2.
- pH was similar across sites ranging from 7.5 to 7.9
- Alkalinity ranged from 145 mg/L at R-2 to 350 mg/L at R-7, the most upstream site.
- Dissolved oxygen concentrations ranged from 4.2 mg/L at R-1 to 12.9 mg/L at R-7.
- Specific conductance ranged from 1,258 µS/cm, at station R-2, to 3,470 µS/cm at station R-7 on Las Virgenes Creek.
- Salinities were elevated compared to most freshwater stream systems (≤ 0.5 ppt) and ranged from 0.63 ppt at R-2 to 1.83 ppt at R-7.

Algal Biomass

- Ash free dry mass (AFDM) and chlorophyll-a were also measured at all freshwater stations to estimate algal biomass. The AFDM ranged from 4.8 mg/cm² at R-2 to 290 mg/cm² at R-1. Chlorophyll-a was least at R-1 (16.0 µg/cm²) and greatest at R-4 (79.0 µg/cm²).

Physical/Habitat (P-Hab) Scores

Out of a total possible score of 60, the physical habitat scores for most stations were in the suboptimal range. Stations R-1 and R-7 were in the marginal range (25 and 27 respectively) mostly due to increased amounts of historic channel alteration and sediment deposition (Table 5 and Figure 3).

Malibu Lagoon (Station R-11)

General Physical Habitat Characteristics

Malibu Lagoon Station R-11 represents an estuary habitat that cannot be directly compared to the riparian habitats found at the upstream stations. This site is subject to highly variable conditions including freshwater inundation periods when the berm at the mouth of Lagoon is closed, shallow brackish water periods when the berm is open and large shifts in salinity depending on the status of the berm in conjunction with tidal fluctuations. The organisms

that reside under these conditions are different than those found in freshwater stream systems and are generally adapted to these rapidly changing conditions.

Water Chemistry

The water level during the sampling event was relatively shallow and there was no vegetative canopy cover, which likely contributed to the elevated water temperature (26.9 °C). Water quality conditions were typical of estuary conditions (pH = 8.5), with the salinity (6.57 ppt) indicating some tidal influence at the time of the sampling event. The dissolved oxygen was normal during sampling (9.5 mg/L).

Table 4. Physical habitat scores and characteristics for reaches in the Malibu Creek Watershed.

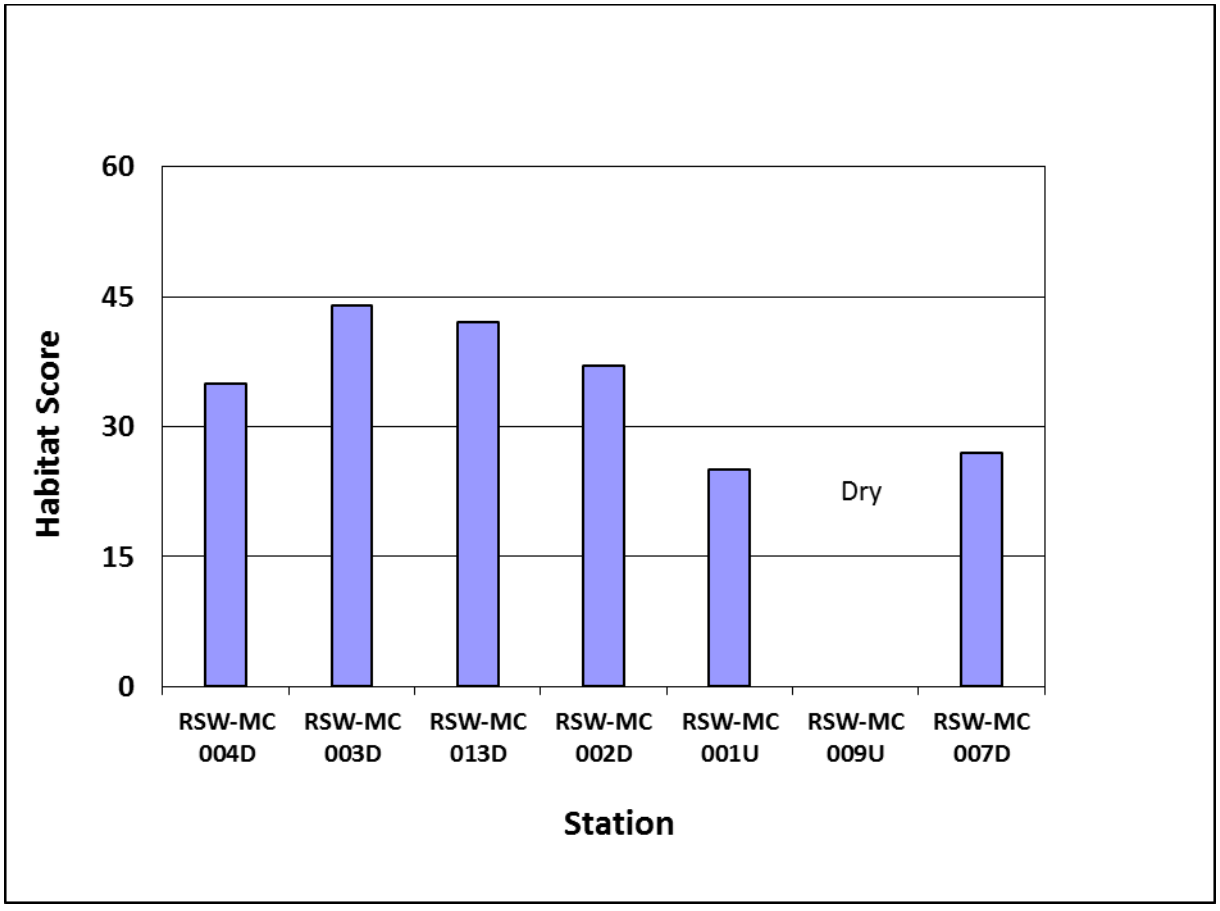
Station	RSW-MC 011D	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Physical Habitat Characteristics								
Reach Length (m)	NA	150	150	150	150	150	Dry	150
Average Wetted Width (m)	NA	7.1	5.2	5.4	10.6	6.0		3.2
Average Depth (cm)	0.8	7.9	5.4	18.3	23.4	26.7		15.0
Average Velocity (ft/s)	NA	<0.03	<0.03	0.1	0.1	0.1[1.]		<0.03
Discharge (m^3/s)	NA	<0.01	<0.01	0.04	0.04	0.07[1.]		<0.01
Slope (%)	NA	0.88	2.00	1.50	0.70	0.02		0.70
Vegetative Canopy Cover (%)	NA	21	77	47	87	74		92
Microalgae Mean Thickness (mm)	NA	0.04	0.05	0.04	0.03	0.01		0.05
Macroalgae Presence (%)	NA	24	12	21	5	3		2
Macrophyte Presence (%)	NA	17	8	2	4	6		21
Bank Stability (%):								
Stable	NA	0	91	59	23	0		5
Vulnerable	NA	95	9	36	45	77		64
Eroded	NA	5	0	5	32	23		32
Flow Habitats (%):								
Cascade/Fall	NA	0	0	0	0	0		0
Rapid	NA	0	0	0	0	0		0
Riffle	NA	3	14	33	12	3		8
Run	NA	0	0	2	0	0		0
Glide	NA	94	82	43	65	75		73
Pool	NA	1	2	23	24	23		20
Dry	NA	2	3	0	0	0		0
Substrate Size (%):								
Bedrock	NA	0	0	13	1	0		0
Boulder	NA	20	38	32	15	1		2
Cobble	NA	10	25	3	12	3		3
Gravel	NA	40	17	22	23	35		42
Sand	NA	24	4	24	32	29		20
Fines	NA	0	8	1	1	2		2
Hardpan	NA	2	0	0	0	0		1
Wood	NA	0	0	1	3	2		6
Other	NA	5	9	5	13	29		25
Water Quality Measures								
Water Temperature (C°)	26.9	21.0	20.5	21.0	25.2	23.9		20.8
pH	8.5	7.9	7.9	7.5	7.6	7.8		7.6
Alkalinity	NA	258	290	226	145	346		350
DO	9.5	8.1	8.7	8.5	5.0	4.2		12.9
Specific Conductance (µS/cm)	111567	2139	2126	1836	1258	3035		3470
Salinity (ppt)	6.57	1.1	1.09	0.93	0.63	1.58		1.83
Ash Free Dry Mass (mg/cm^2)	NA	23.0	9.2	7.9	4.8	290.0		170.0
Chlorophyll a ($\mu g/cm^2$)	NA	79.0	63.0	64.0	28.0	16.0		21.0

1. Calculated using buoyant object method (Ode *et al.*, 2016)

Table 5. Physical habitat assessment for the Malibu Creek Watershed above Malibu Lagoon.

Habitat Parameter	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
1. Instream Cover	12	15	16	13	10	Dry	8
2. Sediment Deposition	12	13	11	11	5		9
3. Channel Alteration	11	16	15	13	10		10
Reach Total Condition Category	35 Suboptimal	44 Suboptimal	42 Suboptimal	37 Suboptimal	25 Marginal		27 Marginal

Figure 3. Physical habitat assessment scores for the Malibu Creek Watershed above Malibu Lagoon.



Biological Condition

Benthic Macroinvertebrate (BMI) Community Condition

A complete BMI taxa list including raw abundances, tolerance values, and functional feeding groups are presented by site for the spring 2018 survey in Appendix A, Table 12. The ranked abundances of all taxa at each site are presented in Table 6. New Zealand mud snail abundances from 2007 to 2018 are presented in Table 7. The CSCI scores, including their derivative metrics, are presented in Table 8 and Figure 4.

Community Composition

A combined total of 3,636 BMIs was identified from 50 different taxa at the seven stations sampled during the spring 2018 survey. A total of five organisms were collected at station R-11 in Malibu Lagoon, including segmented worms (Oligochaeta), polycaete worms (Polychaeta), midges (Chironominae and Orthocladiinae) and dragon flies (Libelluidae) (Table 6). Combinations of disturbance tolerant organisms represented the majority of the abundance at each site, and three to eight taxa represented over 80% of the abundances. The most abundant taxa included clams (*Corbicula sp*.), amphipods (*Hyalella sp.)*, midges (Chironominae), nemertean worms (*Prostoma sp*.), mayflies (*Baetis sp*.) and New Zealand mud snails (NZMS, *Potamopyrgus antipodarum*).

The NZMS were found at R-4 (n = 8) and R-3 (n = 38), and R-1 (n=313) in 2018 (Table 7). This pattern is similar to surveys prior to 2018 when the abundances of NZMS ranged from 0 to 394. Abundances remained elevated at R-7 (average = 162) since 2010, until this year when no NZMS were collected at the site.

CSCI Score

The CSCI scores, along with its component MMI and O/E scores are presented in Table 8 and Figure 4. CSCI category rankings for all sites were either “possibly altered” (R-13), “likely altered” (R-4, R-3, R-2, and R-1) and “very likely altered” (R-7). CSCI scores were greatest at stations just above the TWRF outfall (R-1 = 0.73), and just below (R-2 = 0.76) indicating that the outfall is not impacting biotic conditions.

The CSCI percentile scores provide a way to determine how the CSCI score at a given site compares with the reference pool. For example, the CSCI score at station R-13 is comparable to 0.27 (27%) of the reference sites. The CSCI score at station R-7 does not compare with the reference sites (0%).

The two component indices of the CSCI are the MMI and O/E scores (Table 8 and Figure 4). The MMI scores across sites were low (range = 0.47 to 0.73) and were not similar to the reference pool (MMI percentiles = 0.00 to 0.07). This is indicative of streams where the ecological structure of the system has been disturbed. In contrast, the O/E scores ranged from lowest at R-7 (0.63) to greatest at R-13 (1.08). Stations R-13 and R-2 compared with 66% and 50% of reference sites, respectively. In contrast, station R-7 compared with only 3% of reference sites. These results indicate that while taxonomic completeness at some of the sites is relatively good, the ecological structure and function of the sites is disturbed.

2015 to 2018 (Historical Data)

CSCI results from 2015 to 2018 for the Malibu Creek Watershed are presented in Figure 5. During the three years, the average score across sites fell below 0.79 indicating they are "likely altered". On average the CSCI scores during the period were slightly better at stations near the TWRP outfall.

Malibu Creek Lagoon (R-11)

Only five taxa, were collected at R-11 in the Malibu Creek Lagoon (Table 9). The most abundant (87%) was represented by segmented worms (Oligochaeta).

Attached Algae Community Condition

Below we present the results for the attached algae community analysis for each site. Each of the metrics used to calculate the diatom (D18), soft bodied algae (S2) and hybrid (H2O) IBI scores are presented in Table 10 (Fetscher et al. 2013). Table 11 shows the rank scores and adjusted IBI score for each metric by station, while Figure 6 graphically depicts the SoCA Algae IBI (H2O) and its component scores for soft algae (S2) and diatoms (D18).

Diatom Biological Metrics and IBI (D18)

Diatoms include mostly unicellular species that are housed in a silica frustule and live as phytoplankton or as a film on the surface of rocks and other hard substrates. A total of 77 diatom taxa were collected from the survey area in 2018 (Appendix A, Table 13). Of these, three classes were represented; 66 taxa in the class Bacillariophyceae, 5 in the class Coscinodiscophyceae, and 6 in the Fragilariophyceae.

The diatom metrics used in the IBI were lower in the upper watershed and greatest in the lower watershed, below the TWRP discharge (Table 10 and Table 11). The proportion of diatoms requiring >50% dissolved oxygen and nitrogen heterotrophs (indicate organic enrichment) were similar at all stations (8 to 10). Halobiontic diatoms, which increase due to elevated dissolved salts, were similar at all stations (8 to 10) with the exception of R-7 (0). Sediment tolerant diatoms (indicate erosion and deposition) were found in low

proportions at stations R-4 and R-3 (10) at high proportions at station R-7 (0). The adjusted D18 IBI scores were greatest at R-4 and R-3 (80) and least at R-4 (30) (Figure 6).

Soft-bodied Algae Community Composition

The soft-bodied algae (macroalgae) are composed of filamentous forms that make up large volumes of a sample and are those species that are generally easily seen as filamentous mats in the streambed. In 2018 a total of 44 taxa from 16 different classes were enumerated (Appendix A, Table 14). In contrast to the D18 index, the adjusted soft bodied algae IBI (S2) was low at all sites (range = 7 to 50) (Table 10 and Table 11).

SoCA Algae IBI

The SoCA Algae IBI scores for each site are presented in Table 11 and Figure 6. The individual metric scores for this hybrid IBI are presented above. The greatest adjusted IBI scores were at stations R-3 (69) and R-4 (64) and were above the reference threshold (57). The other site scores were below the reference threshold and ranged from 24 to 51. Scores above (51) and below (44) the TWRF outfall were similar. The biological condition of the algae communities in this reach of Malibu Creek was poor with no clear evidence that the TWRP outfall is contributing to this condition.

Table 6. Ranked taxonomic abundance of organisms collected during BMI surveys at each station within the Malibu Creek watershed.

RSW-MC011D			RSW-MC004D			RSW-MC003D			RSW-MC013D		
Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund
Oligochaeta	87.2	87.2	Corbicula	36.2	36.2	Prostoma	27.3	27.3	Baetis	20.7	20.7
Polychaeta	9.9	97.1	Hyalella	21.3	57.5	Corbicula	17.4	44.7	Chironominae	19.0	39.7
Chironominae	1.4	98.5	Physa	10.3	67.8	Ostracoda	8.6	53.3	Hyalella	12.8	52.5
Orthocladiinae	0.7	99.2	Oligochaeta	7.4	75.2	Hyalella	7.4	60.7	Oligochaeta	10.8	63.3
Libellulidae	0.7	100.0	Chironominae	5.2	80.4	Potamopyrgus antipodarum	6.4	67.1	Caloparyphus/Euparyphus	7.1	70.4
			Prostoma	5.2	85.6	Oligochaeta	5.7	72.8	Simulium	5.4	75.8
			Tinodes	2.6	88.2	Hydroptila	5.4	78.2	Hydroptila	5.4	81.2
			Tanypodinae	2.2	90.4	Baetis	4.9	83.1	Ochrotrichia	5.1	86.3
			Potamopyrgus antipodarum	1.6	92.0	Tinodes	2.9	86.0	Ostracoda	2.5	88.8
			Ostracoda	1.4	93.4	Pericoma/Telmatoscopus	1.8	87.8	Tinodes	2.5	91.3
			Orthocladiinae	1.4	94.8	Hydroptilidae	1.7	89.5	Corbicula	1.7	93.0
			Turbellaria	0.8	95.6	Sperchon	1.5	91.0	Bezzia/Palpomyia	1.5	94.5
			Callibaetis	0.6	96.2	Orthocladiinae	1.5	92.5	Baetis adonis	1.0	95.5
			Coenagrionidae	0.6	96.8	Ochrotrichia	1.5	94.0	Pericoma/Telmatoscopus	0.8	96.3
			Mideopsis	0.6	97.4	Argia	1.2	95.2	Fallceon	0.8	97.1
			Lymnaea	0.6	98.0	Libellulidae	0.8	96.0	Orthocladiinae	0.7	97.8
			Bezzia/Palpomyia	0.4	98.4	Caloparyphus/Euparyphus	0.7	96.7	Hemerodromia	0.7	98.5
			Corixidae	0.4	98.8	Lymnaea	0.7	97.4	Hydroptilidae	0.5	99.0
			Caloparyphus/Euparyphus	0.4	99.2	Nemotelus	0.3	97.7	Cheumatopsyche	0.2	99.2
			Lebertia	0.2	99.4	Hemerodromia	0.3	98.0	Hydropsyche	0.2	99.4
			Dolichopodidae	0.2	99.6	Chironominae	0.3	98.3	Tricorythodes explicatus	0.2	99.6
			Petrophila	0.2	99.8	Atrichopogon	0.3	98.6	Sperchon	0.2	99.8
			Sperchon	0.2	99.9	Mideopsis	0.2	98.8	Tanypodinae	0.2	99.9
			Tropisternus	0.2	100.0	Petrophila	0.2	99.0	Hydrobiidae	0.2	100.0
						Fallceon	0.2	99.2			
						Dasyhelea	0.2	99.4			
						Physa	0.2	99.6			
						Baetis adonis	0.2	99.8			
						Tanypodinae	0.2	99.9			
						Atractides	0.2	100.0			
TOTAL	100			100			100			100	

RSW-MC002D			RSW-MC001U			RSW-MC009U			RSW-MC007D		
Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund
Chironominae	64.1	64.1	Potamopyrgus antipodarum	53.1	53.1	Dry			Hyalella	32.2	32.2
Oligochaeta	12.9	77.0	Hydroptila	8.3	61.4				Ostracoda	29.7	61.9
Simulium	4.0	81.0	Chironominae	7.5	68.9				Oligochaeta	14.4	76.3
Hyalella	3.8	84.8	Corbicula	5.8	74.7				Hydrobiidae	13.5	89.8
Orthocladiinae	3.1	87.9	Turbellaria	4.8	79.5				Chironominae	3.8	93.6
Ostracoda	2.8	90.7	Oligochaeta	4.4	83.9				Bezzia/Palpomyia	1.7	95.3
Corbicula	1.7	92.4	Hyalella	3.2	87.1				Tanypodinae	1.4	96.7
Prostoma	1.2	93.6	Tanypodinae	2.7	89.8				Enallagma	0.8	97.5
Atrichopogon	1.0	94.6	Coenagrionidae	2.2	92.0				Hydroptilidae	0.5	98.0
Baetis	0.7	95.3	Oxyethira	1.9	93.9				Physa	0.5	98.5
Caloparyphus/Euparyphus	0.7	96.0	Physa	1.4	95.3				Orthocladiinae	0.3	98.8
Bezzia/Palpomyia	0.5	96.5	Procambarus clarkii	1.2	96.5				Turbellaria	0.3	99.1
Hydroptilidae	0.5	97.0	Fallceon	0.7	97.2				Caloparyphus/Euparyphus	0.3	99.4
Tanypodinae	0.5	97.5	Mideopsis	0.7	97.9				Argia	0.2	99.6
Lymnaea	0.5	98.0	Argia	0.5	98.4				Hydroptila	0.2	99.8
Dasyhelea	0.3	98.3	Prostoma	0.3	98.7				Libellulidae	0.2	99.9
Pericoma/Telmatoscopus	0.3	98.6	Sperchon	0.3	99.0				Hydropsychidae	0.2	100.0
Hydroptila	0.3	98.9	Baetis	0.3	99.3						
Fallceon	0.2	99.1	Ochrotrichia	0.2	99.5						
Dina	0.2	99.3	Ephydridae	0.2	99.7						
Oxyethira	0.2	99.5	Dasyhelea	0.2	99.9						
Sperchon	0.2	100.0	Baetis adonis	0.2	100.0						
TOTAL	100			100						100	

Table 7. Abundances of New Zealand mud snails at sites in the Malibu Creek Watershed from 2007 to 2018.

Year	Station							Combined Annual Total
	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D	
2007	52	15	196	138	122	0	157	680
2008	4	0	0	7	0	0	2	13
2009	42	69	73	201	37	0	23	445
2010	37	18	190	62	371	0	273	951
2011	5	13	12	77	86	6	112	311
2012	110	4	2	57	22	0	110	305
2013	0	0	13	4	7	DRY	346	370
2014	0	0	0	2	5	0	176	183
2015	Dry	3	2	5	20	DRY	394	424
2016	76	77	0	0	193	DRY	177	523
2017	0	2	2	6	65	0	171	246
2018	8	38	0	0	313	Dry	0	359
average =	**30**	**20**	**41**	**47**	**103**	**1**	**162**	**401**

Table 8. The CSCI scores and categories for each site in the Malibu watershed, including scores for the sub-indices (MMI and O/E) which are averaged to generate the CSCI. CSCI, MMI and O/E percentiles show how a site compares with the reference pool of sites. A site with a low percentile score (e.g. 0.03) has a biological condition that compares with very few sites in the reference pool.

	Malibu Creek						Las Virgenes Creek
CSCI	**RSW-MC 004D**	**RSW-MC 003D**	**RSW-MC 013D**	**RSW-MC 002D**	**RSW-MC 001U**	**RSW-MC 009U**	**RSW-MC 007D**
CSCI							
CSCI Score	**0.65**	**0.63**	**0.90**	**0.74**	**0.62**	**Dry**	**0.58**
CSCI Percentile	**0.01**	**0.01**	**0.27**	**0.05**	**0.01**		**0.00**
CSCI Category	**Likely Altered**	**Likely Altered**	**Possibly Altered**	**Likely Altered**	**Likely Altered**		**Very Likely Altered**
MMI Metric							
% Clinger Taxa	11	21	42	19	24		20
% Coleoptera Taxa	5	0	0	0	0		0
Taxonomic Richness	22	25	19	19	19		13
% EPT Taxa	9	19	40	20	26		13
Shredder Taxa	0	0	0	0	1		0
% Intolerant	3	3	3	0	0		0
MMI Score	**0.53**	**0.54**	**0.73**	**0.47**	**0.58**		**0.52**
MMI Percentile	**0.00**	**0.00**	**0.07**	**0.00**	**0.01**		**0.00**
O/E							
Mean Observed Taxa	6.0	5.6	8.4	7.7	5.0		5.6
Expected Taxa	7.7	7.6	7.8	7.7	7.6		8.9
O/E	**0.77**	**0.73**	**1.08**	**1.00**	**0.66**		**0.63**
O/E Percentile	**0.11**	**0.08**	**0.66**	**0.50**	**0.04**		**0.03**

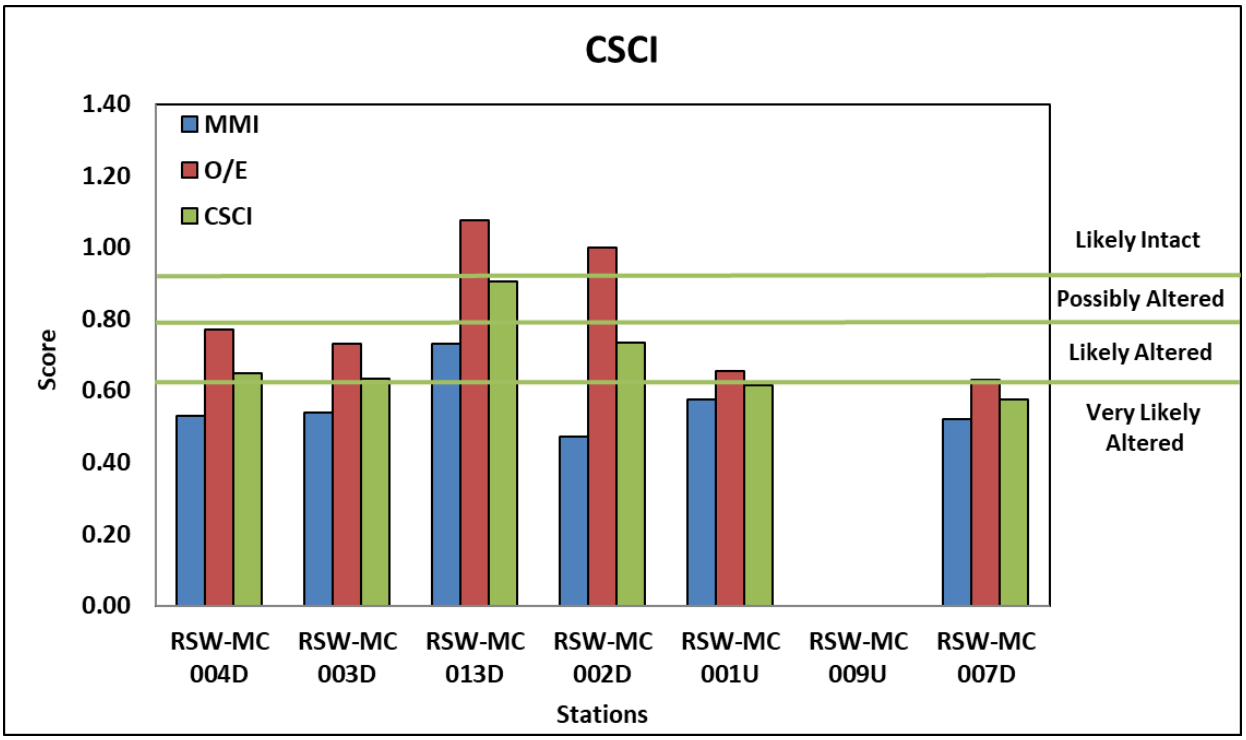


Figure 4. CSCI scores including the MMI and O/E for sites in the Malibu Creek watershed. Horizontal green lines represent the 1st (Very Likely Altered), 10th (Likely Altered), 30th (Likely Intact), and 50th (Likely Intact) percentiles of the reference site distribution for the CSCI scores.

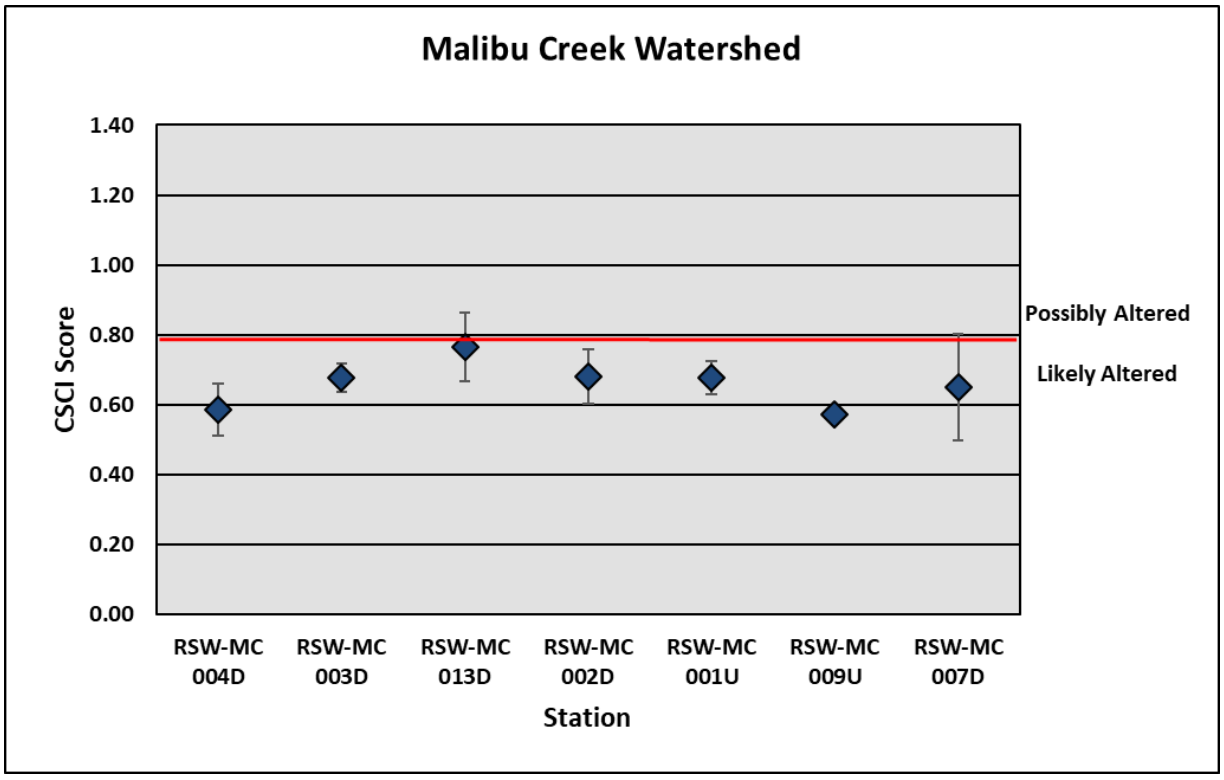


Figure 5. Average (± 95% CI) CSCI scores for stations sampled within the Malibu Creek watershed from 2015 to 2018. Sites are sorted from most downstream (left) to most upstream (right). The red-line denotes the 10th percentile threshold limit (0.79) for the CSCI.

Table 9. Biological metrics measured at station RSW-MC011D in Malibu Lagoon.

Biological Metric	RSW-MC 011D
Total Abundance	141
Taxonomic Richness	5
Shannon Diversity	0.5

Table 10. Diatom and soft bodied algae metrics used to calculate the D18, S2 and H2O index for each of the sample locations in the Malibu watershed. Response to human disturbance indicates whether a metric increases or decreases with anthropogenic stress.

Metric Category/Theme	Metric	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D	Response to Human Disturbance
Diatom									
Autecological Guild									
Dissolved Oxygen	Proportion Requiring >50 % DO	0.9967	0.995	0.984	0.977	0.933		0.991	Decrease
	Proportion Requiring 100% DO	0.95935	0.950	0.809	0.730	0.625	Dry	0.036	Decrease
Ionic Strength/Salinity	Proportion Halobiontic	0.0049	0.003	0.027	0.037	0.121		0.565	Increase
Nutrients	Proportion Poly- & Eutrophic	0.0359	0.049	0.157	0.208	0.339		0.857	Increase
Organic Pollution	Proportion Nitrogen Heterotrophs	0.0049	0.005	0.026	0.053	0.041		0.053	Increase
	Proportion Oligo- & Beta-mesosaprobic	0.9919	0.994	0.955	0.916	0.845		0.393	Decrease
Morphologic Guild									
Sedimentation	Proportion of Highly Motile	0.0177	0.005	0.106	0.181	0.125		0.640	Increase
	Proportion of Sediment Tolerant (highly motile)	0.0194	0.008	0.112	0.182	0.137		0.640	Increase
Taxonomic Group									
A. minutissium	Proportion A. minutissimum	0.0032	0.000	0.000	0.000	0.003		0.000	Decrease
Tolerance/Sensitivity									
Nitrogen	Proportion of Low TN Indicators	0.7719	0.708	0.245	0.131	0.117		0.000	Decrease
Phosphorous	Proportion of Low TP Indicators	0.0275	0.070	0.119	0.103	0.039		0.000	Decrease
Soft									
Relationship to Reference									
Reference	Proportion "non-reference" Indicators (sp)	0.4000	0.250	0.600	0.800	0.333		0.667	Increase
	Proportion of "non-reference" Indicators (b) [1.]	0.0000	0.097	0.143	0.355	0.000		1.000	Increase
Taxonomic Group									
Chlorphyta	Proportion Chlorophyta (b)	0.9980	0.000	0.171	0.335	0.000		1.000	Increase
	Proportion of Green Algae Belonging to CRUS (b)	0.0000	0.000	0.000	0.000	0.000		1.000	Increase
ZygnHeteroRhod	Proportion ZHR (b)	0.0000	0.000	0.000	0.000	0.998		0.000	Decrease
	Proportion ZHR (m)	0.0333	0.000	0.000	0.000	0.699		0.100	Decrease
Tolerance/Sensitivity									
Copper	Proportion of High Cu Indicators (sp)	0.4000	0.250	0.600	0.800	0.333		0.667	Increase
Organic Pollution	Proportion High DOC Indicators (b)	0.0003	0.097	0.632	0.355	0.000		1.000	Increase
	Proportion High DOC Indicators (sp)	0.6000	0.500	0.800	0.800	0.333		0.667	Increase
Phosphorous	Proportion of Low TP Indicators (sp)	0.0000	0.000	0.000	0.000	0.000		0.000	Decrease

1. Abbreviations are as follows: b- metric based on biovolume; sp- metric based on species presence; m- metric is an average of the "b" and "sp" counterpart metric values; CRUS- Cladophora glomerata + Rhizoclonium hieroglyphicum + Ulva flexuosa + Stigeoclonium sp. ZHR - Zygnemataceae + hetrocystous cyanobacteria + Rhodophyta; Green algae- Taxa within Chlorophyta + Charophyta

Table 11. The SoCA Algae IBI scores for sample locations in the Malibu Creek Watershed. Individual sub-indices for both diatoms (D18) and soft bodied algae (S2) are presented along with the hybrid SoCA Algae IBI score (H2O). Rank scores (0 to 10) are presented for each metric. Each index summation is adjusted to fit on a scale of 0 to 100.

SoCA Algae IBI Metric Score	Stations						
	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Diatoms (D18)							
Proportion Requiring >50 % DO (d)	9	9	9	9	8	**Dry**	9
Proportion Halobiontic (d)	10	10	9	9	8		0
Proportion N Heterotrophs (d)	10	10	9	9	9		9
Proportion of Sediment Tolerant (highly motile; d)	10	10	8	6	7		0
Proportion of Low P Indicators (d)	1	1	2	2	1		0
D18 IBI Total	40	40	37	35	33	--	18
D18 IBI Adjusted (2.0)	**80**	**80**	**74**	**70**	**66**	**--**	**36**
Soft Bodied Algae (S2)							
Proportion "non-reference" Indicators (sp)	2	5	0	0	3		0
Proportion of green algae belonging to CRUS (b)	10	10	10	10	10		1
Proportion ZHR (m)	1	0	0	0	10		2
Proportion of High Cu Indicators (s, sp)	0	3	0	0	1		0
Proportion High DOC Indicators (s, sp)	2	4	0	0	6		1
Proportion of Low TP Indicators (s, sp)	0	0	0	0	0		0
S2 IBI Total	15	22	10	10	30	--	4
S2 IBI Adjusted (1.66667)	**25**	**37**	**17**	**17**	**50**	**--**	**7**
SoCA Algae IBI							
Proportion of High Cu Indicators (s, sp)	0	3	0	0	1		0
Proportion High DOC Indicators (s, sp)	2	4	0	0	6		1
Proportion of Low TP Indicators (s, sp)	0	0	0	0	0		0
Proportion Requiring >50 % DO (d)	9	9	9	9	8		9
Proportion Halobiontic (d)	10	10	9	9	8		0
Proportion N Heterotrophs (d)	10	10	9	9	8		9
Proportion of Sediment Tolerant (highly motile; d)	10	10	8	6	7		0
Proportion of Low TN Indicators (d)	10	9	3	2	2		0
SoCA Algae IBI Total	51	55	38	35	40		19
SoCA Algae IBI Adjusted Total (1.25)	**64**	**69**	**48**	**44**	**51**	--	**24**
SoCA Algae IBI Category	**Ref**	**Ref**	**Non-Ref**	**Non-Ref**	**Non-Ref**	**--**	**Non-Ref**

1. Abbreviations are as follows: d- diatom metric; s- soft algae metric; sp- metric based on species presence

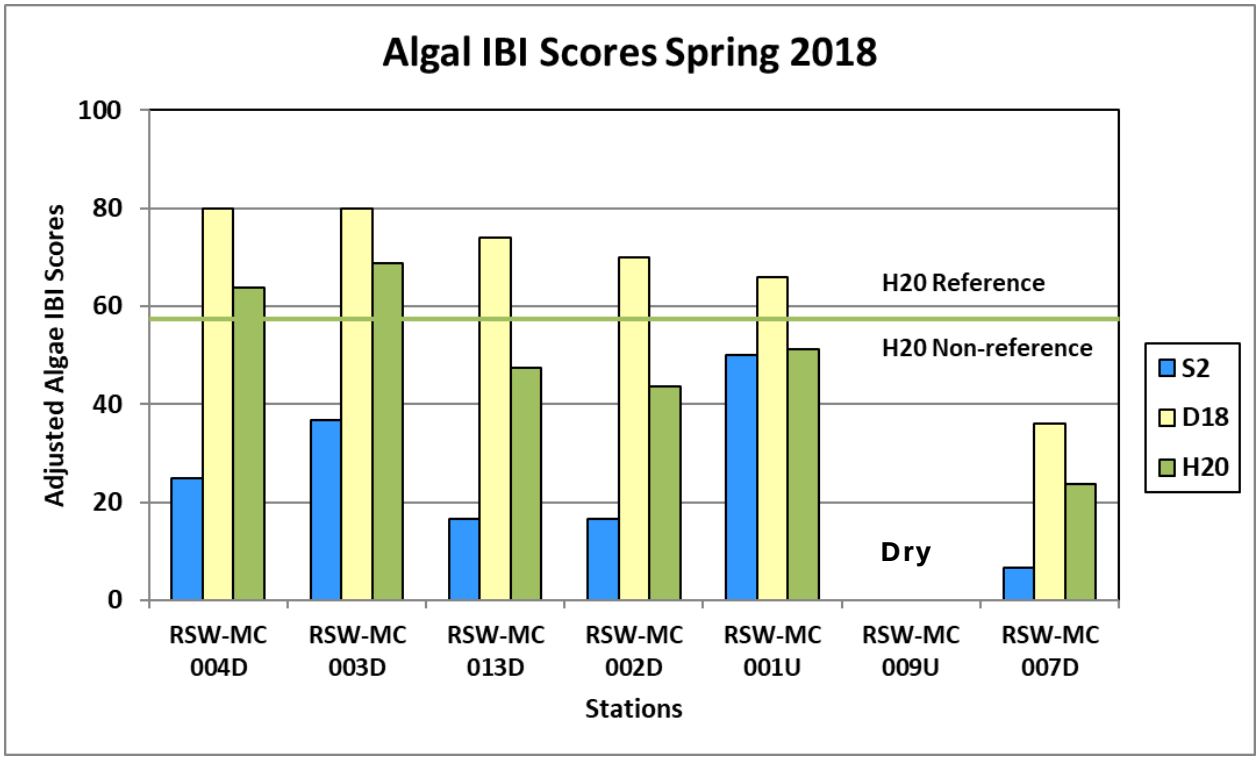


Figure 6. SoCA Algae IBI scores for sites in the Malibu Creek watershed in 2016. The S2 and D18 index is composed of soft body algae metrics and diatom metrics respectively. The H20 is a hybrid of soft body algae and diatom metrics. The green horizontal bar represents the boundary between algae communities in reference vs. non-reference condition for the H20 index.

Summary and Conclusions

A total of eight bioassessment sampling locations were visited in the Malibu Creek Watershed from July 16th through August 3rd, 2018 by Aquatic Bioassay and Consulting Laboratory biologists. All sampling, laboratory analysis, and data analysis were conducted according to SWAMP protocols with the exception of the Malibu Lagoon Station RSW-MC011, which was sampled according to USEPA's estuarine sampling guidance (2000).

The habitat conditions in a stream reach play a key role in the development of a healthy aquatic community. In many cases organisms may not be exposed to chemical contaminants, yet their populations indicate that impairment has occurred. These population shifts can be due to degradation of the streambed and bank habitats. For example, excess sediment caused by bank erosion due to human activities can fill pools and interstitial areas of the stream substrate where fish spawn and invertebrates live, causing their populations to decline or to be altered. Also, loss of vegetative canopy cover and reduced width of the riparian zone can have similar effects on the BMI communities.

P-Hab scores for stations sampled within the Malibu Watershed above Malibu Lagoon were suboptimal below the TWRF outfall and were marginal above the outfall. This was due to sediment deposition, in combination with a high degree of channel alteration, and lack of instream cover. Most sites had embankments that were vulnerable to erosion, but with relatively good vegetative protection and surrounding riparian habitats.

Malibu Lagoon Station R-11 represents an estuary habitat that cannot be directly compared to the riparian habitats found at the upstream stations. This site is subject to highly variable conditions including inundation during periods when the berm at the mouth of Lagoon is closed, shallow brackish water periods when the berm is open and large shifts in salinity depending on the status of the berm in conjunction with tidal fluctuations. The organisms that reside under these conditions are different than those found in freshwater stream systems and are generally adapted to these rapidly changing conditions. Likewise, sampling techniques developed for both systems are not comparable.

A combined total of 3,636 BMIs were identified from 50 different taxa at the seven stations where sampling occurred during the spring 2018 survey. Only five taxa, were collected at R-11 in the Malibu Creek Lagoon. The most abundant (87%) was represented by segmented worms (Oligochaeta). Combinations of disturbance tolerant organisms represented the majority of the abundance at each site, and three to eight taxa represented over 80% of

the abundances. The most abundant taxa included clams (*Corbicula sp*.), amphipods (*Hyalella sp.)*, midges (Chironominae), nemertean worms (*Prostoma sp*.), mayflies (*Baetis sp*.) and New Zealand mud snails (NZMS, *Potamopyrgus antipodarum*).

The biotic condition of streams in this survey was assessed using two indexes of biological integrity: the California Stream Condition Index (CSCI) and the Southern California Algae Index of Biological Integrity (SoCA Algae IBI). The CSCI is based on the benthic macroinvertebrate community, while the SoCA Algae IBI is based on the abundances and composition of the diatom and soft bodied algae communities at a site. The inclusion of the SoCA Algae IBI provides a second indicator of stream condition. There have been no regulatory compliance thresholds established for these indexes in the state of California. The statistically derived thresholds presented for each of these indices are included as a way to compare the biotic condition found at a specific site to the biotic condition found at the pool of reference sites used to develop each index. As a result, they do not necessarily represent an ecologically meaningful change point in community composition and should not be used in a regulatory framework.

Each of the three indexes indicated that biological conditions at each of the sites in the survey are below reference site conditions:

1. The CSCI combines two separate types of indices, each of which provides unique information about the biological condition at a stream: a multi-metric index (MMI) that measures ecological structure and function, and an observed-to-expected (O/E) index that measures taxonomic completeness. CSCI category rankings for all sites were “possibly altered” (R-13) “likely altered” (R-4, R-3, R-2, and R-1) to “very likely altered” (R-7). The greatest score was at R-13 (0.90) below the TWRP discharge. This indicates that the TWRF discharge does not negatively impact the BMI community.

2. The SoCA Algal IBI is composed of three indices, a hybrid IBI (H20) composed of both diatoms and soft-algae metrics, a diatom IBI (D18) and soft-algae IBI (S2). IBIs are composed of metrics chosen for their ability to differentiate between reference and non-reference stream conditions. The SoCA H20 IBI rankings for sites R-13, R-2, R-1 and R-7 were in the “non-reference” category. Sites R-4 and R-3 had H20 IBI scores were 64 and 69 respectively and were ranked in the “reference” category. The biological condition of the algae communities in this reach of Malibu Creek was poor at four sites with no clear evidence that the TWRP outfall is contributing to this condition.

The strong association between physical habitat and biological condition (IBI scores) that are typical in southern California watersheds (SGRRMP 2014), are not as clear cut in the Malibu Creek Watershed. Physical habitat conditions in most of the stream reaches where samples were collected are relatively decent with good instream cover, low to moderate sedimentation and little channel alteration. This indicates that degraded biological community conditions may be linked more closely to poor water quality conditions (e.g. elevated nutrients or metals). Staff members of the Las Virgenes Municipal Water District have shown that a potential source of these poor water quality conditions may be the result of local geologic conditions. The terrain in the upper reaches of the watershed is dominated by the Monterey formation. Runoff from this area has very high conductivity (>3,000 uS) and elevated sulfate and phosphate concentrations. EPA sponsored research has shown that elevated background concentrations of these constituents has a detrimental effect on BMIs at levels known to occur naturally in Malibu Creek (Pond *et al.*, 2008).

Station R-11 located in Malibu Lagoon is inundated with brackish water during portions of the year when the berm is breached to the ocean. During this survey only five taxa were present. The lack of diversity found at this Lagoon site may be due to the ever-changing conditions found here. Sudden shifts in salinity and temperature make it difficult for stable benthic communities to become established and only those organisms capable of such extreme shifts in environmental conditions are able to dominate the benthic communities.

The collection of New Zealand mudsnails (NZMS, *Potamopyrgus antipodarum*) in the watershed is of ongoing environmental concern. The snail was first collected in the upper and lower Medea Creek in the spring of 2005. The NZMS were absent or nearly absent at most sites in 2018, except at R-1 (n = 38) and R-7 (n = 313). This pattern is similar to previous surveys where the abundances of NZMS ranged from 0 to 394. Abundances remained elevated at R-7 (average = 162) since 2010, until this year when no NZMS were collected at the site.

Efforts to control NZMS populations are focused on ensuring they are not spread to other locations and there is presently no method available to remove them from a stream reach without damaging the indigenous populations. Aquatic Bioassay scientists and field crews have employed the strict control measures recommended by the State of California to reduce the chance that the NZMS is further spread in the watershed.

Literature Cited

General References

Cascallar, L; Mastranduono, P; Mosto, P; Rheinfeld, M; Santiago, J; Tsoukalis, C; Wallace, S. 2003. Periphytic algae as bioindicators of nitrogen inputs in lakes. Journal of Phycology. Vol. 39, no. 1, pp. 7-8).

Erman, N.A. 1996. Status of Aquatic Invertebrates. in: Sierra Nevada Ecosystem Project: Final Report to Congress, Vol II, Assessments and Scientific Basis for Management Options. University of California Davis, Centers for Water and Wildland Resources.

Fetscher, A.E., L. Busse, and P. R. Ode. 2009. Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 002. (updated May 2010)

Fetscher, A.E., R. Stancheva, J.P. Kociolek, R.G. Sheath, E.D. Stein, R.D. Mazor, P.R. Ode, L.B. Busse. 2013. Development and comparison of stream indices of biotic integrity using diatoms vs. non-diatom algae vs. a combination. J. Appl. Phycol. DOI 10.1007/s10811-013-0088-2.

Gibson, G.R. 1996. Biological Criteria: Technical guidance for streams and small rivers. EPA 822-B-96-001. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

Harrington, J.M. and M. Born. 2000. Measuring the health of California streams and rivers. Sustainable Land Stewardship International Institute, Sacramento, CA.

Heal the Bay. 2000 to 2003. BMI monitoring results. HealtheBay.org

Hillebrand, H., Dürselen, C. D., Kirschtel, D., Pollingher, U., and Zohary, T. 1999. Biovolume calculation for pelagic and benthicmicroalgae. Journal of Phycology 35: 403-424

Jones, R.C. and Clark, C.C. 1987. Impact of watershed urbanization on stream insects communities. Water Resources Bulletin 23:1047-1055.

Karr, J.R. 1998. Rivers as sentinels: using the biology of rivers to guide landscape management. In: Naiman, R.J. and Bilby, R.E. (eds.) River Ecology and Management: Lessons from the Pacific Coastal Ecoregion. Springer, New York, 502-528.

Karr, J.R., J.D. Allan and A.C. Benke. 2000. River conservation in the United States and Canada. In: Boon, P.J., B.R. Davies, and G.E. Petts (eds) Global Perspectives on River Conservation: Science, Policy and Practice. John Wiley and Sons Ltd, West Sussex, England, 3-39.

Kociolek, J.P., C.L. Graeff, and E.W. Thomas 2011. Standard operating procedures for diatom analyses-State of California/SWAMP. University of Colorado, Boulder, CO.

Komulaynen, S. 2002. Use of phytoperiphyton to assess water quality in north-western Russian rivers. Journal of Applied Phycology. Vol. 14, no. 1, pp. 57-62.; McCormick, PV; Stevenson, RJ. 1998.

Lenat, D.R. and Crawford, J.K. 1994. Effects of land use on water quality and aquatic biota of three North Carolina Piedmont streams. Hydrobiologia 294:185-199.

Mazor, R.D., P.R. Ode, A.C. Rehn, M. Engeln, T. Boyle, E. Fintel, S. Verbrugge, and C. Yang. 2015. The California Stream Condition Index (CSCI): Interim instructions for calculating scores using GIS and R. SCCWRP Technical Report #883. SWAMP-SOP-2015-0004.

Mazor, R.D., A. Rehn, P. R. Ode, M. Engeln, K. Schiff, E. Stein, D. Gillett, D. Herbst, C.P. Hawkins. 2016. Bioassessment in complex environments: designing an index for consistent meaning in different settings. Freshwater Science, before publication.

Marinelarena, AJ, Di Giorgi, HD. 2001. Nitrogen and phosphorus removal by periphyton from agricultural wastes in artificial streams. Journal of Freshwater Ecology. Vol. 16, no. 3, pp. 347-354).

Nelson, SM; Lieberman, DM. 2002. The influence of flow and other environmental factors on benthic invertebrates in the Sacramento River, U.S.A. Hydrobiologia. Vol. 489, no. 1-3, pp. 117-129.

Ode, R.E., A.C. Rehn, J.T. May. 2005. A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams. Env. Man., Vol. 35, No. 4, pp. 493-504.

Ode, P.R., A.E. Fetscher, L.B. Busse. 2016. Standard operating procedures for the collection of field data for bioassessments for California wadeable streams: benthic macroinvertebrates, algae, and physical habitat. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001.

Perrin, CJ; Richardson, JS. 1997. N and P limitation of benthos abundance in the Nechako River, British Columbia. Canadian Journal of Fisheries and Aquatic Sciences. Vol. 54, no. 11, pp. 2574-2583.

Pond, G. J., M. E. Passmore, F. A. Borsuk, L. Reynolds and C. J. Rose. 2008 Downstreams effects of mountaintop coal mining: comparing biological conditions using family- and genus-level macroinvertebrate bioassessment tools. J. of North American Benthological Society. Vol. 27, No. 3, pp. 717-737

Resh, V.H. and J.K. Jackson. 1993. Rapid assessment approaches to biomonitoring using benthic macroinvertebrates. In: D.M. Rosenberg and V.H. Resh, eds., Chapman and Hall, New York.

Rehn, A.C., Mazor, R.D., Ode, P.R. 2015. The California Stream Condition Indices (CSCI): A New Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams. SWAMP Technical Memorandum. SWAMP-TM-2015-0002.

Robinson, CT, Minshall, GW. 1998. Macroinvertebrate communities, secondary production, and life history patterns in two adjacent streams in Idaho, USA. Archiv fuer Hydrobiologie. Vol. 142, no. 3, pp. 257-281.

Rosenberg, D.M. and V.H. Resh (eds). 1993. Freshwater biomonitoring and benthic macroinvertebrates. Chapman and Hall. New York. NY.

SCCWRP. 2014. algaeMetrics: a calculator for southern California algal Indices of Biotic Integrity (IBIs) for wadeable streams. Retrieved [Date], from http://207.141.116.159:8080/algaeIBI/

Stancheva, R., Busse, L., Kociolek, J.P., and Sheath, R.G., 2015. Standard Operating Procedures for Laboratory Processing and Identification of Stream Algae in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 0003.

Stewart, K.W. and B.P.Stark. 1993. Nymphs of North American Stonefly Genera (Plecoptera). University of North Texas Press, Denton, TX.

Suren, AM; Biggs, BJF; Duncan, MJ; Bergey, L; Lambert, P. 2003. Benthic community dynamics during summer low-flows in two rivers of contrasting enrichment 2. Invertebrates. New Zealand Journal of Marine and Freshwater Research. Vol. 37, no. 1, pp. 71-83).

USEPA (United States Environmental Protection Agency). 2000a. Nutrient Criteria Technical Guidance Manual: Rivers and Streams. EPA-822-B-00-02. U.S. Environmental Protection Agency, Washington, DC.

USEPA (United States Environmental Protection Agency). 2000b. Estuarine and Coastal Marine Waters: bioassessment and biocriteria technical guidance, (EPA 822-B-00-024). December, 2000.

Weaver, L.A. and Garman, G.C. 1994. Urbanization of a watershed and historical changes in a stream fish assemblage. Transactions of the American Fisheries Society 123:162-172.

Taxonomic References

Brown, H. P. 1976. Aquatic Dryopoid Beetles (Coleoptera) of the United States. U. S. EPA. Cincinnati, Ohio. 82 Pages.

Burch, J. B. 1973. Biota of Freshwater Ecosystems Identification Manual No. 11, Freshwater Unionacean Clams (Mollusca: Pelecypoda) of North America. U. S. Environmental Protection Agency, Project # 18050, Contract # 14-12-894. 176 Pages.

Burch, J. B. 1973. Freshwater Unionacean Clams (Mollusca: gastropoda) of North America. U. S. Environmental Protection Agency, EPA-600\3-82-023. Contract # 68-03-1290. 193 Pages.

Edmunds, G. F., Jr., S. L. Jensen and L. Berner. 1976. The Mayflies of North and Central America. North Central Publishing Co., St. Paul, Minnesota. 330 Pages.

John H. Epler, 2001. Identification manual for the larval chironomidae (Diptera) of North and South Carolina.

Johannsen, O. A. 1977. Aquatic Diptera: Eggs, Larvae, and Pupae of Aquatic Flies. Published by the University, Ithaca, New York. 210 Pages.

Klemm, D. J. 1972. Biota of Freshwater Ecosystems Identification Manual No. 8, Freshwater Leeches (Annelida: Hirundinea) of North America. U.S. Environmental Protection Agency. Project # 18050, Contract # 14-12-894. 53 Pages.

Klemm, D. J. 1985. A Guide to the Freshwater Annelida (Polychaeta, Naidid and Tubificid, Oligochaeta and Hirudinea) of North America. Kendall/Hunt Publishing Co., Dubuque, Iowa. 198p.

McCafferty, W. P. 1981. Aquatic Entomology. Jones and Bartlett Publishers, Inc., Boston. 448 Pages.

Merritt, R. W. and K. W. Cummins (Editors). 1996. An Introduction to the Aquatic Insects of North America, Third Edition. Kendall/Hunt Publishing Co., Dubuque, Iowa. 862 Pages.

Pennak, R. W. 1989. Freshwater Invertebrates of the United States, Third Edition, John Wiley and Sons, Inc, New York, 628 Pages.

Stewart, K. W. and B. P. Stark. 1988. Nymphs of North American Stonefly Genera (Plecoptera). University of North Texas Press, Denton Texas. 460 Pages.

Thorp J. H. and A. P. Covich (Editors). 1991. Ecology and Classification of Freshwater Invertebrates. Academic Press, Inc., San Diego, California. 911 Pages.

Wiederholm, T. (Editor) 1983. Chironomidae of the Holarctic Region. Entomologica Scandinavica. 457 Pages.

Wiggins, G. B. 1996. Larvae of North American Caddisfly Genera (Tricoptera). Second Edition, University of Toronto Press. Toronto. 457 Pages.

Appendix A: BMI and Attached Algae Taxa Lists

Table 12. 2018 BMI raw taxa list for sites in the Malibu Creek Watershed.

Identified Taxa	Tol Val (TV)	Func Feed Grp	RSW-MC 011D	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Insecta Taxa										
Ephemeroptera										
Baetis	5	cg			29	123	4	2	Dry	
Baetis adonis	5	cg			1	6		1		
Callibaetis	9	cg		3						
Fallceon	4	cg			1	5	1	4		
Tricorythodes explicatus	4	cg				1				
Odonata										
Argia	7	p			7			3		1
Coenagrionidae	9	p		3				13		
Enallagma	9	p								5
Libellulidae	9	p	1		5					1
Hemiptera										
Corixidae	8	p		2						
Trichoptera										
Cheumatopsyche	5	cf				1				
Hydropsyche	4	cf				1				
Hydropsychidae	4	cf								1
Hydroptila	6	ph			32	32	2	49		1
Hydroptilidae	4	ph			10	3	3			3
Ochrotrichia	4	ph			9	30		1		
Oxyethira	3	ph					1	11		
Tinodes	2	sc		13	17	15				
Coleoptera										
Tropisternus	5	p		1						
Diptera										
Atrichopogon	6	cg			2		6			
Bezzia/Palpomyia	6	p		2		9	3			11
Caloparyphus/Euparyphus	8	cg		2	4	42	4			2
Chironominae	6	cg	2	26	2	113	368	44		24
Dasyhelea	6	cg			1		2	1		
Dolichopodidae	4	p		1						
Ephydridae	6							1		
Hemerodromia	6	p			2	4				
Nemotelus	8	cg			2					
Orthocladiinae	5	cg	1	7	9	4	18			2
Pericoma/Telmatoscopus	4	cg			11	5	2			
Simulium	6	cf				32	23			
Tanypodinae	7	p		11	1	1	3	16		9
Lepidoptera										
Petrophila	5	sc		1	1					
Non-Insecta Taxa										
Oligochaeta	5	cg	123	37	34	64	74	26		92
Ostracoda	8	cg		7	51	15	16			190
Polychaeta			14							
Turbellaria	4	p		4				28		2
Amphipoda										
Hyalella	8	cg		107	44	76	22	19		206
Arhynchobdellida										
Dina	8	p					1			
Basommatophora										
Lymnaea	6	sc		3	4		3			
Physa	8	sc		52	1			8		3
Decapoda										
Procambarus clarkii	8	sh						7		
Hoplonemertea										
Prostoma	8	p		26	163		7	2		
Hypsogastropoda										
Hydrobiidae	8	sc				1				86
Potamopyrgus antipodarum	8	sc		8	38			313		
Trombidiformes										
Atractides	8	p			1					
Lebertia	8	p		1						
Mideopsis	5	p		3	1			4		
Sperchon	8	p		1	9	1	1	2		
Veneroida										
Corbicula	8	cf		182	104	10	10	34		
TOTAL			**141**	**503**	**596**	**594**	**574**	**589**	**Dry**	**639**

Table 13. Spring 2018 diatom taxa list for Malibu watershed.

Phylum	Class	Species	Station						
			RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Heterokontophyta	Bacillariophyceae	Achnanthes coarctata						Dry	1
		Achnanthidium cf latecephalum	4						3
		Achnanthidium exiguum		2	1				
		Achnanthidium minutissimum	2				2		
		Amphora minutissima		2					
		Amphora ovalis		4	2		1		2
		Amphora pediculus	32	41	37	16	11		62
		Cocconeis pediculus	4	3	4				
		Cocconeis placentula	36	7	14	4	2		19
		Encyonema silesiacum				1			
		Eolimna subminuscula			2	1			
		Epithemia sorex	2			5	1		
		Fallacia sp 1		1					
		Fistulifera saprophila			1				
		Frustulia creuzburgensis			1				
		Geissleria acceptata	2	3			2		
		Gomphonema	2	2					
		Gomphonema micropus	4		1				
		Gomphonema parvulum			4				
		Gomphonema subclavatum			2				
		Halamphora veneta	1	1	1		1		
		Hippodonta capitata			2				
		Navicula antonii	1						
		Navicula caterva							3
		Navicula cryptotenella							2
		Navicula cryptotenelloides	2	4	2				10
		Navicula erifuga	2						5
		Navicula gregaria	28	4	4		1		3
		Navicula recens							2
		Navicula reichardtiana	1						4
		Navicula salinarum			2				
		Navicula tripunctata	1	2					
		Nitzschia	10		10		2		32
		Nitzschia acicularis	1						
		Nitzschia amphibioides		4	8				2
		Nitzschia archibaldii	8			2	2		
		Nitzschia aurariae							2
		Nitzschia dissipata	2	1					2
		Nitzschia dissipata var media	13	10	18	1	2		6
		Nitzschia fonticola	11	16	29		3		54
		Nitzschia frustulum		1	2				
		Nitzschia gracilis	1						
		Nitzschia inconspicua							279
		Nitzschia lacuum	2	3	7				
		Nitzschia liebethruthii	3	16	13				
		Nitzschia microcephala	9	8	18		2		2
		Nitzschia minuta							1
		Nitzschia palea	2	2					
		Nitzschia paleacea							11
		Nitzschia perminuta							5
		Nitzschia recta	6	2	2				

Table 13. Continued

Phylum	Class	Species	Station						
			RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
		Nitzschia soratensis	12	6	28	6	2	Dry	9
		Planothidium		4					4
		Planothidium daui		3					
		Planothidium delicatulum		3	3				
		Planothidium frequentissimum	12	16	4	1	1		13
		Planothidium lanceolatum	13	5	8				12
		Pleurosigma salinarum	1						
		Psammothidium bioretii							1
		Psammothidium lauenburgianum							2
		Psammothidium subatomoides	2			1			
		Pseudostaurosira brevistriata	18	19	7	57	85		
		Rhoicosphenia abbreviata	10	3	6				51
		Rhopalodia gibba	1						
		Sellaphora nigri		1					
		Tryblionella apiculata	6	2					
	Coscinodiscophyceae	Cyclotella meneghiniana	5	3	1	2	1		
		Discostella pseudostelligera		1					
		Discostella woltereckii	2						
		Ellerbeckia arenaria	1	4	3				
		Melosira varians		1					
	Fragilariophyceae	Fragilaria	1						
		Fragilaria capucina	4	1					
		Staurosira construens		1					
		Staurosira construens var venter	309	410	369	529	501		12
		Synedra acus			1				
		Tabularia fasciculata	25		3				15

Table 14. Spring 2018 soft-algae taxa list for Malibu watershed.

Sample Type	Phylum	Class	Species	Unit	Station						
					RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Epiphyte	Chlorophyta	Chlorophyceae	Aphanochaete polychaete	count					25	Dry	
	Cyanobacteria	Cyanophyceae	Heteroleibleinia sp 1	count				98	100		85
			Leptolyngbya foveolarum	count				2			
	Heterokontophyta	Xanthophyceae	Characiopsis minuta	count					5		
			Tribonema minus	count					25		
Macroalgae	Chlorophyta	Ulvophyceae	Cladophora cf fracta	um3/cm2					1.443E+09		
			Cladophora glomerata	um3/cm2							5.714E+09
	Heterokontophyta	Coscinodiscophyceae	Pleurosira laevis	um3/cm2				721500721	1.443E+09		
	Streptophyta	Zygnematophyceae	Spirogyra	um3/cm2							577200
Microalgae	Chlorophyta		Chlorophyta	um3/cm2	2754	792	6898	89089			
		Chlorophyceae	Gongrosira	um3/cm2				320721			
			Scenedesmus	um3/cm2	311	528	520				
			Scenedesmus abundans	um3/cm2		137	1830		1050		
			Scenedesmus communis	um3/cm2					2502		
			Scenedesmus dimorphus	um3/cm2			297		1532		
			Scenedesmus ellipticus	um3/cm2	105	2083	2752		2668		
		Trebouxiophyceae	Oocystis	um3/cm2			318				
	Cryptophyta	Cryptophyceae	Cryptomonas	um3/cm2					6.26E+03		
	Cyanobacteria	Cyanophyceae	Aphanocapsa delicatissima	um3/cm2					6.50E+01		
			Calothrix	um3/cm2	2.94E+05		2.58E+05		5.77E+04		3.63E+04
			Calothrix kossinskajae	um3/cm2				5.28E+07			
			Chroococcus	um3/cm2					1.58E+03		
			Chroococcus minimus	um3/cm2				2.82E+03			
			Heteroleibleinia sp 1	um3/cm2	3.70E+03	2.99E+04	1.30E+04	1.50E+04	1.47E+05		9.18E+04
			Leptolyngbya foveolarum	um3/cm2		7.57E+03			3.98E+05		
			Leptolyngbya tenuis	um3/cm2	1.57E+04	5.71E+03	8.86E+03		2.48E+05		
			Merismopedia tenuissima	um3/cm2				3.04E+02	4.50E+02		
			Microchaete	um3/cm2				6.81E+06			
			Nodularia spumigena	um3/cm2	1.02E+07						
			Nostoc	um3/cm2					2.70E+05		
			Phormidium	um3/cm2			1.84E+03		2.30E+06		1.91E+05
			Pleurocapsa	um3/cm2					5.34E+03		
			Pseudanabaena	um3/cm2					2.50E+03		
			Pseudanabaena sp 1	um3/cm2							4.66E+04
			Spirulina sp 1	um3/cm2					1.56E+02		
			Symploca elegans	um3/cm2				1.79E+06			
	Streptophyta	Zygnematophyceae	Spirogyra	um3/cm2	1.85E+05						
Qualitative	Chlorophyta	Chlorophyceae	Microspora amoena	none			P				
		Ulvophyceae	Cladophora cf fracta	none				P			
			Cladophora cf glomerata	none			P				P
			Cladophora glomerata	none		P					
	Cyanobacteria	Cyanophyceae	Anabaena	none					P		
			Geitlerinema	none					P		
	Heterokontophyta	Coscinodiscophyceae	Pleurosira laevis	none				P			

P= present in sample, but not counted.

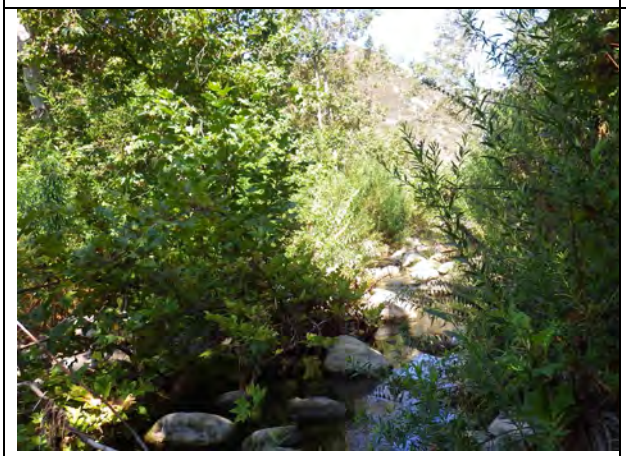
Appendix B – Photos of Sampling Sites

RSW-MC011D facing picnic area

RSW-MC011D facing towards the ocean

RSW-MC004D facing upstream

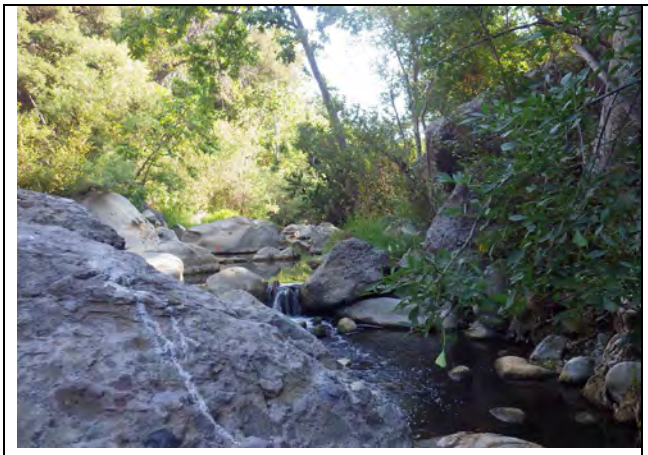
RSW-MC004D facing downstream



RSW-MC003D facing upstream

RSW-MC003D facing downstream

Figure 7. Sampling location photos of the eight sampling sites within the Malibu Creek watershed.



RSW-MC013D facing upstream

RSW-MC013D facing downstream

RSW-MC002D facing upstream

RSW-MC002D facing downstream

Figure 7. (continued).

RSW-MC001U facing upstream

RSW-MC001U facing downstream

RSW-MC009U facing upstream

RSW-MC009U facing downstream

RSW-MC007U facing upstream

RSW-MC007U facing downstream

Figure 7.

INVOICE NO: LVS0319.0248

TO: **Accounts Payable**
Las Virgenes MWD
731 Malibu Canyon Rd
Calabasas, CA 91302

FROM: **Aquatic Bioassay**
29 North Olive St.
Ventura, CA 93001

PAY THIS AMOUNT: **$48,866**

DATE: **March 27th, 2019**

Invoice for tasks related to bioassessment reporting for spring 2018

Task	Contract Amount	Previous Billing	Current Billing	Billed To Date	Funds Remaining
Sampling					
Mobilization	$682	$0	$682	$682	$0
Bioassessment (8 sites, includes BMIs + attached algae)	$20,184	$0	$20,184	$20,184	$0
Laboratory Analysis					
Benthic Macroinvertebrates (8 sites, 1 field duplicate per event, includes R-11)					
BMI 600 Count (Sorting and ID, SAFIT Level 2)	$8,441	$0	$8,441	$8,441	$0
BMI QC: to DF&W Rancho Cordova (1 sample)	$767	$0	$767	$767	$0
Attached Algae (7 sites, 1 field duplicate per event)					
Diatom/Algae ID & Enumeration	$5,439	$0	$5,439	$5,439	$0
Diatoms & Algae Qualitative	$5,439	$0	$5,439	$5,439	$0
Ash Free Dry Weight (AFDM)	$455	$0	$455	$455	$0
Chlorphyll a	$728	$0	$728	$728	$0
Reporting					
CEDEN/SWAMP Reporting (Biology & Chemistry)	$1,137	$0	$1,137	$1,137	$0
Final Report	$5,593	$0	$5,593	$5,593	$0
Total	**$48,866**	**$0**	**$48,866**	**$48,866**	**$0**

Aquatic Bioassay
29 N. Olive St.
Ventura, CA 93001

April 9, 2019 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : Award of Fiscal Year 2018-19 Vehicle Replacement Program

SUMMARY:

On May 11, 2010, the Board requested that staff obtain quotes from local dealerships for vehicle purchases in lieu of following a formal bid process. Staff contacted seven different fleet dealerships and received three quotes for vehicles included in the Fiscal Year 2018-19 Vehicle Replacement Program. Facilities and Operations annually evaluates vehicles for replacement based on high mileage, vehicle service history, reliability and overall appearance. For the Fiscal Year 2018-19 Vehicle Replacement Program, staff is recommending the purchase of one regular cab two-wheel drive 1/2-ton truck, one four-wheel drive one-ton utility bed service truck, one 10-passenger van, one seven-passenger van, one electric hybrid sedan and one boat trailer. Staff recommends issuance of purchase orders to Fritts Ford of Riverside, the low-bidder for the new vehicles, and Pacific Trailers, the low-bidder for the boat trailer. The boat trailer will accommodate both of the District's boats at Las Virgenes Reservoir and enable staff to perform annual maintenance on them.

RECOMMENDATION(S):

Authorize the General Manager to issue purchase orders to Fritts Ford of Riverside, in the aggregate amount of $165,586.70, for one Ford F350 4X4 regular cab utility bed service truck, one Ford F150 2X4 regular cab eight-foot bed truck, one Ford Transit 10-passenger van, one Ford Transit Connect seven-passenger van and one Ford Fusion Enegri Titanium electric hybrid sedan; and Pacific Trailer, in the amount of $5,299.00, for one boat trailer that will adapt to two accommodate two existing boats.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the vehicles and boat trailer is $170,885.70. Sufficient funds are available in the adopted Fiscal Year 2018-19 Budget.

DISCUSSION:

Requests for quotes were sent to seven different dealerships. All dealerships had four weeks to supply the District with new vehicle quotes and the responses are as follows:

2019 One-Ton 4x4 cab and chassis truck with utility body

Fritts Ford of Riverside	$46,636.88
Vista Ford of Ventura	$48,886.80
Galpin Ford of North Hills	$50,737.24
Rydell Dodge	No Bid Received
Scott Robinson Dodge of Torrance	No Bid Received
DCH Ford of Thousand Oaks	No Bid Received
Simi Valley Ford	No Bid Received

2019 1/2-Ton 2X4 truck with eight-foot bed

Fritts Ford of Riverside	$25,607.66
Galpin Ford of North Hills	$27,381.51
Rydell Dodge	No Bid Received
Scott Robinson Dodge of Torrance	No Bid Received
Vista Ford of Ventura	No Bid Received
DCH Ford of Thousand Oaks	No Bid Received
Simi Valley Ford	No Bid Received

2019 Electric Hybrid Sedan

Fritts Ford of Riverside	$32,217.08
Galpin Ford of North Hills	$34,168.95
Vista Ford of Ventura	$35,490.00
DCH Ford of Thousand Oaks	No Bid Received
Simi Valley Ford	No Bid Received

2019 10-Passenger Van

Fritts Ford of Riverside	$31,732.00
Galpin Ford of North Hills	$35,655.76
Vista Ford of Ventura	$39,565.40
Rydell Dodge	No Bid Received
Scott Robinson Dodge of Torrance	No Bid Received
DCH Ford of Thousand Oaks	No Bid Received
Simi Valley Ford	No Bid Received

2019 Seven-Passenger Van

Fritts Ford of Riverside	$29,393.08
Vista Ford of Ventura	$29,909.70
Galpin Ford of North Hills	$33,103.74
Rydell Dodge	No Bid Received

Scott Robinson Dodge of Torrance	No Bid Received
DCH Ford of Thousand Oaks	No Bid Received
Simi Valley Ford	No Bid Received

Custom Boat Trailer to fit two different existing Gregor Boats

Pacific Trailers	$5,299.00

Auction Surplus Vehicles

Vehicle No.	Year/Make/Model	VIN No.	License No.	Mileage
824	1999 Ford Windstar	2FMZA51U8XBB63275	1031388	35,129
854	2002 Ford Windstar	2FMZA50482BB74786	1142082	36,606
853	2002 Dodge Stratus	1B3EL36R32N334731	1019955	73,160
866	2005 Chevrolet ½ ton Pickup	1GCEC14V95E172076	1143372	149,947
155	1994 GMC 3500 utility bed	1GDKC34N2RJ519092	011101	50,822.3
867	2005 Chevrolet ½ ton Pickup	1GCEC14V35E171036	1143375	

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Shawn Triplett, Facilities Maintenance Supervisor