Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

SPECIAL NOTICE REGARDING CORONAVIRUS DISEASE 2019 (COVID-19) AND PARTICIPATION IN PUBLIC MEETINGS

On March 4, 2020, Governor Newsom declared a State of Emergency resulting from the threat of COVID-19. Governor Newsom issued Executive Order N-25-20 (3-12-20) and Executive Order N-29-20 (3-17-20) which temporarily suspend portions of the Brown Act relative to conducting of public meetings. Accordingly, it has been determined that all Board meetings of the Lake Elsinore and San Jacinto Watersheds Authority held pursuant to the Brown Act will be conducted virtually.

LESJWA BOARD OF DIRECTORS REGULAR MEETING THURSDAY, FEBRUARY 18, 2021 – 4:00 P.M.

PUBLIC PARTICIPATION

Public participation is welcome and encouraged. You may participate in Public Comments during the February 18, 2021 Lake Elsinore and San Jacinto Watersheds Authority by telephone^{*} and virtually through the Zoom app as follows:

Meeting Access Via Computer (Zoom)*:	
• https://sawpa.zoom.us/j/98346801216?pwd	=cVhWYmRLZzA5UHNscXphL3ZncE1Ldz09
Meeting Access Via Telephone*: 1 (669) 900-68	333
• Meeting ID: 983 4680 1216	Meeting Password: 632692

If you are unable to participate by telephone^{*} or virtually, you may also submit your comments in writing for the Board's consideration by sending them to <u>publiccomment@sawpa.org</u> with the subject line "Public Comment". Submit your written comments by 5:00 p.m. on Wednesday, February 17, 2021. All public comments will be provided to the Chair and may be read into the record or compiled as part of the record.

*IMPORTANT PRIVACY NOTE: Participation in the meeting via the Zoom app is strongly

<u>encouraged</u>. Please keep in mind: (1) This is a public meeting; as such, the virtual meeting information is published on the World Wide Web and available to everyone. (2) Should you participate remotely via telephone, your telephone number will be your "identifier" during the meeting and available to all meeting participants. Participation in the meeting via the Zoom app is strongly encouraged; there is no way to protect your privacy if you elect to call in to the meeting. The Zoom app is a free download. Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

PURSUANT TO THE PROVISIONS OF EXECUTIVE ORDER N-29-20 ISSUED BY GOVERNOR GAVIN NEWSOM, THIS MEETING WILL BE CONDUCTED VIRTUALLY. ALL VOTES TAKEN DURING THIS MEETING WILL BE CONDUCTED BY ORAL ROLL CALL.

The meeting will be accessible as follows:

 Meeting Access Via Computer (Zoom)*:

 https://sawpa.zoom.us/j/98346801216?pwd=cVhWYmRLZzA5UHNscXphL3ZncE1Ldz09

 Meeting Access Via Telephone*: 1 (669) 900-6833

 Meeting ID: 983 4680 1216
 • Meeting Password: 632692

 *Participation in the meeting via the Zoom app (a free download) is strongly encouraged

LESJWA BOARD OF DIRECTORS REGULAR MEETING THURSDAY, FEBRUARY 18, 2021 – 4:00 P.M.

AGENDA

1. <u>CALL TO ORDER</u> (Phil Williams, Chair)

2. <u>ROLL CALL</u>

3. PUBLIC COMMENTS

Members of the public may address the Board on items within the jurisdiction of the Board; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

4. **NEW BOARD MEMBER WELCOME** Dale Welty, City of Canyon Lake

5. <u>ITEMS TO BE ADDED OR DELETED</u>

6. <u>CONSENT CALENDAR</u>

All matters listed on the Consent Calendar are considered routine and non-controversial and will be acted upon by the Board by one motion as listed below.

7. <u>NEW BUSINESS</u>

REPORT ON AUDIT FOR FISCAL YEAR ENDING JUNE 30, 2020 (LES#2021.1) 53 **Presenter:** Karen Williams **Recommendation:** Receive and file the EV 2019 20 Report on Audit prepared by

Recommendation: Receive and file the FY 2019-20 Report on Audit prepared by Teaman, Ramirez & Smith, Inc., and direct staff to file the Report on Audit with respective government agencies as required by law.

Recommendation: Receive and file the SAWPA feasibility study results as well as SAWPA's continued investigation and CEQA preparation for a Santa Ana River Watershed Weather Modification Program.

Presenter: Mark Norton

Recommendation: Authorize a Change Order to Task Order No. CDM160-04 with CDM Smith, Inc. for an amount not-to-exceed \$37,160.00 to conduct additional in-lake modeling scenarios to support the TMDL adoption process for the Lake Elsinore/Canyon Lake (LECL) Nutrient TMDL Task Force for Fiscal Year 2020-21.

8. <u>INFORMATION REPORTS</u>

Recommendation: Receive and file status report regarding the Lake Elsinore and Canyon Lake Nutrient TMDL Revision Report, the 2020 TMDL Compliance Report, and the Lake Elsinore and Canyon Lake TMDL Task Force activities.

D. <u>ADMINISTRATOR'S COMMENTS</u>

E. <u>DIRECTORS' COMMENTS</u>

F. FUTURE AGENDA ITEMS REQUESTS

9. <u>CLOSED SESSION</u>

There were no Closed Session items anticipated at the time of the posting of the agenda.

10. ADJOURNMENT

Americans with Disabilities Act: If you require any special disability related accommodations to participate in the meeting, please call (951) 354-4243 or email svilla@sawpa.org. Notification at least 48 hours prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Request should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Board after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, CA 92503, and available at www.mywatersheds.com, subject to staff's ability to post documents prior to the meeting.

Declaration of Posting

I, Sara Villa, Board Secretary of the Lake Elsinore & San Jacinto Watersheds Authority declare that on Thursday, February 11, 2021, a copy of this agenda has been uploaded to the LESJWA website at <u>www.mywatersheds.com</u> and posted at the SAWPA office, 11615 Sterling Avenue, Riverside, CA 92503.

(s)

2021 – LESJWA Board of I	<u>Directors Regular Meetings</u>
Third Thursday of	Every Other Month
(NOTE: Unless otherwise noticed, all	LESJWA Board of Directors Meetings
begin at 4:00 p.m., a	nd held at EVMWD)
February 18, 2021	April 15, 2021
June 17, 2021	August 19, 2021
October 21, 2021	December 16, 2021

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LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY BOARD OF DIRECTORS MEETING

REGULAR MEETING MINUTES October 15, 2020

BOARD OF DIRECTORS PRESENT

Phil Williams, Chair, Elsinore Valley Municipal Water District Kasey Castillo, Vice Chair, City of Canyon Lake Robert Magee, Secretary/Treasurer, City of Lake Elsinore Brenda Dennstedt, Santa Ana Watershed Project Authority

BOARD OF DIRECTORS ABSENT

Kevin Jeffries, County of Riverside

OTHERS PRESENT

T. Milford Harrison, SAWPA Commissioner Nicole Dailey, City of Riverside Liselle DeGrave, DeGrave Communications Greg Kahlen, The Kahlen Group

LESJWA STAFF

Mark Norton, Karen Williams, Sara Villa

1. CALL TO ORDER

The Regular Board of Directors meeting of the Lake Elsinore & San Jacinto Watersheds Authority (LESJWA) was called to order at 4:03 p.m. by Chair Williams.

Pursuant to the provisions of Executive Order N-25-30 issued by Governor Gavin Newsom on March 12, 2020, and Executive Order N-29-20 issued by Governor Gavin Newsom on March 17, 2020, any Director may call into the LESJWA Board meeting without otherwise complying with the Brown Act's teleconferencing requirements.

Executive Order N-33-20 issued by Governor Gavin Newsom on March 19, 2020, ordered all individuals to stay at home or at their place of residence. In concert with state and local efforts to prevent the spread of COVID-19, and until further notice, LESJWA will be holding all Board meetings by teleconference and virtually through the Zoom app.

As set forth on the posted meeting agenda, this LESJWA Board meeting was accessible to the public by teleconference and through Zoom. Members of the public who were unable to participate by teleconference or virtually were invited to submit comments and questions in writing via email for the Director's consideration. All votes taken during this meeting were conducted via oral roll call.

2. <u>ROLL CALL</u>

An oral roll call was duly noted and recorded by the Clerk of the Board.

3. PUBLIC COMMENTS

There were no public comments; there were no public comments received via email.

4. <u>ITEMS TO BE ADDED OR DELETED</u>

There were no added or deleted items.

5. <u>CONSENT CALENDAR</u>

A. <u>APPROVAL OF MEETING MINUTES: JUNE 18, 2020</u>

Recommendation: Approve as posted.

B. <u>TREASURER'S REPORT: MAY - AUGUST 2020</u>

Recommendation: Approve as posted.

C. <u>EDUCATION AND OUTREACH COMMITTEE STATUS REPORT: QUARTERLY</u> <u>REPORT JUNE – SEPTEMBER 2020</u> Recommendation: Approve as posted.

D. <u>**TMDL TASK FORCE REPORT: JUNE 30, 2020** | AUGUST 17, 2020</u> Recommendation: Approve as posted.

MOVED, approve the Consent Calendar.

Result:	Adopted by Roll Call Vote (Unanimously)
Motion/Second:	Magee/Castillo
Ayes:	Castillo, Magee, Williams
Nays:	None
Abstentions:	None
Absent:	Dennstendt, Jeffries

6. INFORMATIONAL REPORTS

A. <u>NEW LESJWA WEBSITE REDESIGN (LES#2020.22)</u>

Mark Norton informed the Board of Directors that as part of the LESJWA FY 2020-21 budget approval, \$3,920 was budgeted to conduct the redesign of the LESJWA website to improve accessibility and ensure Americans with Disabilities Act compliance. Sol Media conducted the work based on input from Mark Norton and Liselle DeGrave of DeGrave Communications. Mark Norton introduced Liselle DeGrave and requested that the Board of Directors receive and file the LESJWA website redesign PowerPoint presentation included in the agenda packet on pages 55 through 67.

Director Dennstedt arrived at 4:08 p.m., during the presentation for Agenda Item No. 6.A.

Chair Williams noted that the website looks great and its intriguing to have the history of the lakes as a good reference.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 6.A.

B. <u>LAKE ELSINORE FISHERY MANAGEMENT PLAN AND SURVEY FINAL</u> REPORT (LES#2020.23)

Mark Norton provided a brief status update on the Lake Elsinore Fishery Management Plan and Survey Final Report. In February 2019, LESJWA Board approved a task order with Wood Environment & Infrastructure, Inc. to provide services to oversee and implement the Lake Elsinore Fishery Management Plan and Survey. Mark Norton introduced Chris Stransky and John Rudolph from Wood Environment & Infrastructure, Inc. and requested that the Board of Directors receive and file the Lake Elsinore Fisheries Management Report PowerPoint presentation included in the agenda packet on pages 71 through 98. The report also includes the Lake Elsinore Aquatic Fishery and Fish Tissue Sampling and Analysis which was added to help provide the data to accompany a letter that has been submitted to the State Water Resources Control Board recommending de-listing the lake for PCBs and DDT and showing that the lake would be considered safe with no contaminants. Director Magee noted that the City of Lake Elsinore has already taken advantage of the report's recommendation to add the striped bass. Two years ago, the Department of Fish and Wildlife attempted to pass legislation that was going to restrict the introduction of that particular fish anywhere in the state of California. So, by adding this recommendation it will support their recognizing the biological pluses. Director Magee appreciates the good work and efforts.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 6.B.

C. <u>LAKE ELSINORE ADVANCED PUMPED STORAGE PROJECT (LEAPS) UPDATE</u> (LES#2020.24)

Mark Norton provided a verbal status update on the Lake Elsinore Advanced Pumped Storage Project (LEAPS) Update. The State project manager, Chase Hildeburn reported that the MOU has been executed and signed by the SWRCB Deputy Director. The MOU will be among the State Water Board, Nevada Hydro, and Cardno. All parties are coordinating to establish the project scope, budget, and timeline. The Federal Energy Regulatory Commission (FERC) released a Notice of Schedule in August referenced in the agenda packet on page 107. It is anticipated that the issuance of a final order for the project will be March 17, 2022. Greg Kahlen from The Kahlen Group added that in June 2020, FERC issued a Notice of Intent to prepare an environmental impact statement and solicited scoping comments. Due to COVID-19 public scoping meetings could not be held, and comments were requested to be submitted through mail by August 17, 2020. Last week an application was submitted to the U.S. Army Corps of Engineering and a conference call is anticipated for the following week to further discuss on how to move forward.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 6.C.

D. <u>LAKE ELSINORE PROPOSITION 1 GRANT APPLICATION STATUS</u> (LES#2020.25)

Mark Norton provided a verbal status update on the Lake Elsinore Proposition 1 Round 1 Grant Application Status. The Physical Harvesting of Algal Biomass in Lake Elsinore Pilot Project has been awarded for \$297,000. SAWPA is in the process of getting everything finalized with the State and it is anticipated to be approved by the end of 2020. Work is also underway by SAWPA to prepare a Sub-Agreement between SAWPA and the City of Lake Elsinore. All grant funded related to this project will be conducted by the City of Lake Elsinore. The City of Lake Elsinore has indicated that it will be starting the administrative work including the consultant RFP preparation in the months ahead. Nicole Dailey noted that the grant is for up to three years and they will determine when to move forward on a pilot program based on the state of the lake.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 6.D.

E. <u>LAKE ELSINORE & CANYON LAKE NUTRIENT TMDL TASK FORCE UPDATE</u> (LES#2020.26)

Mark Norton provided the Board of Directors with a verbal status update on the Lake Elsinore & Canyon Lake (LE/CL) Nutrient TMDL Task Force update. The Fishery Management Survey and Plan was fully funded by the Lake Elsinore and Canyon Lake TMDL Task Force. This helps achieve compliance with TMDLs and preventing fish kills and reducing major algae blooms. The Lake Elsinore and Canyon Lake TMDL Task Force has spent over \$800,000 for the TMDL Revision Update. The Regional Board submitted the TMDL Revision Update to peer reviewers, multiple college professors across the country, to review it in detail. The comments were submitted back to the Task Force and their consultants responded. The Regional Board went through significant staff changes and it has been a challenge in getting the new staff up to speed. We are anticipating the public hearing to consider adoption will be early 2021.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 6.E.

F. ADMINISTRATOR'S COMMENTS

Mark Norton informed the Board of Directors that SAWPA's General Manager, Richard Haller is retiring at the end of the year.

G. DIRECTORS' COMMENTS

Director Magee thanked DeGrave Communications for all the collaborative work with SAWPA staff on LESJWA's website redesign. Chair Williams added that it is important anytime you can show history in a region; it shows where we have been, and it gives us a path to where we are going.

H. FUTURE AGENDA ITEMS REQUESTS

There were no future agenda items requests.

7. <u>CLOSED SESSION</u>

There was no Closed Session.

8. ADJOURNMENT

There being no further business for review, Chair Williams adjourned the meeting at 5:02 p.m.

Approved at a Regular Meeting of the Lake Elsinore & San Jacinto Watersheds Authority Board of Directors Meeting on Thursday, February 18, 2021.

Phil Williams, Chair

Attest:

Sara Villa, Clerk of the Board

Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

September 2020

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY CASH FLOW STATEMENT AS OF 09/30/2020

Balance as of 08/31/2020			\$ 705,848.35
Funds Received			
City of Menifee			\$92 189 00
City of Beaumont			\$28,935,00
EVMWD			\$1,365.00
Open - Grant Invoices			
Open - Member & Other Contribution	s		
EVMWD		\$20,000.00	
City of Moreno Valley		\$83,847.00	
City of Murrieta		\$34,433.00	
City of Perris		\$54,723.00	
Citry of San Jacinto		\$27,435.00	
Department of Fish and Wildlife		\$27,435.00	
March AFB		\$36,460.00	
WRCAC		\$45,364.00	
WRCAG	\$	14,040.00	
Total Due LESJWA		\$343,737.00	
Disbursement List - Septmeber 202	0		\$ (158,535.85)
Funds Available as of 09/30/2020			\$ 669,801.50
Funds Available:			
Checking			\$ 414,879.53
LAIF			\$ 254,921.97
Total			\$ 669,801.50

Lake Elsinore San Jacinto Watersheds Authority LE/CL TMDL Invoice History FYE 2011 - 2021 as of September 30, 2020

Agency	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
March ARB	10,000.00	13,050.00	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00
CalTrans	10,000.00	13,050.00	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00
City of Beaumont	3,900.00	1,865.00	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00
City of Canyon Lake	3,396.00	644.00	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00
City of Hemet	22,696.00	6,286.00	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00
City of Lake Elsinore	73,133.00	ı	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00
City of Menifee	20,458.00	23,649.00	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00
City of Moreno Valley	52,520.00	15,425.00	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00
City of Murrieta	650.00		12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00
City of Perris	16,580.00	5,752.00	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00
City of Riverside	2,965.00	1,575.00	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00
City of San Jacinto	11,133.00	4,315.00	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00
City of Wildomar	3,859.00	4,461.00	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00
County of Riverside	32,919.00	,	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00
CR&R	ı	ı	ı	ı	,	ı	'	ı	ı	
Dept of Fish and Game	10,000.00	13,050.00	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00
Eastern Municipal Water District	10,000.00	13,050.00	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00
Elsinore Valley Municipal Water District	61,070.00	I	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	28,516.00
March JPA	10,000.00	13,050.00	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00
Nevada Hydro	ı	ı	I	I	ı	ı	ı	17,996.00	ı	
San Jacinto Agricultural Operators	14,011.00	28,278.00	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	52,967.00	43,864.00
San Jacinto Dairy & CAFO Operators	10,000.00	10,211.00	12,500.00	16,225.00		ı		2,700.00	2,850.00	1,500.00
Total	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	784,371.65	782,301.00	824,768.00
Total Paid Contributions	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	515,071.00
Total Outstanding Contributions								17,996.00	14,040.00	309,697.00
Total Outstanding Contributions										
Nevada Hydro	ı	ı	ı	ı	·	ı	ı	17,996.00	ı	
San Jacinto Dairy & CAFO Operators									14,040.00	
March ARB										36,460.00
City of Moreno Valley										83,847.00
City of Murrieta										34,433.00
City of Perris										54,723.00
City of San Jacinto										27,435.00
Dept of Fish and Game										27,435.00
San Jacinto Agricultural Operators										43,864.00
San Jacinto Dairy & CAFO Operators										1,500.00
Total Outstanding All Years			•	•		•		17,996.00	14,040.00	309,697.00

Lake Elsinore/San Jacinto Watershed Authority Statement of Net Assets For the Three Months Ending Wednesday, September 30, 2020

Assets	
Checking - US Bank L.A.I.F. Accounts Receivable	\$414,879.53 254,921.97 343,737.00
l otal Assets	\$1,013,538.50
Liabilities	
Accounts Payable	88,722.67
Total Liabilities	\$88,722.67
Retained Earnings	171,126.17
Excess Revenue over (under) Expenditures	\$753,689.66
Total Net Assets	\$924,815.83
Total Liabilities and Net Assets	\$1,013,538.50

	For the Three Months En	ding Wednesday, Septemt	ssets ber 30, 2020		
	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest Member Agency Contributions	\$0.00 0.00	\$0.00 279.108.00	\$5,500.00 279.108.00	0.00% 100.00%	\$5,500.00 0.00
Other Agency Contributions	0.00	657,025.00	665,447.00	98 73%	8,422.00
Total Revenues	\$0.00	\$936, 133.00	\$950,055.00	98.53%	\$13,922.00
Expenses					
Salaries - Regular	7,641.29	20,821.91	60,115.00	34.64%	39,293.09
Payroll Burden	3,461.50	9,432.32	27,232.00	34.64%	17,799.68
Overhead	11,523.07	31,399.45	90,653.00	34.64%	59,253.55
Audit Fees	0.00	00.0	5,000.00	0.00%	5,000.00
Consulting - General	38,129.96	117,806.91	646,185.00	18.23%	528,378.09
LEAMS Offset Credit License	0.00	00.0	115,290.00	0 [.] 00%	115,290.00
Legal Fees	0.00	393.75	1,100.00	35.80%	706.25
Meeting & Conference Expense	0.00	00.0	100.00	0.00%	100.00
Shipping & Postage	0.00	00.0	20.00	%00.0	50.00
Office Supplies	00.00	00 [.] 0	<u>60</u> .00	0.00%	<u>60.00</u>
Other Expense	00.0	50.00	60.00	83.33%	10.00
Insurance Expense	00.0	2,539.00	2,553.00	99.45%	14.00
Interest Expense	0.00	00.0	160.00	00 [.] 00%	160.00
Total Expenditures	\$60,755.82	\$182,443.34	\$948,558.00	19.23%	\$766,114.66
Excess Revenue over (under) Expenditures	(\$60,755.82)	\$753,689.66	\$1,497.00	50346.67%	(\$752,192.66)

Lake Elsinore San Jacinto Watersheds Authority Revenues, Expenses and Changes in Net Assets by Project For the Month Ending September 30, 2020

		JPA Mdminietration		TMDL Tack Force		Total		Budget	% I I cod		Budget
Revenues						10(8)		Duuger	// 0364		Valiance
State Grant Proceeds	ዯ	I	Ŷ	ı	ዯ	I	Ŷ	ı	100.00%	Ŷ	
LAIF Interest						I		5,500.00	0.00%		5,500.00
Member Agency Contributions		90,000.00		189,108.00		279,108.00		279,108.00	100.00%		ı
Other Agency Contributions				657,025.00		657,025.00		665,447.00	98.73%		8,422.00
Miscellaneous Revenue						-		-	100.00%		
Total Revenues	Ŷ	00.000,06	Ŷ	846,133.00	Ŷ	936,133.00	Ŷ	950,055.00	98.53%	Ŷ	13,922.00
Expenditures											
Salaries	Ŷ	7,150.88	Ŷ	13,671.03	Ş	20,821.91	Ŷ	60,115.00	34.64%	Ŷ	39,293.09
Benefits		3,239.35		6,192.97		9,432.32		27,232.00	34.64%		17,799.68
Indirect Costs		10,783.53		20,615.92		31,399.45		90,653.00	34.64%		59,253.55
Audit Fees						ı		5,000.00	0.00%		5,000.00
Consulting		13,338.33		104,468.58		117,806.91		468,900.00	25.12%		351,093.09
Other Contract Services						I		177,285.00	0.00%		177,285.00
Legal Fees		393.75				393.75		1,100.00	0.00%		706.25
Meeting & Conference Expense						ı		100.00	0.00%		100.00
Shipping & Postage						ı		50.00	0.00%		50.00
Other Expense		50.00				50.00		60.00	83.33%		10.00
LEAMS Excess Offset Credit						ı		115,290.00	0.00%		115,290.00
Insurance Expense		2,539.00				2,539.00		2,553.00	99.45%		14.00
Office Supplies								60.00	0.00%		60.00
Interest Expense						I		160.00	0.00%		160.00
Total Expenditures	Ŷ	37,494.84	Ŷ	144,948.50	÷	182,443.34	Ŷ	948,558.00	19.23%	ŝ	766,114.66
Excess Revenue over (under) Expenditures	Ŷ	52,505.16	Ŷ	701,184.50	Ŷ	753,689.66	Ŷ	1,497.00	100.00%	Ŷ	(752,192.66)

669,801.50

ŝ

529,402.05

ŝ

140,399.45

ŝ

Cash Balance @ 09/30/2020

Lake Elsinore San Jacinto Watershed Authority Disbursements September 2020

Check #	Check Date	Туре	Vendor	C	heck Amount
1106	9/10/2020	СНК	City of Lake Elsinore	\$	31,450,00
1107	9/10/2020	CHK	Riverside, County of	\$	31,450.00
EFT315	9/3/2020	CHK	Law Office of David L. Wysoc	\$	218.75
EFT316	9/3/2020	CHK	Wood Environment & Infrastru	\$	18,280.27
EFT317	9/10/2020	CHK	Elsinore Valley Municipal Wa	\$	31,450.00
EFT318	9/10/2020	CHK	Kahn, Soares & Conway, LLP	\$	12,643.00
EFT319	9/17/2020	CHK	Santa Ana Watershed Project	\$	17,484.33
EFT320	9/17/2020	CHK	CDM Smith Inc	\$	12,048.25
EFT321	9/24/2020	CHK	DeGrave Communications	\$	3,511.25
			Total Disbursements September 2020	\$	158,535.85

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Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

October 2020

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY CASH FLOW STATEMENT AS OF 10/31/2020

Balance as of 09/30/2020			\$ 669,801.50
Funds Received Deposits:			
City of Murrieta			\$34 433 00
LAIF Interest			\$541.24
Open - Grant Invoices			
Open - Member & Other Contributions	5		
EVMWD		\$20,000.00	
City of Moreno Valley		\$83,847.00	
City of Perris		\$54,723.00	
Citry of San Jacinto		\$27,435.00	
Department of Fish and Wildlife		\$27,435.00	
March AFB		\$36,460.00	
WRCAC		\$45,364.00	
WRCAG	\$	14,040.00	
Total Due LESJWA		\$309,304.00	
Disbursement List - October 2020			\$ (172,904.72)
Funds Available as of 10/31/2020			\$ 531,871.02
Funds Available:			
Checking			\$ 276,407.81
LAIF			\$ 255,463.21
Total			\$ 531,871.02

Lake Elsinore San Jacinto Watersheds Authority LE/CL TMDL Invoice History FYE 2011 - 2021 as of October 31, 2020

Agency	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
March ARB	10,000.00	13,050.00	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00
CalTrans	10,000.00	13,050.00	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00
City of Beaumont	3,900.00	1,865.00	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00
City of Canyon Lake	3,396.00	644.00	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00
City of Hemet	22,696.00	6,286.00	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00
City of Lake Elsinore	73,133.00	I	19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00
City of Menifee	20,458.00	23,649.00	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00
City of Moreno Valley	52,520.00	15,425.00	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00
City of Murrieta	650.00	I	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00
City of Perris	16,580.00	5,752.00	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00
City of Riverside	2,965.00	1,575.00	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00
City of San Jacinto	11,133.00	4,315.00	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00
City of Wildomar	3,859.00	4,461.00	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00
County of Riverside	32,919.00	I	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00
CR&R		ı	ı	ı	ı	ı	ı	ı	ı	
Dept of Fish and Game	10,000.00	13,050.00	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00
Eastern Municipal Water District	10,000.00	13,050.00	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00
Elsinore Valley Municipal Water District	61,070.00	I	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	28,516.00
March JPA	10,000.00	13,050.00	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00
Nevada Hydro	ı	ı	I	ı	I	ı	ı	17,996.00	ı	
San Jacinto Agricultural Operators	14,011.00	28,278.00	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	52,967.00	43,864.00
San Jacinto Dairy & CAFO Operators	10,000.00	10,211.00	12,500.00	16,225.00	I	I	1	2,700.00	2,850.00	1,500.00
Total	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	784,371.65	782,301.00	824,768.00
Total Paid Contributions	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	549,504.00
Total Outstanding Contributions		•	•		•			17,996.00	14,040.00	275,264.00
Total Outstanding Contributions										
Nevada Hydro	I	I	ı	ı		ı	·	17,996.00	ı	
San Jacinto Dairy & CAFO Operators									14,040.00	
March ARB										36,460.00
City of Moreno Valley										83,847.00
City of Perris										54,723.00
City of San Jacinto										27,435.00
Dept of Fish and Game										27,435.00
San Jacinto Agricultural Operators										43,864.00
San Jacinto Dairy & CAFO Operators										1,500.00
Total Outstanding All Years						•		17,996.00	14,040.00	275,264.00

Lake Elsinore/San Jacinto Watershed Authority Statement of Net Assets For the Four Months Ending Saturday, October 31, 2020

Assets	
Checking - US Bank	\$276,407.81
L.A.I.F.	255,463.21
Accounts Receivable	309,304.00
Total Assets	\$841,175.02
Liabilities	
Accounts Payable	124,348.65
Total Liabilities	\$124,348.65
Retained Earnings	171,126.17
Excess Revenue over (under) Expenditures	\$545,700.20
Total Net Assets	\$716,826.37
Total Liabilities and Net Assets	\$841,175.02

		criairig əaturaay, October ə	1, 2020		
	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$541.24	\$541.24	\$5,500.00	9.84%	\$4,958.76
Member Agency Contributions	0.00	279,108.00	279,108.00	100.00%	00.0
Other Agency Contributions	0.00	657,025.00	665,447.00	98.73%	8,422.00
Total Revenues	\$541.24	\$936,674.24	\$950,055.00	98.59%	\$13,380.76
Expenses					
Salaries - Regular	6,124.78	26,946.69	60,115.00	44.83%	33,168.31
Payroll Burden	2,774.53	12,206.85	27,232.00	44.83%	15,025.15
Overhead	9,236.17	40,635.62	90,653.00	44.83%	50,017.38
Audit Fees	00.0	00.0	5,000.00	0.00%	5,000.00
Consulting - General	161,250.89	307,830.18	646,185.00	47.64%	338,354 82
LEAMS Offset Credit License	0.00	0.00	115,290.00	00 [.] 00%	115,290.00
Legal Fees	175.00	568.75	1,100.00	51.70%	531.25
Meeting & Conference Expense	0.00	00.0	100.00	0.00%	100.00
Shipping & Postage	0.00	00.0	50.00	0.00%	50.00
Office Supplies	0.00	00 [.] 0	60.00	00 [.] 00%	60.00
Other Expense	196.95	246.95	60.00	411.58%	(186.95)
Insurance Expense	0.00	2,539.00	2,553.00	99.45%	14.00
Interest Expense	0.00	00.0	160.00	%00.0	160.00
Total Expenditures	\$179,758.32	\$390,974.04	\$948,558.00	41.22%	\$557,583.96

(\$544,203.20)

36452.92%

\$1,497.00

\$545,700.20

(\$179,217.08)

Excess Revenue over (under) Expenditures

Lake Elsinore/San Jacinto Watershed Authority Revenues, Expenses and Changes in Net Assets For the Four Months Ending Saturday, October 31, 2020 Lake Elsinore San Jacinto Watersheds Authority Revenues, Expenses and Changes in Net Assets by Project For the Month Ending October 31, 2020

		Aql		TMDL						Budget
	AC	Iministration		Task Force	Fotal		Budget	% Used		Variance
Revenues	ť		÷	ť		ł			ť	
State Grant Proceeds	ሉ		ሉ	·	ı	ሉ		TUU.UU%	ጉ	
LAIF Interest		541.24			541.24		5,500.00	9.84%		4,958.76
Member Agency Contributions		00.000,00		189,108.00	279,108.00		279,108.00	100.00%		
Other Agency Contributions				657,025.00	657,025.00		665,447.00	98.73%		8,422.00
Miscellaneous Revenue					-		-	100.00%		
Total Revenues	Ŷ	90,541.24	Ŷ	846,133.00 \$	936,674.24	Ŷ	950,055.00	98.59%	Ŷ	13,380.76
Expenditures										
Salaries	Ŷ	9,845.26	Ŷ	17,101.43 \$	26,946.69	Ŷ	60,115.00	44.83%	Ŷ	33,168.31
Benefits		4,459.90		7,746.95	12,206.85		27,232.00	44.83%		15,025.15
Indirect Costs		14,846.66		25,788.96	40,635.62		90,653.00	44.83%		50,017.38
Audit Fees					ı		5,000.00	0.00%		5,000.00
Consulting		16,754.17		291,076.01	307,830.18		468,900.00	65.65%		161,069.82
Other Contract Services					ı		177,285.00	0.00%		177,285.00
Legal Fees		568.75			568.75		1,100.00	0.00%		531.25
Meeting & Conference Expense					ı		100.00	0.00%		100.00
Shipping & Postage					ı		50.00	0.00%		50.00
Other Expense		246.95			246.95		60.00	411.58%		(186.95)
LEAMS Excess Offset Credit					ı		115,290.00	0.00%		115,290.00
Insurance Expense		2,539.00			2,539.00		2,553.00	99.45%		14.00
Office Supplies							60.00	0.00%		60.00
Interest Expense					I		160.00	0.00%		160.00
Total Expenditures	Ŷ	49,260.69	Ŷ	341,713.35 \$	390,974.04	Ŷ	948,558.00	41.22%	ş	557,583.96
Excess Revenue over (under) Expenditures	Ŷ	41,280.55	Ŷ	504,419.65	545,700.20	Ŷ	1,497.00	100.00%	÷	(544,203.20)

531,871.02

Ŷ

403,549.84

128,321.18 \$

ŝ

Cash Balance @ 10/31/2020

Lake Elsinore San Jacinto Watershed Authority Disbursements October 2020

Check #	Check Date	Туре	Vendor	Check Amount
EFT322	10/1/2020	СНК	Wood Environment & Infrastructure	\$27,966.85
EFT323	10/15/2020	CHK	Santa Ana Watershed Project Authority	\$22,625.86
EFT324	10/15/2020	CHK	Sol Media	\$3,920.00
EFT325	10/15/2020	CHK	Kahn, Soares & Conway, LLP	\$6,796.50
EFT326	10/22/2020	CHK	DeGrave Communications	\$3,853.75
EFT327	10/29/2020	CHK	CDM Smith Inc	\$11,223.50
EFT328	10/29/2020	СНК	AquaTechnex LLC	\$96,518.26
			Total Disbursements October 2020	\$172,904.72

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Lake Elsinore and San Jacinto Watersheds Authority

FINANCIAL STATEMENTS

November 2020

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY CASH FLOW STATEMENT AS OF 11/30/2020

Balance as of 10/31/2020			\$	531,871.02
Funds Received Deposits:				
City of Moreno Valley				\$83,847.00
Open - Grant Invoices				
Open - Member & Other Contribution	s			
EVMWD		\$20,000.00		
City of Perris		\$54,723.00		
Citry of San Jacinto		\$27,435.00		
Department of Fish and Wildlife		\$27,435.00		
March AFB		\$36,460.00		
WRCAC		\$45,364.00		
WRCAG	\$	14,040.00	_	
Total Due LESJWA		\$225,457.00	_	
Disbursement List - November 2020)		\$	(96,561.86)
Funds Available as of 11/30/2020			\$	519,156.16
Funda Ausilabla				_
Funds Available:			¢	
			\$ ¢	203,092.90 255 163 21
Total			\$	519,156.16
				,

Lake Elsinore San Jacinto Watersheds Authority LE/CL TMDL Invoice History FYE 2011 - 2021 as of November 30, 2020

Agency	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
March ARB	10,000.00	13,050.00	12,500.00	35,226.00	25,176.00	38,321.00	29,864.00	27,890.00	32,863.00	36,460.00
CalTrans	10,000.00	13,050.00	12,500.00	28,656.00	26,072.00	40,421.00	31,964.00	29,996.00	34,286.00	37,651.00
City of Beaumont	3,900.00	1,865.00	19,263.00	24,280.00	26,866.00	37,421.00	28,128.00	14,160.00	28,251.00	28,935.00
City of Canyon Lake	3,396.00	644.00	18,389.00	34,863.00	24,142.00	42,521.00	33,586.00	28,780.00	33,754.00	37,787.00
City of Hemet	22,696.00	6,286.00	18,175.00	25,510.00	27,958.00	54,278.00	36,426.00	29,084.00	41,830.00	46,261.00
City of Lake Elsinore	73,133.00		19,381.00	30,580.00	32,463.00	37,421.00	22,330.00	28,521.00	33,361.00	34,071.00
City of Menifee	20,458.00	23,649.00	44,155.00	55,821.00	23,584.00	100,499.00	100,906.00	112,252.00	86,846.00	92,189.00
City of Moreno Valley	52,520.00	15,425.00	103,565.00	113,058.00	17,750.00	96,414.00	74,122.00	144,495.00	80,826.00	83,847.00
City of Murrieta	650.00	ı	12,426.00	24,280.00	26,866.00	38,321.00	31,337.00	22,796.00	30,774.00	34,433.00
City of Perris	16,580.00	5,752.00	18,869.00	26,739.00	29,050.00	59,821.00	50,374.00	66,775.00	50,792.00	54,723.00
City of Riverside	2,965.00	1,575.00	17,641.00	24,280.00	26,866.00	38,921.00	30,293.00	24,896.00	26,751.00	28,635.00
City of San Jacinto	11,133.00	4,315.00	19,487.00	24,280.00	26,866.00	37,721.00	23,290.00	27,296.00	26,751.00	27,435.00
City of Wildomar	3,859.00	4,461.00	8,307.00	19,528.00	26,460.00	41,642.00	28,841.00	21,872.00	31,578.00	30,945.00
County of Riverside	32,919.00	,	30,165.00	36,469.00	30,362.00	68,931.00	69,034.00	76,601.00	81,634.00	88,734.00
CR&R	ı	ı	ı	'	·	ı	'	ı	ı	
Dept of Fish and Game	10,000.00	13,050.00	12,500.00	18,435.00	28,840.00	35,121.00	22,857.00	16,818.00	26,751.00	27,435.00
Eastern Municipal Water District	10,000.00	13,050.00	12,500.00	16,225.00	23,525.00	27,789.00	15,724.00	16,222.00	23,496.00	26,935.00
Elsinore Valley Municipal Water District	61,070.00	ı	12,500.00	16,225.00	23,525.00	30,361.00	18,327.00	12,626.00	24,934.00	28,516.00
March JPA	10,000.00	13,050.00	12,500.00	24,485.00	27,160.00	38,921.00	30,464.00	24,596.00	31,006.00	34,412.00
Nevada Hydro	I	ı	I	ı	ı	ı	ı	17,996.00	I	
San Jacinto Agricultural Operators	14,011.00	28,278.00	12,500.00	47,549.00	23,530.58	45,785.00	31,391.00	37,999.65	52,967.00	43,864.00
San Jacinto Dairy & CAFO Operators	10,000.00	10,211.00	12,500.00	16,225.00		ı		2,700.00	2,850.00	1,500.00
Total	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	784,371.65	782,301.00	824,768.00
Total Paid Contributions	379,290.00	167,711.00	429,823.00	642,714.00	497,061.58	910,630.00	709,258.00	766,375.65	768,261.00	633,351.00
Total Outstanding Contributions					•	•		17,996.00	14,040.00	191,417.00
Total Outstanding Contributions										
Nevada Hydro	ı	ı	ı	ı	ı	ı	I	17,996.00	ı	
San Jacinto Dairy & CAFO Operators									14,040.00	
March ARB										36,460.00
City of Perris										54,723.00
City of San Jacinto										27,435.00
Dept of Fish and Game										27,435.00
San Jacinto Agricultural Operators										43,864.00
San Jacinto Dairy & CAFO Operators										1,500.00
Total Outstanding All Years	•	•		•	•	•	•	17,996.00	14,040.00	191,417.00

Lake Elsinore/San Jacinto Watershed Authority Statement of Net Assets For the Five Months Ending Monday, November 30, 2020

Assets	
Checking - US Bank	\$263,692.95
L.A.I.F.	255,463.21
Accounts Receivable	225,457.00
Total Assets	\$744,613.16
Liabilities	
Accounts Payable	60,327.53
Total Liabilities	\$60,327.53
Retained Earnings	171,126.17
Excess Revenue over (under) Expenditures	\$513,159.46
Total Net Assets	\$684,285.63
Total Liabilities and Net Assets	\$744,613.16

			JO, 2020		
	Period Actual	YTD Actual	Annual Budget	% Used	Budget Variance
Revenues					
LAIF Interest	\$0.00	\$541.24	\$5,500.00	9.84%	\$4,958.76
Member Agency Contributions	0.00	279,108.00	279,108.00	100.00%	00.00
Other Agency Contributions	0.00	657,025.00	665,447.00	98.73%	8,422.00
Total Revenues	\$0.00	\$936,674.24	\$950,055.00	98.59%	\$13,380.76
Expenses					
Salaries - Regular	3,838.79	30,785.48	60,115.00	51.21%	29,329.52
Payroll Burden	1,738.97	13,945.82	27,232.00	51.21%	13,286.18
Overhead	5,788.90	46,424.52	90,653.00	51.21%	44,228.48
Audit Fees	0.00	0.00	5,000.00	0.00%	5,000.00
Consulting - General	21,174.08	329,004.26	646,185.00	50.91%	317,180.74
LEAMS Offset Credit License	00.00	00.0	115,290.00	0.00%	115,290.00
Legal Fees	0.00	568.75	1,100.00	51.70%	531.25
Meeting & Conference Expense	0.00	0.00	100.00	0.00%	100.00
Shipping & Postage	0.00	00.0	50.00	0.00%	50.00
Office Supplies	0.00	00.0	60.00	0.00%	60.00
Other Expense	0.00	246.95	60.00	411.58%	(186.95)
Insurance Expense	0.00	2,539.00	2,553.00	99.45%	14.00
Interest Expense	0.00	0.00	160.00	0.00%	160.00
Total Expenditures	\$32,540.74	\$423,514.78	\$948,558.00	44.65%	\$525,043.22

(\$511,662.46)

34279.19%

\$1,497.00

\$513, 159.46

(\$32,540.74)

Excess Revenue over (under) Expenditures

Lake Elsinore/San Jacinto Watershed Authority Revenues, Expenses and Changes in Net Assets For the Five Months Ending Monday, November 30, 2020 Lake Elsinore San Jacinto Watersheds Authority Revenues, Expenses and Changes in Net Assets by Project For the Month Ending November 30, 2020

	Ad	JPA Iministration		TMDL Task Force		Total		Budget	% Used	Budget Variance	
Revenues								0			
State Grant Proceeds	Ŷ		Ş	I	Ŷ		Ŷ	·	100.00% \$		
LAIF Interest		541.24				541.24		5,500.00	9.84%	4,958.7	20
Member Agency Contributions		90,000,00		189,108.00		279,108.00		279,108.00	100.00%	ſ	
Other Agency Contributions				657,025.00		657,025.00		665,447.00	98.73%	8,422.0	0
Miscellaneous Revenue						-		-	100.00%	-	
Total Revenues	Ŷ	90,541.24	ŝ	846,133.00	Ŷ	936,674.24	ŝ	950,055.00	98.59% \$	13,380.7	9
Expenditures											
Salaries	Ŷ	11,674.90	Ş	19,110.58	Ŷ	30,785.48	Ŷ	60,115.00	51.21% \$	29,329.5	5
Benefits		5,288.73		8,657.09		13,945.82		27,232.00	51.21%	13,286.1	ø.
Indirect Costs		17,605.76		28,818.76		46,424.52		90,653.00	51.21%	44,228.4	ø
Audit Fees						ı		5,000.00	0.00%	5,000.0	8
Consulting		18,123.57		310,880.69		329,004.26		468,900.00	70.17%	139,895.7	4
Other Contract Services						I		177,285.00	0.00%	177,285.0	0
Legal Fees		568.75				568.75		1,100.00	0.00%	531.2	S
Meeting & Conference Expense						ı		100.00	0.00%	100.0	8
Shipping & Postage						ı		50.00	0.00%	50.0	g
Other Expense		246.95				246.95		60.00	411.58%	(186.9	95)
LEAMS Excess Offset Credit						ı		115,290.00	0.00%	115,290.0	o
Insurance Expense		2,539.00				2,539.00		2,553.00	99.45%	14.0	8
Office Supplies								60.00	0.00%	60.0	g
Interest Expense						I		160.00	0.00%	160.0	Q
Total Expenditures	Ŷ	56,047.66	Ş	367,467.12	Ş	423,514.78	Ŷ	948,558.00	44.65% \$	525,043.2	5
Excess Revenue over (under) Expenditures	Ŷ	34,493.58	Ş	478,665.88	Ŷ	513,159.46	Ŷ	1,497.00	100.00% \$	(511,662.4	(9

30

519,156.16

Ŷ

402,600.83

ŝ

116,555.33

ŝ

Cash Balance @ 11/30/2020

Lake Elsinore San Jacinto Watershed Authority Disbursements November 2020

Check #	Check Date	Туре	Vendor	Ch	eck Amount
EFT329	11/5/2020	СНК	Law Office of David L. Wysocki	\$	175.00
EFT330	11/5/2020	CHK	AquaTechnex LLC	\$	27,500.00
EFT331	11/12/2020	CHK	Wood Environment & Infrastructure	\$	40,386.09
EFT332	11/12/2020	CHK	Kahn, Soares & Conway, LLP	\$	6,752.50
EFT333	11/25/2020	CHK	Santa Ana Watershed Project Authority	\$	18,332.43
EFT334	11/25/2020	CHK	DeGrave Communications	\$	3,415.84
			Total Disbursements November 2020	\$	96,561.86

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Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

LESJWA Education and Outreach Committee Meeting Notes

Oct. 19, 2020 (Meeting was held as Zoom virtual meeting)

Members Present:	Mark Norton, Chair, SAWPA Bonnie Woodrome, EVMWD Nicole Dailey, City of Lake Elsinore
Absent:	Kasey Castillo, City of Canyon Lake Alonzo Barrera, Riverside County Executive Office
Others:	Liselle DeGrave, DeGrave Communications

1. Call to Order

Mark Norton called the Zoom virtual meeting to order at 12:05 pm.

2. Additions/Corrections to the Agenda

No corrections or additions to the agenda were made by the Committee.

3. Approval of the Meeting Notes

The meeting notes from July 20, 2020 were reviewed. The Committee agreed that the meeting notes were acceptable as prepared.

4. Lake Levels

The current lake levels at Lake Elsinore are 1241.95' (Oct. 19) and 1379.34' at Canyon Lake (Oct. 19). The lake levels recorded prior to our last meeting were 1243.55' (July 13) at Lake Elsinore and 1380.76' at Canyon Lake (July 13). No further discussion occurred under this item.

5. Fish Survey Update

Mr. Norton reported that the final report of the Lake Elsinore Fishery Management Plan and Survey has been prepared by Wood Environmental Inc. and shared with the LE/CL TMDL Task Force and LESJWA Board. He indicated that the task force and LESJWA Board were very pleased with the results. The Committee agreed that the consultant, DeGrave Communications, should prepare a news release about the report. Nicole Dailey indicated that there is a new Press Enterprise reporter who reports on Lake Elsinore issues, Allyson Escobar, and that Nicole would send out her contact info to the Committee and Ms. DeGrave. This press release will particularly be important as efforts continue to conduct fish stocking. Ms. Dailey said she would like to see if the Task Force still has funding available under this study task that might support further fish stocking. Mr. Norton said that she is welcome to request this at the Task Force meeting this afternoon since the FY 21-22 TF Budget will also be discussed. Ms. Dailey said the City is also looking at further studies as follow up to the Management Plan to possibly locate aquatic vegetation around the lake. They have hired Wood Inc.to conduct bathmetric and sediment studies as a first step.

6. <u>Alum Application Update</u>

Mr. Norton stated that the latest alum application at Canyon Lake was conducted just last week by Aquatechnex. Ms. DeGrave indicated that a public notice about the alum application was shared in the Canyon Lake Friday Flyer with two separate posts. For the second post, she reached out to Terry McNabb of Aquatechnex and got an update that the alum application was going well. Liselle indicated that the Friday Flyer now has a new editor who is receptive to posting such items.

7. <u>Lake Elsinore Water Quality Update</u>

Ms. Dailey said that there are no major changes to the lake quality since the last meeting. She shared that previously the Regional Board staff had indicated that they would like to see improvements to sign posting and the City's website but Nicole said that the City is not obligated to make these changes due to undue expense and no regulatory mandates for such changes. She indicated that the Regional Board staff had particular concerns with Parrot Park blue green algae toxicity levels but she informed them that this beach was a "county" beach and that they should get in contact with the Riverside County staff since they had jurisdiction at this beach area. Ms. Dailey also said that the city is continuing bacterial monitoring as a courtesy but is not required to. She also learned that the County of Riverside is doing some periodic bacterial monitoring through a SAWPA task force called the Regional Water Quality Monitoring Program. Mr. Norton said he would be sure to let the SAWPA project manager, Rick Whetsel, for the Regional Water Quality Monitoring Program know of the City of Lake Elsinore's interest to coordinate results. The bacterial monitoring that the city conducts is shared with the County Dept of Environmental Health. No major issues have arisen in recent bacterial or algal monitoring.

8. Website Update

Mr. Norton said that thanks to the efforts of Daniel Diez of Sol Media and Liselle DeGrave of DeGrave Communications, the new LESJWA website has been redesigned and updated. He shared a link with the Committee about 2 ¹/₂ weeks ago and most responded that they were very pleased with the website. The website was shared by DeGrave Communications at the last LESJWA Board meeting and they too were very complimentary. Ms. Dailey apologized for not having a chance to review it in detail but felt from what she saw, she was very impressed. Nicole indicated that the website should also be described on the member agencies websites with a brief paragraph to encourage viewers to go the <u>www.mywatersheds.com</u> or to a specific page of the LESJWA website for the latest news or articles. DeGrave said she would work on a boiler plate text for something that all the member agencies can place on their websites to attract viewers to the LESJWA website. Further, Liselle felt that the new website can also be a good resource for legislators who want to get familiar with LESJWA and what it has accomplished to date.

9. ACOE Lake Elsinore Feasibility Study Status

Mr. Norton said that he participated in the State of the City address event for Lake Elsinore and Mr. Bob Magee, LESJWA Board member and Lake Elsinore mayor pro tem, mentioned LESJWA as well as an ACOE Lake Elsinore Feasibility Study that was under development. Mr. Norton asked about this from Ms. Dailey prior to the Committee meeting today and she provided an update that a Project Management Plan was being developed by ACOE staff along with a cost sharing agreement among the ACOE, City, County of Riverside and EVWMD. Nicole indicated that the work should be completed by Jan. 2021. Mr. Norton said he decided to add this to the LESJWA Education and Outreach Committee agenda since this could be a major study to benefit the lake. Mr. Norton also suggested that perhaps LESJWA could be a participant as well. Ms. Dailey said that the feasibility study would be a 50-50% cost share between the ACOE and its partners with EVWMD as lead. ACOE staff indicated that much of the past work on the lake could be counted as in-kind support and be eligible as part of the cost share. Mr. Norton said he had heard about this study initiated by EVWMD but the last he had heard was that the feasibility study would likely be over a million dollars and he doubted that local agencies had sufficient funding to support it. He said in the early days of LESJWA when the original \$15 million in State bond funding was available, they had explored potentially partnering with ACOE but staff decided that the benefits did not outweigh the costs especially with no guarantee that future implementation funding would be appropriated. Ms. Nicole indicated that there is a previous federal authorization still on the books which was something they did not want to lose. She said that under this authority that up to \$12 million in improvements could be made available. Mr. Nicole said they meet with the ACOE every other week. Mr. Norton suggested that perhaps LESWJA staff could be invited to participate

and may have an interest in supporting this time. Ms. Nicole said she would reach out to Greg Morrison of EVWMD to express the interest of LESJWA as a potential partner.

10. Communication Plan Update

Ms. DeGrave described the work that she is conducting on developing a LESJWA Communications Plan. She said that the first phase, Research, has now been completed. This involved conducting an online survey and an audit of all LESJWA outreach materials. The next phase will be Planning and Analysis which she has begun, and the final phase will be Project Management. She reported that the survey results were overall very positive about LESJWA and its work. Her preliminary findings for the Communications Plan indicate that over all there is very little opposition to LESJWA and its activities. There is a need for consistent branding and messaging and current info should be posted more effectively on the LESJWA website. This will now be addressed with the new LESJWA website which will also have ties to LESJWA social media.

11. Discussion Items

• Collateral materials

Ms DeGrave indicated that collateral materials will be particularly important to support legislative outreach. Ms. Dailey expanded that with the upcoming November elections there may be new congress reps and state legislators who should be briefed on LESJWA. Further, she cited Melissa Melendez and Ken Calvert as two who should be contacted and briefed about LESJWA. In the past, the idea of forming a conservancy for the lake had also been considered and could be discussed further with them.

12. Discuss Items for Next Agenda

Ms. DeGrave said that for a future meeting she will be sharing new education and outreach materials for the Committee to review.

13. Next Meeting Date

The Committee agreed to set Jan. 11^{th} , 2021 at 1 pm – 2:30 pm as the date and time for their next virtual meeting.
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Lake Elsinore & San Jacinto Watersheds Authority



City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

LESJWA Education and Outreach Committee Meeting Notes

Jan. 11, 2021 (Meeting was held as Zoom virtual meeting)

Members Present:	Mark Norton, Chair, SAWPA Bonnie Woodrome, EVMWD Nicole Dailey, City of Lake Elsinore
Absent:	Kasey Castillo, City of Canyon Lake Alonzo Barrera, Riverside County Executive Office
Others:	Liselle DeGrave, DeGrave Communications

1. Call to Order

Mark Norton called the Zoom virtual meeting to order at 12:05 pm.

2. Additions/Corrections to the Agenda

No corrections or additions to the agenda were made by the Committee.

3. Approval of the Meeting Notes

The meeting notes from Oct. 19, 2020 were reviewed. The Committee agreed that the meeting notes were acceptable as prepared and had no edits.

4. Lake Levels

The current lake levels at Lake Elsinore are 1241.76' (Jan. 11) and 1380.05' (Jan. 11). The lake levels recorded from our last meeting were 1241.95' (Oct. 19) at Lake Elsinore and 1379.34' at Canyon Lake (Oct. 19). Mr. Norton said the December rainstorm helped to raise the Canyon Lake elevation somewhat since our last meeting. No further discussion occurred under this item.

5. <u>Lake Elsinore Update</u>

Ms. Dailey reported that Grant Yates, Lake Elsinore City Manager, had recently resigned in January 2021 citing the recent passing of some family members close to him as part of the reason for his departure. Ms. Dailey also reported that Mr. Robert Magee, LESJWA Board member, is no longer working for Supervisor Kevin Jeffries. He has taken a new position as the Assistant Director of Code Enforcement for the County of Riverside. His email address will remain the same.

Ms. Dailey said that she was approached by AECOM about another idea to pursue grant funding to benefit Lake Elsinore. The AECOM meeting has been set for Jan. 20th at 10 am. Ms. Dailey said work is also continuing on a theoretical effectiveness study on the Lake Elsinore Aeration and Mixing System (LEAMS), being conducted by the consultants, Dr. Alex Horne, and Dr. Michael Anderson. Separately, the LEAMS is also being evaluated on an engineering and physical basis which is less theoretical approach than the other study. LEAMS operators are using reserves from the LEAMS funding to fund this additional study. The next meeting for this engineering assessment is scheduled for Jan. 25th at 3 pm.

Ms. Dailey indicated that funding agreements to implement a future Lake Elsinore ACOE Feasibility Study is continuing. The County of Riverside representative is Mr. Jeff Green. Mr. Green indicated that based on their review, the County of Riverside could not provide local cost share for the feasibility study, however, Ms. Dailey shared that Supervisor Jeffries has already indicated that County's full support for the sstudy, so work is underway to resolve the County's position. Ms. Dailey said the City of Lake Elsinore has already approved their local share for the feasibility study back in November 2020.

Ms. Dailey was very pleased with the work by DeGrave Communications in helping to prepare photos and support for the recent Lake Elsinore fish stocking social media posts and new articles. Ms. Dailey indicated she wanted to make sure that she added the articles to the City of LE's website as well.

6. Canyon Lake Update

Mr. Norton stated that the next alum application at Canyon Lake is likely to occur in the Feb./Mar. 2021 time frame. Mr. Norton gave the Committee an update on the work of the LE/CL TMDL Task Force and the status of the LE/CL TMDL Update and Revision. Approval by the State of the LE/CL TMDL Update and Revision Report is pending some additional scenario runs by the CDM Smith, task force consultant, requested by Regional Board staff. After acceptance by the Regional Board staff, the updated TMDL will be brought to the Regional Board, State Board, Office of Administrative Law and EPA starting in summer of 2021.

Due to the recent rains, the Canyon Lake level increased a bit, but the rainstorms were not significant enough to monitor. Mr. Norton said because the storm was not major, this was a good thing in that the recently completed Lake Elsinore and Canyon Lake 2020 Compliance Report recently submitted to the Regional Board is unlikely to change and that task force dischargers appear to be in compliance with the TMDL nutrient limits.

7. Activity Report (Jul. 2020-Dec. 2020)

Ms. DeGrave shared the bi-annual LESJWA Education and Outreach Activity Report for the July -December 2020 time period. The report covered Task 1 – Conduct Outreach Services in Canyon Lake and Lake Elsinore which included the development of a Communications Plan, a Social Media Survey, Communications Audit, Branding Updates and new LESJWA Website improvements that DeGrave Communications, working with Daniel Diez, completed and shared. Task 2 - Address Canyon Lake and Lake Elsinore Community Members through Media and Social Media Outreach included the public notices prepared for the Canyon Lake alum application and resulted in two separate articles in the Canyon Lake Friday Flyer during October 2020. This task also included the extensive coverage of the Lake Elsinore Fish Stocking city event held at Lake Elsinore in Dec. 2020. Ms. DeGrave said the event went very quickly and they did not get as many photos and b-roll video as they had hoped but it was enough for good news articles and lots of hits on social media. The Press Enterprise, NBC and ABC news included the event in their media and broadcasts. Ms. Woodrome commented that Canyon Lake Friday Flyer has a new editor and produces a new publication called "Canyon Lake Insider" so future public notices and outreach will need to be extended to her for this new publication as well. Ms. Woodrome said she would send the new editor's contact info to Ms. DeGrave. Task 3 – Prepare Materials, Coordinate and Support LESJWA Water Summit Event Planning covers the LESJWA Water Summit planning but no preparation has started since that event has now been deferred to Year 2022 due to COVID. Task 4 - Provide Outreach and Administration for Project Management Purposes included DeGrave Communications support for the quarterly Education and Outreach Committee meetings, presentations to the LESJWA Board and media monitoring for new clips. Task 5 -Provide Issue Management Services included partnering with Elsinore Valley Municipal Water District to provide outreach support during the Canyon Lake Algae bloom. Support included an outreach plan, fact sheet and review of an op-ed piece.

8. Discussion Items

New elected outreach

Ms. DeGrave suggested that effort start on preparing briefing material for newly elected officials from the LE/CL TMDL Task Force. She will start with compiling a list of new elected officials and acquiring their email contact info. For certain key individuals, a virtual meeting briefing was suggested by Mr. Norton which he offered to help set up when the timing was right.

Upcoming water quality projects

Mr. Norton said he was aware of two major projects, the City of LE Pilot Algae Removal Technologies project that will likely start in July 2021 and the ACOE Lake Elsinore Feasibility Study being undertaken by the EVMWD, City of Lake Elsinore and County of Riverside with the ACOE. Cost sharing agreements are being developed.

Mr. Norton also mentioned that work is underway to discuss a feasibility study recently completed by SAWPA to look at weather modification, also known as cloud seeding, to increase rain fall and snow pack in the Santa Ana River Watershed. Mr. Norton said he will be making a presentation about it at the next LESJWA Board meeting as well at for EVMWD Board, EMWD Board and the City of Rialto Water Commission. If implemented, Lake Elsinore could really benefit from the increased rain runoff from the upper watershed.

9. Discuss Items for Next Agenda

None were requested.

10. Next Meeting Date

The Committee agreed to set Monday, April 12, 2021 at 1:30 pm as the date and time for their next virtual meeting.

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LAKE ELSINORE/CANYON LAKE TMDL TASK FORCE MEETING NOTES

September 22, 2020

PARTICIPANTS

VIA-CONFERENCE CALL

Garth Engelhorn Scott Sewell **Richard Kim** Stefan Awender Kris Hanson Dan Cortese Carlos Norvani Nicole Dailey Rae Beimer Lynn Merrill Cynthia Gabaldon Cynthia Gabaldon Stormy Osifeso Johnathan Skinner Steven Wolosoff Paula Kulis Al Javier Sudhir Mohleji Lenai Hunter **Richard Meyerhoff** Tess Dunham Lauren Sotelo Ankita Vyas Adam Fischer Lauma Willis Barbara Barry Pamela Ybarra Yiping Cao Gracie Torres **Richard Boon** Rebekah Guill Abigail Suter Amy McNeil Andrea Macias Greg Kahlen Chris Stransky John Rudolph **Rolf Schottle** Pat Boldt Mark Norton **Rick Whetsel** T. Milford Harrison

REPRESENTATIVE

Alta Environmental CA Department of Fish & Wildlife CA Department of Fish & Wildlife CA Department of Fish & Wildlife City of Canyon Lake/Wildomar City of Hemet City of Lake Elsinore City of Lake Elsinore City of Moreno Valley City of San Jacinto City of Menifee City of Perris City of Riverside City of Lake Elsinore CDM Smith CDM Smith Eastern Municipal Water District Elsinore Valley Municipal Water District Elsinore Valley Municipal Water District **GEI** Consultants Kahn, Soares & Conway, LLP March JPA Michael Baker/Caltrans Regional Water Quality Control Board Riverside County Flood Control & WCD The Kahlen Group Wood Environmental Wood Environmental Wood Environmental WRCAC Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority

Call to Order & Introductions

The Lake Elsinore/Canyon Lake TMDL Task Force meeting was called to order at 1:33 p.m. by Mark Norton with all participants participating remotely, due to COVID-19 related social distancing restrictions.

Meeting Notes

Mark Norton /LESJWA asked for any comments on the August 17, 2020 LE&CL TMDL meeting notes. There were no comments, and the meeting notes were deemed acceptable.

Status: TMDL Update (Regional Board)

Barbara Berry /Regional Board informed the Task Force that staff has prepared draft offset language, this will be distributed to stakeholders following the meeting for review and comment, with the goal of discussing at our next Task Force meeting. This revised language is intended to address comments provided by the Task Force in June 2019.

Barbara next informed the Task Force that she and Yiping Cao/Regional Board have been on several calls with the consultant team to address Staff's questions regarding the Task Force response to the Peer Review comments, as well as to help her and Yiping to better understand the background assumptions that went into revising the TMDLs.

Yiping stated that it is the staff's goal to 1) have a full understanding and a complete administrative record of the models used to update the TMDLs and 2) address critical peer reviewer comments.

Staff is currently waiting on this response from the consultant team led by Tess Dunham/KSC. Once these questions are addressed the Regional Board staff will work to schedule bringing the revised LE&CL TMDLs before the Regional Board. Barbara noted that this is a high priority for her and Yiping.

Tess Dunham informed the Task Force that she and her team will have addressed all of staff's questions in the next few weeks.

Presentation: Lake Elsinore Fishery Management Program (Wood Env./GEI)

Chris Stransky /Wood Environmental provided a brief overview of the Lake Elsinore Fishery Management Program and its objectives. He then introduced Mr. John Rudolph /Wood Environmental to present study design, and observations from the fish, zooplankton and phytoplankton surveys. Mr. Richard Meyerhoff/ GEI followed with a presentation on the results of the fish tissue analysis.

A copy of the combined Wood Environmental/GEI Consultants Lake Elsinore Fisheries Management Report presentation is available on the SAWPA website under Agendas and Meeting Materials: <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#stakeholder-effort</u>

Discussion: 2020 TMDL Compliance Report (Tess Dunham/KSC)

Tess Dunham /Kahn, Soares & Conway, LLP provided to the Task Force a handout summarizing where each of the permit holders are in terms with compliance with the 2004 TMDL load allocations. This included a preliminary analysis of 10-year running average of loads discharged to each Canyon Lake and lake Elsinore from upstream sources (for the period of January 1, 2011 – June 30, 2020) and a determination of compliance for each TMDL.

One of the questions that has arisen with respect to the December 31, 2020 TMDL compliance deadline is if any of the permittees would need a Time Schedule Order (TSO) with respect to compliance with 2004 TMDL provisions as they are incorporated into permits. A preliminary analysis of the available data showed that based upon the first 9 ½ years of data provided, the permittees are expected to be in compliance.

Tess stated individual permittees should determine if they need a TSO. With that, the Regional Board would need to know sooner rather than later if permittees would like the Regional Board to consider adoption of a TSO prior to the end of December.

Discussion: 2024 Integrated Report Listing for Impaired Water Bodies (Tess Dunham/KSC)

Tess Dunham /Kahn, Soares & Conway, LLP followed up the presentation on the results of the fish tissue analysis by GEI by presenting to the Task Force a draft of the letter she has prepared to Regional Board recommending the delisting of Lake Elsinore for Total DDT and Total PCBs. This recommendation is based on the findings of the fish tissue analysis. It was suggested the final Lake Elsinore Fishery Management Program report accompany the letter.

Tess requested comments on the letter be submitted by close of business on September 30th.

Additionally, Tess informed the Task Force that Regional Board staff is starting work on the 2024 Integrated Report and the deadline for submitting data into CEDEN to be considered for that report is noon on October 16th.

Discussion: In-Lake Modeling (Steve Wolosoff/CDM Smith)

Barbara Berry /Regional Board raised a concern of staff regarding the models used by the Task Force for the TMDL revision in that the CAEDYM model will no longer be supported by the developer.

Steve Wolosoff /CDM Smith presented to the Task Force and Regional Board staff a proposal to update the models used in the TMDL revision in light of the sunsetting of the CAEDYM model. CDM Smith has been tasked this fiscal year to update the modeling to extend the simulation period for the TMDL revision scenarios through 2020. In doing that, there is an opportunity to address the issue with the CAEDYM model by performing the model update using the new model platform. With that it will also expand the opportunities of the Task Force, in that the updated linkage analysis models can then be used to assist the Task Force in demonstrating compliance for the TMDLs. Additionally, the models would support ongoing BPA adoption process, future regulatory changes, address Task Force science questions, and support future evaluations of inlake water quality controls. Lastly, there is the need to do this soon as Dr. Michael Anderson is planning to retire in the near future and the CAEDYM model used by Dr. Anderson is being sunsetted by its developers. Wolosoff then introduced Ms. Paula Kulis an expert in these models to provide additional detail on the transition from the current CAEDYM model to the new model platform.

A copy of the CDM Smith Lake Elsinore In-Lake Modeling presentation is available on the SAWPA website under Agendas and Meeting Materials: <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#stakeholder-effort</u>

Discussion: Canyon Lake Alum (LESJWA Staff)

Rick Whetsel /SAWPA informed the Task Force that the fall Canyon Lake alum application is scheduled for the week of October 12th. Due to the interest of the Task Force to maximize the offset credits accrued by the application in 2020, Steve Wolosoff is planning to maximize the amount of alum that may be applied in Canyon Lake.

Update: LEAMS (LESJWA Staff)

Adam Fischer /Regional Board raised a concern regarding the status of the Final Compliance Assessment deliverable identified in the MS4 permittees Comprehensive Nutrient reduction Plan (CNRP). This deliverable was to be submitted to Regional Board the 4th Qtr 2019. However, Regional Board staff cannot locate this deliverable.

Richard Boon /RCFC&WCD informed Adam that he would follow-up with him later in the week regarding the Final Compliance Assessment.

Task Force Administration (LESJWA Staff

Rick Whetsel /SAWPA reported that staff will plan to present a draft FY 2021-22 budget at the next meeting.

There were no questions/comments from stakeholders.

Other Business

Mark Norton presented a letter received from CA Department of Fish and Wildlife (F&W), which raised the questions including if F&W are still considered a responsible party and if F&W still needs to participate in the Task Force as they believe they have met their compliance requirements.

LESJWA staff will prepare a formal response to this letter with the help of Tess Dunham.

Schedule Next Meeting

The next LE/CL TMDL Task Force meeting is scheduled for October 19, 2020 at 1:30 pm. as a virtual conference call meeting.

Adjourn The meeting adjourned at 4:06 p.m.

LAKE ELSINORE/CANYON LAKE TMDL TASK FORCE MEETING NOTES

October 19, 2020

PARTICIPANTS

VIA-CONFERENCE CALL

Kris Hanson Carlos Norvani Cynthia Gabaldon Cynthia Gabaldon Maria Arreguin Mike Roberts Stormy Osifeso Johnathan Skinner Nicole Dailey Lynn Merrill Lauren Sotelo Pat Boldt Rachael Johnson Lauma Willis Barbara Barry Yiping Cao SueAnn Neal **Richard Boon** Rebekah Guill Abigail Suter Amy McNeil Andrea Macias Sudhir Mohleii Lenai Hunter Ankita Vyas Scott Sewell Richard Kim Stefan Awender Steven Wolosoff Paula Kulis **Richard Meyerhoff** Tess Dunham Greg Kahlen Chris Stransky Garth Engelhorn Joyce Goode Michael A Anderson Mark Norton **Rick Whetsel** T. Milford Harrison

REPRESENTATIVE

City of Canyon Lake/Wildomar City of Lake Elsinore City of Menifee City of Perris City of Perris City of Riverside City of Riverside City of Lake Elsinore City of Lake Elsinore City of San Jacinto March JPA WRCAC **Riverside County Farm Bureau** Regional Water Quality Control Board Riverside County Flood Control & WCD Elsinore Valley Municipal Water District Elsinore Valley Municipal Water District Michael Baker/Caltrans CA Department of Fish & Wildlife CA Department of Fish & Wildlife CA Department of Fish & Wildlife CDM Smith CDM Smith **GEI** Consultants Kahn, Soares & Conway, LLP The Kahlen Group Wood Environmental Alta Environmental City of Hemet UC Riverside Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority

Call to Order & Introductions

The Lake Elsinore/Canyon Lake TMDL Task Force meeting was called to order at 1:31 p.m. by Rick Whetsel with all participants participating remotely, due to COVID-19 related social distancing restrictions.

Meeting Notes

Rick Whetsel /SAWPA asked for any comments on the September 22, 2020 LE&CL TMDL meeting notes. Stefan Awender /CA Department of Fish & Wildlife requested to be added to the Participants. There were no additional comments, and the meeting notes were deemed acceptable.

Status: TMDL Update (Regional Board)

a. Timing of Response to Comments

Barbara Berry /Regional Board informed the Task Force that Regional Board staff has continued to meet with the Task Force consultant team to discuss the response to the Peer Review comments and evaluate the Regional Board position on the TMDL update. With that Barbara stated that Regional Board staff is recommending additional model runs to help clarify the baseline/background assumptions.

b. Nutrient Offset Credit Language

Barbara informed the Task Force that Regional Board staff has not received any comments to date on the proposed revised nutrient offset credit language to be included in the TMDL update.

Tess Dunham informed Barbara that she is currently working to prepare a formal response on behalf of the task force and had a few questions:

Q. with respect to the proposed language "All feasible controls", Tess asked if it would also be appropriate to revise to "All feasible and practicable controls."

Q. regarding the reference to "effluent limitations in applicable permits", understanding that not all the dischargers under this program have effluent limitations, notably the CWAD.

Q. There was no reference to wasteload allocations. Was this accidental or on purpose?

Barbara responded that omitting wasteload allocations was an accidental omission and regarding the other questions, she and her staff will need to think about what is most appropriate.

Tess followed up that she would write up the questions and submit to Regional Board in the next few weeks.

c. Revisions Recommended by Regional Board Staff

Cynthia Gabaldon representing the Cities of Perris and Menifee wanted to better understand Regional Board staff issues with the modeling and the additional modeling scenarios.

Barbara responded that there were several questions raised by the Peer Reviewers regarding the values used in the modeling process to evaluate the baseline/background conditions. She added that there was no sensitivity analysis performed on the models and that has left the Regional Board with questions as to the level of certainly in the baseline/background conditions.

Steve Wolosoff /CDM Smith stated that he and his team will put together a proposal to address the additional modeling for the next Task Force meeting.

d. Schedule Update on Adoption Hearing Date

Barbara stated that Regional Board staff will need to be able to address questions regarding the TMDL models prior to scheduling a workshop to bring the revised LE&CL TMDLs before the Regional Board. She also noted that Regional Board expects to open the revised LE&CL TMDLs for another round of public comment prior to the next workshop.

Discussion: 2020 TMDL Compliance Report (Tess Dunham/KSC)

Tess Dunham /Kahn, Soares & Conway, LLP provided an update to the Task Force on the schedule for the 2020 TMDL Compliance Report. She noted that the consulting team was planning to finalize and submit the report in February-March 2021 to assure there would be sufficient time to analyze all available data for the 10-year compliance window. However, it was brought to her attention that the MS4 Comprehensive Nutrient Reduction Plan (CNRP) due date for this deliverable is December 31, 2020. To accommodate this regulatory deadline, Tess stated that the consultant team has reworked their schedule to accommodate this deadline. This will include the preparation of an initial report deliverable submitted by December 31st, which will include as much of the available 2020 water quality data as possible, and a supplemental update to be submitted later, when the full set of data is available.

Chris Stransky /Wood Environmental stated that his team should have the November in-lake monitoring data available for the December 31st deliverable, but it will not be possible to turn the December data around that quickly.

It was noted, that the current bi-monthly in-lake monitoring schedule for Canyon Lake shows monitoring to occur in both October and December, and it was suggested that the December Canyon Lake in-lake monitoring be moved up to November to enable this data to be included in the December 31st deliverable. Chris stated that he will work with his team to see about rescheduling that monitoring to November.

Chris also noted that storm events typically occur later in the winter, but if an early storm event does occur, his team would be ready to sample if required.

The next step is for the consultant team to have a draft 2020 TMDL Compliance Report available for review at the next Task Force meeting.

Update: Canyon Lake Alum (LESJWA Staff)

Rick Whetsel /SAWPA informed the Task Force that the fall Canyon Lake alum application scheduled for the week of October 12th as completed successfully by the Task Force consultant, Aquatechnex.

He noted that Aquatechnex staff identified a mature Water Hyacinth plant in the Easy Bay of the lake.

Scott Sewell /CA Department of Fish & Wildlife stated that the Water Hyacinth plant is an invasive species and Task Force should keep an eye out for these plants as they can dominate a water body.

Rick stated that staff will inform the monitoring consultant team to keep an eye out for these plants when they are out on the lakes and will follow-up with Mark Norton /LESJWA Administrator to coordinate with the LESJWA Public relations coordinator to inform the public.

Task Force Administration (LESJWA Staff

<u>Draft FY 2021 – 22 Budget</u> Rick Whetsel /SAWPA reported that staff will submit a draft FY 2021-22 budget to stakeholders in November.

Lake Elsinore Delisting for PCBs and DDT

Tess Dunham /Kahn, Soares & Conway, LLP informed the Task Force that a letter was submitted to Regional Board requesting DDT and PCBs listings for Lake Elsinore be reassessed during the 2024 Integrated Report process. This request is supported by recent fish tissue analysis data reported to CEDEN on behalf of the TMDL Task Force as well as other site-specific weight of evidence.

Response to CA Dept Fish & Wildlife Letter

Rick Whetsel /SAWPA informed the Task Force that LESJWA staff working closely with Tess prepared a letter to respond to the questions posed by the California Department of Fish & Wildlife letter regarding their participation in the Task Force. Due to the nature of several questions, this letter requested Fish & Wildlife to reach out to Regional Board for additional information.

Stefan Awender /CA Department of Fish & Wildlife informed the Task Force that Fish & Wildlife has contacted Regional Board to set up a meeting to discuss their questions.

Other Business

Johnathan Skinner /City of Lake Elsinore informed the Task Force of an opportunity for Lake Elsinore to add hybrid striped bass (wipers) to lake Elsinore and wanted to inquire if funding were available from the Task Force through their Fishery Management effort to support the stocking of wipers in Lake Elsinore. He noted that wipers were added to lake Elsinore in 2005 as a successful component of LESJWA's carp removal effort.

Mark Norton /LESJWA Administrator will follow-up with staff and the consultant team regarding available Task Force funds and if funding will be included in the FY 2021-22 budget.

Lauma Willis /Regional Water Quality Control Board informed the Task Force that Regional board is currently reviewing the LEAPS Water Quality Certification Application. She invited stakeholders to submit comments.

Mark added that LESJWA provides regular updates on LEAPS and if stakeholders are interested he invited them to review the latest LESJWA Board packets available on the LESJWA website, <u>https://mywatersheds.com/</u>.

Mark then informed the Task Force that LESJWA has updated their website and invited everyone to check it out.

Schedule Next Meeting

The next LE/CL TMDL Task Force meeting is scheduled for December 7, 2020 at 1:30 pm. as a virtual conference call meeting.

Adjourn

The meeting adjourned at 2:45 p.m.

LAKE ELSINORE/CANYON LAKE TMDL TASK FORCE MEETING NOTES

December 7, 2020

PARTICIPANTS

VIA-CONFERENCE CALL

Kris Hanson Dan Cortese Carlos Norvani Cvnthia Gabaldon Cynthia Gabaldon Maria Arreguin Mike Roberts Stormy Osifeso Johnathan Skinner Nicole Dailey Art Mullen Lynn Merrill Rae Beimer Rae Beimer Lauren Sotelo Pat Boldt Bruce Scott Jim Klang Lauma Willis Emma Arres Barbara Barry Yiping Cao SueAnn Neal Richard Boon Rebekah Guill Abigail Suter Amy McNeil Sudhir Mohleji Lenai Hunter Ankita Vyas Scott Sewell **Richard Kim** Stefan Awender Alberto Acevedo Steven Wolosoff Paula Kulis **Richard Meyerhoff** Tess Dunham Chris Stransky John Rudolph Garth Engelhorn Michael A Anderson Jeff Endicott Mark Norton **Rick Whetsel** T. Milford Harrison

REPRESENTATIVE

City of Canyon Lake/Wildomar City of Hemet City of Lake Elsinore City of Menifee City of Perris City of Perris City of Riverside City of Riverside City of Lake Elsinore City of Lake Elsinore City of San Jacinto City of San Jacinto City of Canyon Lake City of Moreno Valley March JPA WRCAC WRCAC WRCAC Regional Water Quality Control Board Riverside County Flood Control & WCD Elsinore Valley Municipal Water District Elsinore Valley Municipal Water District Michael Baker/Caltrans CA Department of Fish & Wildlife CA Department of Fish & Wildlife CA Department of Fish & Wildlife CDM Smith CDM Smith CDM Smith **GEI** Consultants Kahn, Soares & Conway, LLP Wood Environmental Wood Environmental Alta Environmental UC Riverside CASC Engineering and Consulting, Inc. Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority Santa Ana Watershed Project Authority

Call to Order & Introductions

The Lake Elsinore/Canyon Lake TMDL Task Force meeting was called to order at 1:31 p.m. by Rick Whetsel with all participants participating remotely, due to COVID-19 related social distancing restrictions.

Meeting Notes

Rick Whetsel /SAWPA asked for any comments on the September 22, 2020 LE&CL TMDL meeting notes.

- Lauma Willis /Regional Board requested that on Page 4 (Other Business) to replace Regional Board with State Water Resources Control Board is currently reviewing the LEAPS Water Quality Certification Application.
- Dan Cortese /City of Hemet requested that Joyce Goode representing the City of Hemet to be added to the list of participants.

There were no additional comments, and the meeting notes were deemed acceptable.

Status: TMDL Update (Regional Board)

a. Timing of Response to Comments

Barbara Berry /Regional Board noted there was nothing new to report.

b. Nutrient Offset Credit Language

Tess Dunham /Kahn, Soares & Conway, LLP informed Regional Board staff and the Task Force that she is still working on a response to the revised Regional Board nutrient offset credit language. She plans to get a draft out to the stakeholders for comment in the next couple of weeks.

c. Revisions Recommended by Regional Board Staff

Steve Wolosoff /CDM Smith informed the Task Force that the consulting team has submitted a proposal to Regional Board staff intended to address the recommendations by staff for additional modeling.

Barbara acknowledged that staff has received the proposal, but as staff is focusing to first provide comments on the comprehensive report, they have not yet reviewed the proposal.

Steve then followed by presenting an overview of the proposed modeling scenarios.

Following this presentation, Tess Dunhan informed stakeholders that upon receiving feedback from Regional Board staff, the consultant team will bring the proposal back to the Task Force for a recommendation to proceed. This is not expected to occur until the January Task Force meeting.

Steve informed the Task Force that the cost of the current proposal is estimated \$30,000 with a plan to complete the additional modeling scenarios by April 2021.

A copy of the CDM Smith Modeling presentation is available on the SAWPA website under Agendas and Meeting Materials: <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#stakeholder-effort</u>

d. Schedule Update on Adoption Hearing Date

Barbara stated that Regional Board staff does not expect to conduct an Adoption Hearing before July 2021.

Discussion: 2020 TMDL Compliance Report (Tess Dunham/KSC)

Tess Dunham /Kahn, Soares & Conway, LLP informed the Task Force that the draft 2020 Compliance Assessment Report was distributed to stakeholders on Friday. She then introduced Steve Wolosoff to provide an overview of the draft 2020 Compliance Assessment Report.

Following this presentation, Tess requested comments be submitted by December 16th to allow time for the consultant team to address comments and finalize the report and submit to Regional Board by the end of the month.

A copy of the CDM Smith Modeling presentation is available on the SAWPA website under Agendas and Meeting Materials: <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#stakeholder-effort</u>

Discussion: Draft Request for 2020 Monitoring Reduction (Tess Dunham/KSC)

Tess Dunham /Kahn, Soares & Conway, LLP presented to the Task Force a request for a recommendation to Regional Board staff for a temporary reduction in annual TMDL compliance monitoring. The rationale for this request is based upon the economic impacts and loss of local tax revenue due to Covid-19, as well as, the potential additional modeling costs discussed earlier. Regional Board staff stated that they are open to considering a reduction in monitoring and has requested the Task Force to formally submit a letter detailing the request for staff to consider.

With that, Tess requested Wood Env. to review the monitoring program and come up with some options for the Task Force to Consider. The recommendation of the consulting team was a combination of the following options:

- \circ Option 1 no quarterly reporting with a cost savings of \$6,600
- Option 3 no watershed monitoring, except at the Canyon lake spillway with a cost savings of \$34,452
- Option 4 no satellite imagery with a cost savings of \$17,483

Following discussion, it was requested by Lynn Merrill representing the City of San Jacinto that this item be tabled until the Task Force has better information on the cost for additional modeling requested by Regional Board staff. His concern was in regard to the Task Force sacrificing the collection water quality data that would be important in the longterm evaluation of compliance.

This item will be brought back for further discussion, once there is more clarity on the cost for the additional modeling requested by Regional Board staff.

Discussion: Basis for Stakeholder Cost Allocations (Steve Wolosoff /CDM Smith)

Steven Wolosoff /CDM Smith presented to the Task Force a review of the methodology used to estimate nutrient load allocations, set baseline nutrient loading and account for changing land use and watershed BMPs for individual stakeholders.

A copy of the CDM Smith Modeling presentation is available on the SAWPA website under Agendas and Meeting Materials: <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#stakeholder-effort</u>

Update: Canyon Lake Alum (LESJWA Staff)

Rick Whetsel /SAWPA informed the Task Force that a Task Order for Aquatechnex to conduct up to two alum applications in calendar year 2021 was issued by LESJWA Staff.

Task Force Administration (LESJWA Staff

Wood Env Budget Augmentation

Rick Whetsel /SAWPA presented to the Task Force a request by Wood Env. for additional funds (\$10,000) to support additional analysis for the 2020 TMDL Compliance Report.

Following discussion, a motion to approve this change order was put forward by Lynn Merrill representing the City of San Jacinto and seconded by Cynthia Gabaldon representing the City of Menifee. The motion was passed unanimously by the Task Force.

Outstanding FY 2020-21 Invoices

Rick Whetsel /SAWPA informed the Task Force that there are still outstanding FY 2020-21 invoices. These include the City of San Jacinto, March Air Reserve Base and CA Dept. of Fish & Wildlife.

Draft FY 2021 - 22 Budget

Rick Whetsel /SAWPA presented the draft FY 2021-22 budget to the Task Force for discussion.

Key points of discussion included the additional TMDL modeling requested by Regional Board staff, modeling currently budgeted for 2020-21, the Task Force reserve account balance, and questions about "next steps", considering that the end of the TMDLs, MS4 permit and the CNRP has been reached. Additionally, there are questions regarding the participation of some stakeholders in the LEAMS and Canyon Lake alum projects.

Due to these questions, it was recommended that this draft budget be brought back to the Task Force for further discussion at the next Task Force meeting scheduled for January 25, 2021.

Other Business

No other business was discussed.

Schedule Next Meeting

The next LE/CL TMDL Task Force meeting is scheduled for January 25, 2021 at 1:30 pm. as a virtual conference call meeting.

Adjourn

The meeting adjourned at 4:10 p.m.

LESJWA BOARD MEMORANDUM NO. 2021.1

DATE:	February 18, 2021
SUBJECT:	Report on Audit for Fiscal Year Ending June 30, 2020
то:	LESJWA Board of Directors
FROM:	Karen Williams, Chief Financial Officer

RECOMMENDATION

Staff recommends that the Board of Directors receive and file the FY 2019-20 Report on Audit prepared by Teaman, Ramirez & Smith, Inc., and direct staff to file the Report on Audit with respective government agencies as required by law.

DISCUSSION

Attached for your review, receipt, and filing is LESJWA's FY 2019-20 Report on Audit (Financial Statements) prepared by Teaman, Ramirez & Smith, Inc.

All government agencies and/or special districts must contract for an independent financial audit as required by California Government Code.Staff is pleased to report that the financial statements presented herein contain no qualifications or reportable conditions. This indicates that LESJWA's financial reporting meets generally accepted accounting principles (GAAP), is compliant with applicable State and Federal laws and regulations, and that its internal controls are sufficient to safeguard against material errors or fraud.

The Audit report was sent to each of the member agency's financial staffs for review. After a review of the Audit Report, the financial staff did not feel it was necessary to meet and did not wish to make changes to the report.

Karen Williams will present the audit and respond to questions the Board may have regarding LESJWA's Report on Audit for the fiscal year ending June 30, 2020.

RESOURCES IMPACT None.

Attachments:

- 1. LESJWA Management Report
- 2. LESJWA Annual Financial Report

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December 10, 2020

Board of Directors Lake Elsinore & San Jacinto Watersheds Authority Riverside, CA

We have audited the financial statements of the Lake Elsinore & San Jacinto Project Authority (the "Authority") for the year ended June 30, 2020. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated July 10, 2020. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Matters

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Authority are described in Note 1 to the financial statements. As described in Note 1 to the financial statements, the Authority changed accounting policies related to the postponement of certain GASB standards by adopting Statement of Governmental Accounting standards (GASB Statement) No. 95, *Postponement of the Effective Dates of Certain Authoritative Guidance,* in fiscal year 2020. We noted no transactions entered into by the Authority during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimate affecting the financial statements was:

Management's estimate of the fair value of investments is based on information provided by financial institutions. We evaluated the key factors and assumptions used to develop the fair value of investments in determining that it is reasonable in relation to the financial statements taken as a whole.

Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. The most sensitive disclosure affecting the financial statements was:

The disclosure of the fair value of investments in Note 2 to the financial statements represents amounts susceptible to market fluctuation.

The financial statement disclosures are neutral, consistent and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. None of the misstatements detected as of a result of audit procedures were material, either individually or in the aggregate, to the financial statements taken as a whole.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated December 10, 2020.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the Authority's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Authority's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to the Schedule of Revenues, Expenditures and Changes in Fund Balances, which is required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

As part of the audit, we assisted with the preparation of the financial statements and related notes and state controllers report preparation. However, these services, does not constitute an audit under *Government Auditing Standards* and are considered nonaudit services. Management has reviewed, approved, and accepted responsibility for the results of these services.

Restriction on Use

This information is intended solely for the use of the Board of Directors and management of the Authority and is not intended to be, and should not be, used by anyone other than these specified parties.

Very truly yours,

Jeaman Raminez & Smith, Inc.

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City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY

ANNUAL FINANCIAL REPORT

WITH REPORT ON AUDIT BY INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

FOR FISCAL YEAR ENDED JUNE 30, 2020



City of Lake Elsinore • City of Canyon Lake • County of Riverside Elsinore Valley Municipal Water District • Santa Ana Watershed Project Authority

Lake Elsinore & San Jacinto Watersheds Authority

Board of Directors as of June 30, 2020

Representing	Name	Title	Appointment
Elsinore Valley Municipal Water District	Phil Williams	Chair	December 2016
City of Canyon Lake	Kasey Castillo	Vice Chair	December 2018
City of Lake Elsinore	Robert E. Magee	Secretary / Treasurer	December 2016
County of Riverside	Kevin Jeffries	Director	June 2016
Santa Ana Watershed Project Authority	Brenda Dennstedt	Director	January 2017

Lake Elsinore & San Jacinto Watersheds Authority Mark Norton, Authority Administrator 11615 Sterling Avenue Riverside, CA 92503 • (951) 351-4220 www.mywatersheds.com

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY

ANNUAL FINANCIAL REPORT

June 30, 2020

Lake Elsinore & San Jacinto Watersheds Authority Table of Contents June 30, 2020

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TRS TEAMAN, RAMIREZ & SMITH, INC. CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITORS' REPORT

To the Board of Directors Lake Elsinore & San Jacinto Watersheds Authority Riverside, California

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities and major fund of the Lake Elsinore & San Jacinto Watersheds Authority (the "Authority") as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, and the State Controller's Minimum Audit Requirements for California Special Districts. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the governmental activities and each major fund of the Authority, as of June 30, 2020, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Prior-Year Comparative Information

The financial statements include partial prior-year comparative information. Such information does include all of the information required to constitute a presentation in accordance with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Authority's financial statements for the year ended June 30, 2019, from which such partial information was derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the budgetary comparison schedule, identified as Required Supplementary Information (RSI) in the accompanying table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the RSI in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the RSI because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Authority's basic financial statements. The organization information is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The organization information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated December 10, 2020, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

Jeaman Raminez & Smith, Inc.

Riverside, California December 10, 2020

The Authority

The Lake Elsinore & San Jacinto Watersheds Authority (LESJWA) was formed in 2000 pursuant to the provisions of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California relating to the joint exercise of powers common to public agencies. The Authority was formed for the purpose of implementing projects and programs to improve the water quality and habitat of Lake Elsinore and its back basin consistent with the Lake Elsinore Management Plan, and to rehabilitate and improve the San Jacinto and Lake Elsinore Watersheds and the water quality of Lake Elsinore in order to preserve agricultural land, protect wildlife habitat, and protect and enhance recreational resources, all for the benefit of the general public. In April 2010, the Authority's Board revised its organizational mission to set an equal emphasis on improving Canyon Lake water quality as with Lake Elsinore and the watersheds.

The Authority's five member agencies are the City of Lake Elsinore, City of Canyon Lake, County of Riverside, Elsinore Valley Municipal Water District, and Santa Ana Watershed Project Authority.

Overview of the Financial Statements

The Authority is a special purpose government (special district). Accordingly, the accompanying financial statements are presented in the format prescribed for governmental funds by the Governmental Accounting Standards Board.

The Authority has one governmental fund, the general fund.

These financial statements consist of four interrelated statements designed to provide the reader with relevant, understandable data about the Authority's financial condition and operating results. The Authority's basic financial statements comprise of three components: 1) government-wide financial statements, 2) fund financial statements, and 3) notes to the financial statements. In addition to the basic financial statements, this report also contains other supplementary information.

Government-wide financial statements. The Statement of Net Position presents information on all the Authority's assets, deferred outflows of resources, liabilities, and deferred inflows of resources, with the differences between the four reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Authority is improving or deteriorating.

The Statement of Activities presents information showing how the Authority's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of timing of the related cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flow in future fiscal periods.

The government-wide financial statements can be found on pages 12 and 13 of this report.

Fund financial statements. Governmental funds are used to account for essentially the same functions reported as governmental activities in the government-wide financial statements. However, unlike the government-wide financial statements, governmental fund financial statements focus on near-term inflows and outflows of spendable resources, as well as on balances of spendable resources available at the end of the fiscal year.

The governmental fund Balance Sheet and the governmental fund Statement of Revenues, Expenditures and Changes in Fund Balance each provide a reconciliation to facilitate a comparison between governmental funds and governmental activities.

The governmental fund financial statements can be found on page 14 -17 of this report.

Notes to the financial statements. The notes provide additional information that is essential to ensure a full understanding of the data provided in the government-wide and fund financial statements. The notes to the financial statements can be found on pages 18 -28 of this report.

Government-wide Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. In the case of the Authority, assets exceeded liabilities by \$171,126 at June 30, 2020.

	2020	2019	2018	
Assets				
Current and Other Assets	\$ 305,549	\$ 607,750	\$ 582,573	
Total Assets	305,549	607,750	582,573	
Liabilities				
Current Liabilities	134,423	262,951	70,340	
Total Liabilities	134,423	262,951	70,340	
Net Position				
Restricted: LEAMS Program	94,350	151,980	127,824	
Unrestricted	76,776	192,819	384,409	
Total Net Position	\$ 171,126	\$ 344,799	\$ 512,233	

Net Position

The following denotes explanations on some of the changes between fiscal years, as compared in the table above.

- The \$302,201 decrease in current and other assets is due to planned use of fund balance.
- The \$128,528 decrease in current liabilities is largely in part due to LEAMS offset credit licenses. The credits were lower for 2020 and that is reflected in a lower Accounts Payable number as compared to 2019.

Categories of Net Position

The Authority is required to present its net position in three categories: Net Investment in Capital Assets; Restricted; and Unrestricted.

Invested in Capital Assets

At June 30, 2020, the Authority did not have any net investment in capital assets.

<u>Restricted</u>

At June 30, 2020, the Authority had a restricted net position of \$94,350.

<u>Unrestricted</u>

At June 30, 2020, the Authority had an unrestricted net position of \$76,776.

Change in Net Position

Overall, the fiscal year ending June 30, 2020, resulted in net position of \$171,126, a \$173,673 decrease from the previous year. The budget included the use of reserves to fund JPA operations.

	2020	2019	2018
Item Category	Amount	Amount	Amount
Program Revenues	\$ 568,568	\$ 679,898	\$ 573,831
General Revenues	272,113	272,571	268,578
Total Revenues	840,681	952,469	842,409
Total Expenses	1,014,354	1,119,903	1,093,093
Change in Net Position	(173,673)	(167,434)	(250,684)
Beginning Net Position	344,799	512,233	762,917
Ending Net Position	\$ 171,126	\$ 344,799	\$ 512,233

Changes in Net Position



Decrease in Net Position (In thousands)

<u>Revenues</u>

Combined revenues for the fiscal year totaled \$840,681 a decrease of \$111,788, or 11.74% less than the prior fiscal year. The following table presents a comparison of revenues by category for the fiscal years 2020, 2019, and 2018.

acterment that	Revenues –	Government	Wide
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	2020		2019		2018	
Revenue Category	Amount	% of Total	Amount	% of Total	Amount	% of Total
Capital and Operating Grants	\$ 568,568	67.63%	\$ 679,898	71.38%	\$ 573,831	68.11%
Member Contributions	263,683	31.37%	256,528	26.93%	253,277	30.07%
Interest Earnings	8,430	1.00%	16,013	1.68%	11,591	1.38%
Miscellaneous	-	0.00%	30	0.00%	3,710	0.44%
Total Revenues	\$ 840,681	100.00%	\$ 952,469	100.00%	\$ 842,409	100.00%

The following denotes explanations on some of the changes between fiscal years, as compared in the table above.

The \$111,330 decrease in capital and operating grants is due to a reduction in billing related to the Lake Elsinore Fishery Management Program. The TMDL task force was billed more in 2019 to cover the costs of the project.

<u>Expenses</u>

Combined expenditures for the fiscal year totaled \$1,014,354, a decrease of \$105,549, or 9.4%, less than the prior fiscal year. The following table presents a comparison of expenditures by category for the fiscal years 2020, 2019, and 2018.

	2020		2019		2018	
Expense Category	Amount	% of Total	Amount	% of Total	Amount	% of Total
Administrative	\$ 198,487	19.57%	\$ 200,815	17.93%	\$ 304,354	27.84%
Contract Labor	1,400	0.14%	5,425	0.48%	3,413	0.31%
Consulting	814,184	80.27%	913,337	81.56%	785,135	71.83%
Interest Expense	283	.03%	326	0.03%	191	0.02%
Total Expenses	\$ 1,014,354	100.00%	\$ 1,119,903	100.00%	\$ 1,093,093	100.00%

Expenses – Government Wide

The following denotes explanations on some of the changes between fiscal years, as compared in the table above.

The \$99,153 decrease in consulting costs is mainly due to the TMDL task force spending additional money in 2019 for the Lake Elsinore Fishery Management Program that was not needed in 2020.

Financial Analysis of the Authority's Funds

As noted earlier, the Authority uses fund accounting to ensure and demonstrate compliance with financerelated legal requirements.

Governmental Funds

The focus of the Authority's governmental funds is to provide information on near-term inflows, outflows, and balances of resources that are available for spending. Such information is useful in assessing the Authority's financing requirements. In particular, unreserved fund balance may serve as a useful measure of a government's net resources available for spending at the end of the fiscal year. The governmental fund reported by the Authority's general fund.

As of the end of the fiscal year ended June 30, 2020, the Authority's general fund reported an ending fund balance of \$171,126, a decrease of \$173,673 or 50.4% as compared to the prior year. The fund balance is made up of restricted funds of \$94,350 for the LEAMS program, and \$76,776 in unreserved fund balance.

The general fund is the chief operating fund of the Authority. At the end of the current fiscal year, the fund balance of the general fund was \$171,126 which was also the total fund balance. As a measure of the general fund's liquidity, it may be useful to compare total fund balance to total fund expenditures.

Fund balance represents 16.9% of total general fund expenditures of \$1,014,354. The prior year comparison for fund balance to total general fund expenditures is 30.1%.

The fund balance in the Authority's general fund decreased by \$173,673 during the fiscal year due to the following:

Planned use of fund balance for the TMDL task force and JPA administration.

Overall, the general fund's performance resulted in expenditures exceeding revenues in the fiscal year ended June 30, 2020, by \$173,673. In the prior year, general fund expenditures exceeded revenues by \$167,434.

Major Programs Effecting the Financial Statements

The Canyon Lake Alum Application Project entailed the application of aluminum sulfate (alum) to Canyon Lake in an effort to improve water quality by removing nutrients from the water column that facilitate algae blooms. The cost to fund this project, budgeted at \$96,389 is allocated among participating TMDL Task Force members, based upon their estimated nutrient load contribution to Canyon Lake. In FYE 2020, actual costs to implement the canyon lake Alum project were \$205,241.

The Lake Elsinore Aeration & Mixing System (LEAMS) Nutrient Off-set Credit Program provides a mechanism for LEAMS operators (County of Riverside, City of Lake Elsinore, and Elsinore Valley Municipal Water District) to sell excess offset credits generated by LEAMS to offset the annual O&M costs. In FYE 2020, the licensing of excess nutrient off-set credits to other stakeholders with TMDL compliance obligations resulted in stakeholders purchasing of credits was budgeted at \$121,890, but the actual amount collected was only \$106,350. The proceeds, after deducting an administrative fee by LESJWA were distributed to the operators in equal shares.

The Lake Elsinore Fishery Management Program was designed to assess conditions of the Lake Elsinore fishery and identify appropriate management measures for improving the fishery and supporting aquatic habitat. In FYE 2020, the program budgeted at \$125,193 is allocated among participating TMDL Task Force members, based upon their estimated nutrient load contribution to Lake Elsinore. In FYE 2020, actual costs to implement the canyon lake Alum project were \$194,794.

The balance of funds required to pay for the additional project/program costs were deducted from the Stakeholders cash reserve.
Management's Discussion and Analysis

General Fund Budgetary Variances

The Authority's final budget of the general fund did not change from the original budget. The following table presents a comparison of original budgeted amounts versus the actual amounts incurred by category for the fiscal year ended June 30, 2020.

	Budgeted Amounts Original and Final	Actual Amounts Budgetary and GAAP Basis	Variance with Budget Positive (Negative)
Revenues			
Capital and Operating Grants	\$ 666,082	\$ 568,568	\$ (97,514)
Member Contributions	290,415	263,683	(26,732)
Interest Earnings	5,500	8,430	2,930
Total Revenues	961,997	840,681	(121,316)
Expenses			
Administrative	208,322	198,487	9,835
Contract Labor	-	1,400	(1,400)
Consulting	744,497	814,184	(69,687)
Interest Expense	91	283	(192)
Total Expenses	952,910	1,014,354	(61,444)
Excess (Deficiency) of Revenues Over (Under) Expenditures	\$ 9,087	\$ (173,673)	\$ (182,760)
Fund Balance - Beginning of Year		344,799	
Fund Balance - End of Year		\$ 171,126	-

Budget versus Actual – General Fund For the Year Ended June 30, 2020

Management's Discussion and Analysis

The following denotes explanations on some of the significant budget variances, as compared in the table above.

- The \$97,514 negative variance for capital and operating grants is in large part due to contributions billed for totaling \$83,546 that were deemed uncollectible and written off against this account.
- The \$26,732 negative variance for member contributions is because the LE/CL TMDL task force actually required less contributions than what was originally budgeted for.
- The \$9,835 positive variance for administrative expenses is reflective of a reduction in staff time needed for various aspects of the administration of LESJWA.
- The \$69,687 negative variance for consulting expenses is due to consultant technical support needed to respond to questions posed by the Regional Board through their Peer Review of the updated TMDLs.

Existing Capital Assets

The Authority did not have any capital assets as of June 30, 2020.

Future Capital Improvements

The Authority does not have any plans for future capital improvements.

Long-Term Debt

The Authority did not have any long-term debt as of June 30, 2020.

BASIC FINANCIAL STATEMENTS

Lake Elsinore & San Jacinto Watersheds Authority Statement of Net Position

June 30, 2020

(With comparative totals for June 30, 2019)

	Governmental Activities				
	2020	2019			
ASSETS					
Cash and Cash Equivalents (Note 2)	\$ 290,315	\$ 541,514			
Accrued Interest Receivable	1,194	3,682			
Accounts Receivable	14,040	60,050			
Prepaid Insurance	<u> </u>	2,504			
Total Assets	305,549	607,750			
LIABILITIES					
Accounts Payable and Accrued Expenses	134,423	262,842			
Accrued Interest Payable	<u> </u>	109			
Total Liabilities	134,423	262,951			
NET POSITION					
Restricted: LEAMS Program	94,350	188,700			
Unrestricted	76,776	156,099			
Total Net Position	\$ 171,126	\$ 344,799			

Lake Elsinore & San Jacinto Watersheds Authority Statement of Activities

For the Fiscal Year Ended June 30, 2020 (With comparative totals for the fiscal year ended June 30, 2019)

	Government	Governmental Activities				
	2020	2019				
EXPENSES						
Administrative	\$ 198,487	\$ 200.815				
Contract Labor	1.400	5.425				
Consulting	814,184	913,337				
Interest Expense	283	326				
Total Expenses	1,014,354	1,119,903				
PROGRAM REVENUES						
Capital and Operating Grants	568,568	679,898				
Total Program Revenues	568,568	679,898				
Net Program Revenues (Expenses)	(445,786)	(440,005)				
GENERAL REVENUES						
Member Contributions	263,683	256,528				
Interest Earnings	8,430	16,013				
Other Revenues	<u> </u>					
Total General Revenues	272,113	272,571				
Change in Net Position	(173,673)	(167,434)				
Net Position - Beginning of Year	344,799	512,233				
Net Position - End of Year	<u>\$ 171,126</u>	\$ 344,799				

Lake Elsinore & San Jacinto Watersheds Authority Balance Sheet Governmental Fund June 30, 2020

	 General Fund	
ASSETS		
Cash and Cash Equivalents	\$ 290,315	
Accrued Interest Receivable	1,194	
Accounts Receivable	 14,040	
Total Assets	\$ 305,549	
LIABILITIES Accounts Dayable and Accrued Expanses	124 422	
Accounts Payable and Acclued Expenses	 134,423	
Total Liabilities	 134,423	
FUND BALANCE (Note 3)		
Restricted: LEAMS Program	94,350	
Unassigned	 76,776	
Total Fund Balance	 171,126	
Total Liabilities, Deferred Inflows of Resources and Fund Balance	\$ 305,549	

Lake Elsinore & San Jacinto Watersheds Authority Reconciliation of the Governmental Fund Balance Sheet to the Statement of Net Position June 30, 2020

Fund Balances of Governmental Funds	\$ 171,126
Amounts reported for governmental activities in the Statement of Net Position are different because:	
Certain accounts receivable are not available to pay for current expenditures and, therefore, are offset by deferred inflow of resources in the governmental fund.	
Net Position of Governmental Activities	\$ 171,126

Lake Elsinore & San Jacinto Watersheds Authority Statement of Revenues, Expenditures and Changes in Fund Balance Governmental Fund

For the Fiscal Year Ended June 30, 2020

	General Fund
REVENUES	
Capital and Operating Grants	\$ 568,568
Member Contributions	263,683
Interest Earnings	8,430
Total Revenues	840,681
EXPENDITURES	
Administrative	198,487
Contract Labor	1,400
Consulting	814,184
Interest Expense	283
Total Expenditures	1,014,354
Excess (Deficiency) of Revenues	
Over (Under) Expenditures	(173,673)
Fund Balance - Beginning of Year	344,799
Fund Balance - End of Year	\$ 171,126

Lake Elsinore & San Jacinto Watersheds Authority Reconciliation of the Statement of Revenues, Expenditures and Changes in Fund Balances of Governmental Funds to the Statement of Activities

Year Ended June 30, 2020

Net Change in Fund Balances - Total Governmental Funds	\$ (173,673)
Amounts reported for governmental activities in the Statement of Activities are different because:	
Certain revenues in the Statement of Activities do not provide current financial resources and are not reported as revenues in the governmental fund:	
Grants	 -
Change in Net Position of Governmental Activities	\$ (173,673)

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A) Reporting Entity

The Lake Elsinore & San Jacinto Watersheds Authority (the Authority) was formed on April 5, 2000, pursuant to the provisions of Section 6500 of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California relating to the joint exercise of powers common to public agencies. The purpose of the Authority is to implement projects and programs to improve the water quality and habitat of Lake Elsinore and its back basin consistent with the Lake Elsinore Management Plan, and to rehabilitate and improve the San Jacinto and Lake Elsinore Watersheds and the water quality of Lake Elsinore in order to preserve agricultural land, protect wildlife habitat, and protect and enhance recreational resources, all for the benefit of the general public. Administrative costs are funded through contributions from each member agency. The five member agencies are the City of Lake Elsinore, City of Canyon Lake, County of Riverside, Elsinore Valley Municipal Water District, and Santa Ana Watershed Project Authority. The Authority is governed by a five-member Board of Directors.

B) Basis of Accounting and Measurement Focus

The basic financial statements of the Authority are comprised of the following:

- Government-wide financial statements
- Fund financial statements
- Notes to the basic financial statements

Government-Wide Financial Statements: These statements are presented on an *economic resources* measurement focus and the accrual basis of accounting. Accordingly, all the Authority's assets and liabilities, including capital assets, are included in the accompanying Statement of Net Position. The Statement of Activities presents changes in net position. Under the accrual basis of accounting, revenues are recognized in the period in which the liability is incurred. The Statement of Activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function. The types of transactions reported as program revenues for the Authority are to be reported in three categories, if applicable: 1) charges for services, 2) operating grants and contributions, and 3) capital grants and contributions. Charges for services, or privileges provided by a given function. Grants and contributions include revenues restricted to meeting the operational or capital requirements of a particular function. Taxes and other items not properly included among program revenues are reported instead as general revenues.

Governmental Fund Financial Statements: These statements include a Balance Sheet and a Statement of Revenues, Expenditures and Changes in Fund Balances for all major governmental funds. The Authority has presented its General Fund as its major fund in this statement to meet the qualification of Governmental Accounting Standards Board (GASB) Statement No. 34

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - Continued

B) Basis of Accounting and Measurement Focus - Continued

Governmental funds are accounted for on a spending, or *current financial resources* measurement focus and the modified accrual basis of accounting. Accordingly, current assets, liabilities, and deferred inflows of resources are included on the Balance Sheet. The Statement of Revenues, Expenditures and Changes in Fund Balance presents increases (revenues and other financing sources) and decreases (expenditures and other financing uses) in fund balance. Under the modified accrual basis of accounting, revenues are recognized in the accounting period in which they become measurable and available to financial expenditures of the current period. Accordingly, revenues are recorded when received in cash, except that revenues subject to accrual (generally 60-days after year-end) are recognized when due. The primary sources susceptible to accrual for the Authority are interest earnings, investment revenue, and operating and capital grant revenues. Expenditures are generally recognized under the modified accrual basis of accounting when the related fund liability is incurred. However, exceptions to this rule include principal and interest on debt, which are recognized when due.

The Authority reports the following major governmental fund:

General Fund - is a government's primary operating fund. It accounts for all financial resources of the Authority, except those required to be accounted for in another fund when necessary.

C) Reconciliation of Fund Financial Statements to Government-wide Financial Statements

In order to adjust the fund balance on the governmental (general) fund balance sheet to arrive at net position on the Statement of Net Position, certain adjustments are required as a result of the differences in accounting basis and measurement focus between the government-wide and fund financial statements. For the year ended June 30, 2020, the Authority made adjustments for unavailable grant revenues. This item is shown in the Reconciliation of the Governmental Fund Statement of Revenues, Expenditures, and Changes in Fund Balance to the Statement of Activities.

D) New Account Pronouncements

Current Year Standards

GASB 88 - Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placement, effective for periods beginning after June 15, 2018. Currently, this Standard has no effect on the Authority.

GASB 95 - Postponement of the Effective Dates of Certain Authoritative Guidance, effective immediately.

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - Continued

D) New Account Pronouncements - Continued

Pending Accounting Standards

GASB has issued the following statements, which may impact the Authority's financial reporting requirements in the future:

GASB 84 - Fiduciary Activities, effective for periods beginning after December 15, 2019*.

GASB 87 - Leases, effective for periods beginning after December 15, 2021*.

GASB 89 - Accounting for Interest Cost Incurred before the End of a Construction Period, effective for periods beginning after December 15, 2020*.

GASB 90 - Majority Equity Interests, an amendment of GASB Statements No. 14 and No. 61, effective for periods beginning after December 15, 2019*.

GASB 91 - Conduit Debt Obligations, effective for periods beginning after December 15, 2021*.

GASB 92 - Omnibus, effective for periods beginning after June 15, 2021*.

GASB 93 - Replacement of Interbank Offered Rates, effective for periods beginning June 15, 2021*.

GASB 94 - *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, effective for fiscal years beginning after June 15, 2022.

GASB 96 - *Subscription-Based Information Technology Arrangements* – effective for reporting periods beginning after June 15, 2022.

GASB 97 - Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal *Revenue Code Section 457 Deferred Compensation Plans* – effective for discal years beginning after June 15, 2021.

*These GASB Statements original effective dates were postponed by GASB Statement No. 95.

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES - Continued

E) Deferred Outflows / Inflows of Resources

In addition to assets, the Statement of Net Position and the governmental fund balance sheet will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, *deferred outflows of resources*, represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (expense/expenditure) until that time. The Authority does not have any applicable deferred outflows of resources.

In addition to liabilities, the Statement of Net Position and the governmental fund balance sheet will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, *deferred inflows of resources*, represents an acquisition of net position that applies to a future periods and so will *not* be recognized as an inflow of resources (revenue) until that time. The Authority had one item that qualifies for reporting under this category, which is, unavailable grant revenues. This amount is deferred and recognized as an inflow of resources in the period the amount becomes available. The Authority did not have any unavailable grant revenues for the year ended 2020.

F) Net Position Flow Assumption

Sometimes the Authority will fund outlays for a particular purpose from both restricted (e.g., restricted grant proceeds) and unrestricted resources. In order to calculate the amounts to report as restricted - net position and unrestricted - net position, a flow assumption must be made about the order in which the resources are considered to be applied.

It is the Authority's policy to consider restricted - net position to have been depleted before unrestricted - net position is applied.

G) Cash and Cash Equivalents

Substantially all of Authority's cash is invested in interest bearing cash accounts. The Authority considers all highly liquid investments with initial maturities of three months or less to be cash equivalents.

H) Investments and Investment Policy

The Authority has adopted an investment policy directing the Authority Manger to deposit funds in financial institutions. Investments are to be made in the following area:

• Local Agency Investment Fund (LAIF)

Changes in fair value that occur during a fiscal year are recognized as unrealized gains or losses and reported for that fiscal year. Investment income comprises interest earnings, changes in fair value, and any gains or losses realized upon the liquidation or sale of investments.

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – Continued

I) Accounts Receivable and Allowance for Bad Debt

The Authority considers accounts receivable to be fully collectible. Any allowance exceptions would be netted against the corresponding receivable in the accounts receivable line of the Governmental Fund Balance Sheet and the Statement of Net Position. There is no allowance for the fiscal year ended June 30, 2020.

J) Unearned Revenue

Unearned revenues represents task force contributions budgeted for the next fiscal year received in the current fiscal year. There is no unearned revenue for the fiscal year ended June 30, 2020.

K) Budgetary Policies

Prior to June 30th each fiscal year, the Authority adopts an annual appropriated budget for planning, control, and evaluation purposes. The budget includes proposed expenses and the means of financing them. Budgetary control and evaluation are affected by comparisons of actual revenues and expenses with planned revenues and expenses for the period. The Board approves total budgeted appropriations and any amendments to the appropriations throughout the year. Actual expenses may not exceed budgeted appropriations at the fund level, except by 2/3 vote of the Board. Formal budgetary integration is employed as a management control device during the year. Encumbrance accounting is not used to account for commitments related to unperformed contracts for construction and services.

L) Net Position

The government-wide financial statements utilize a net position presentation. Net position is categorized as follows:

- Net Investment in Capital Assets This component of net position consists of capital assets, net of accumulated depreciation and reduced by any outstanding debt against the acquisition, construction, or improvement of those assets. The Authority has no net investment in capital assets.
- **Restricted Net Position** This component of net position consists of constraint placed on net position use through external constraints imposed by creditors, grantors, contributors, laws or regulations of other governments, or constraints imposed by law through constitutional provisions or enabling legislation. The Authority's restricted net position is for the LEAMS program for the purchase of TMDL credits for program participants.
- Unrestricted Net Position This component of net position consists of net position that does not meet the *definition of net investment in capital assets* for restricted.

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – Continued

M) Fund Balance

The governmental fund financial statements report fund balance as nonspendable, restricted, committed, assigned or unassigned based primarily on the extent to which the Authority is bound to honor constraints on how specific amounts can be spent.

- Nonspendable fund balance amounts that cannot be spent because they are either (a) not spendable in form, or (b) legally or contractually required to be maintained intact.
- **Restricted fund balance -** amounts with constraints placed on their use that are either (a) externally imposed by creditors, grantors, contributors, or laws or regulations of other governments; or (b) imposed by law through constitutional provisions enabling legislation. The Authority's restricted fund balance is to purchase TMDL credits for program participants of the LEAMS program.
- **Committed fund balance** amounts that can only be used for specific purposes determined by formal action of the Authority's highest level of decision making authority (the Board of Directors), and remain binding unless removed in the same manner. The underlying action that imposed the limitation needs to occur no later than the close of the reporting period.
- Assigned fund balance amounts that are constrained by the Authority's intent to be used for specific purposes. The intent can be established at either the highest level of decision making, or by a body or an official designated for the purposes.
- Unassigned fund balance the residual classification for the Authority's general fund that includes amounts not contained in the other classifications. In other funds, the unassigned classification is used only if expenditures incurred for specific purposes exceed the amounts restricted, committed, or assigned to those purposes.

The Board of Directors establishes, modifies, or rescinds fund balance commitments and assignments by passage of an ordinance or resolution. This is done through adoption of the budget and subsequent budget amendments that occur throughout the year.

When both restricted and unrestricted resources are available for use, it is the Authority's policy to use restricted resources first, followed by committed, assigned and unassigned resources as they are needed.

1) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES – Continued

M) Fund Balance - Continued

Fund Balance Policy

The Authority believes that sound financial management principles require that sufficient funds be retained by the Authority to provide a stable financial base at all times. To retain this stable financial base, the Authority needs to: (a) maintain an unassigned fund balance in its funds sufficient to fund cash flows of the Authority; and (b) provide financial reserves for unanticipated expenditures and/or revenue shortfalls of an emergency nature. Committed, assigned and unassigned fund balances are considered unrestricted.

The purpose of the Authority's fund balance policy is to maintain a prudent level of financial resources to protect against reducing service levels or raising taxes and fees because of temporary revenue shortfalls or unpredicted one-time expenditures

N) Use of Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from the estimates.

O) Prior Year Data

Selected information regarding the prior year has been included in the accompanying financial statements. This information has been included for comparison purposes only, and does not represent a complete presentation in accordance with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Authority's prior year financial statements, from which this selected financial data was derived.

2) CASH AND INVESTMENTS

Cash and Investments

Cash and Investments as of June 30, 2020, are classified in the Statement of Net Position as follows:

Cash and Cash Equivalents	\$ 290,315
Cash and Investments as of June 30, 2020 consist of the following:	
Deposits with Financial Institutions	\$ 36,587
Local Agency Investment Fund (LAIF)	253,728

Total Cash and Investments

Custodial Credit Risk

Custodial credit risk for *deposits* is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The California Government Code and the Authority's investment policy do not contain legal or policy requirements that would limit the exposure to custodial credit risk for deposits or investments, other than the following provision for deposits: The California Government Code requires that a financial institution secure deposits made by state or local government units by pledging securities in an undivided collateral pool held by a depository regulated under state law (unless so waived by the governmental unit). The market value of the pledged securities in the collateral pool must equal at least 110% of the total amount deposited by the public agencies. Of the Authority's bank balance, up to \$250,000 is federally insured and the remaining balance is collateralized in accordance with the California Government Code; however, the collateralized securities are not held in the Authority's name.

\$

290,315

The custodial credit risk for *investments* is the risk that, in the event of the failure of the counterparty (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party. The California Government Code and the Authority's investment policy contain legal and policy requirements that would limit the exposure to custodial credit risk for investments. With respect to investments, custodial credit risk generally applies only to direct investments. With respect to investments, custodial credit risk generally applies only to direct investments in marketable securities. Custodial credit risk does not apply to a local government's indirect investment in securities through the use of mutual funds or government investment pools (such as LAIF).

2) CASH AND INVESTMENTS - Continued

Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. The longer the maturity an investment has, the greater its fair value has sensitivity to changes in market interest rates. The Authority investment policy follows the California Government Code as it relates to limits on investment maturities as a means of managing exposure to fair value losses arising from increasing interest rates.

Investments in LAIF are considered highly liquid, as deposits can be converted to cash within 24 hours without loss of interest. As of June 30, 2020, the LAIF pool had a weighted average maturity of the following:

Local Agency Investment Fund 173 Days

Credit Risk

Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization; however, LAIF is not rated.

Concentration of Credit Risk

The Authority's investment policy contains various limitations on the amounts that can be invested in any one governmental agency or nongovernmental issuer as stipulated by the California Government Code. The Authority's deposit portfolio with LAIF is 87% of the Authority's total depository and investment portfolio as of June 30, 2020. There were no investments in any one nongovernmental issuer that represent 5% or more of the Authority's total investments other than LAIF.

Investment in State Investment Pool

The Authority is a voluntary participant in the Local Agency Investment Fund (LAIF) that is regulated by the California Government Code under the oversight of the Treasurer of the State of California. The fair value of the Authority's investment in this pool is reported in the accompanying financial statements at amounts based upon the Authority's prorated share of the fair value provided by LAIF for the entire LAIF portfolio (in relation to the amortized cost of that portfolio). The balance available for withdrawal is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis.

2) CASH AND INVESTMENTS - Continued

Fair Value Measurements

The Authority categorizes its fair value measurement within the fair value hierarchy established by accounting principles generally accepted in the United Statement of America. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted prices in active markets for identical assets, Level 2 inputs are significant other observable inputs, and Level 3 inputs are significant unobservable inputs.

Amounts invested in LAIF are not subject to fair value measurements.

3) FUND BALANCE

The fund balance is presented in the following categories: nonspendable, restricted, committed, assigned, and unassigned (see Note 1M for a description of these categories). A detailed schedule of the fund balance and the funding composition at June 30, 2020, is as follows:

Restricted:	
LEAMS Program	\$ 94,350
Unassigned	76,776
Total Fund Balance	\$ 171,126

4) RELATED PARTY TRANSACTIONS

The Authority contracts with one of its member agencies, the Santa Ana Watershed Project Authority (SAWPA), to administer all of its accounting and administrative support. Total expenditures for administrative services provided by SAWPA for the fiscal year ended June 30, 2020 were \$191,265. Amounts paid to SAWPA for fiscal year 2019-2020 consisted of \$64,467 for salaries, \$29,396 for benefits, \$97,023 for overhead allocation, \$283 for interest expense, and \$96 for mileage. At June 30, 2020, the amount due to SAWPA was \$18,718.

5) RISK MANAGEMENT

The Authority is exposed to various risks of loss related to torts, theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority has purchased various commercial insurance policies to manage the potential liabilities that may occur from the previously named sources.

6) OTHER REQUIRED FUND DISCLOSURES

Excess of Expenditures over Appropriations

	Budget	Actual	Va Fi	riance with nal Budget
General Fund				
Contract Labor	\$ -	\$ 1,400	\$	(1,400)
Consulting	744,497	814,184		(69,687)
Interest Expense	91	283		(192)

7) COMMITMENTS AND CONTINGENCIES

Grant Awards

Grants funds received by the Authority are subject to audit by the grantor agencies. Such audits could result in requests for reimbursements to the grantor agencies for expenditures disallowed under terms of the grant. Management of the Authority believes that such disallowances, if any, would not be significant.

Litigation

In the ordinary course of operations, the Authority is subject to claims and litigation from outside parties. After consultation with legal counsel, the Authority believes the ultimate outcome of such matters, if any, will not materially affect its financial condition.

COVID-19

On March 11, 2020, the World Health Organization declared the novel strain of coronavirus (COVID-19) a global pandemic and recommended containment and mitigation measures worldwide. The pandemic continued subsequent to year end with certain restrictions required by the Governor of California, as well as local governments, which may affect revenue sources and also caused subsequent stock market volatility. The duration of the pandemic and the impact of COVID-19 on the Authority's operational and financial performance is uncertain at this time.

REQUIRED SUPPLEMENTARY INFORMATION

Lake Elsinore & San Jacinto Watersheds Authority Budgetary Comparison Schedule General Fund

For the Fiscal Year Ended June 30, 2020

	(Adopted Original	Bo App Cha	ard roved nges	Final	E	Actual Budgetary Basis	Va Fin	riance with nal Budget Positive Negative)
REVENUES									
Capital and Operating Grants	\$	666,082	\$	-	\$ 666,082	\$	568,568	\$	(97,514)
Member Contributions		290,415		-	290,415		263,683		(26,732)
Interest Earnings		5,500		-	 5,500		8,430		2,930
Total Revenues		961,997			 961,997		840,681		(121,316)
EXPENDITURES									
Administrative		208,322		-	208,322		198,487		9,835
Contract Labor		-		-	-		1,400		(1,400)
Consulting		744,497		-	744,497		814,184		(69,687)
Interest Expense		91		-	 91		283		(192)
Total Expenditures		952,910		-	 952,910		1,014,354		(61,444)
Excess (Deficiency) of Revenues over Expenditures		9,087	\$	_	9,087		(173,673)		(182,760)
Fund Balance - Beginning of Year		418,283			 418,283		344,799		-
Fund Balance - End of Year	\$	427,370			\$ 427,370	\$	171,126	\$	(182,760)

1. BUDGETS AND BUDGETARY DATA

The Authority follows specific procedures in establishing the budgetary data reflected in the financial statements. Each year the Authority's Manager and Executive Secretary prepare and submit an operating budget to the Board of Directors for the General Fund no later than June of each year. The basis used to prepare the budget does not differ substantially from the modified accrual basis of accounting. The adopted budget becomes operative on July 1. The Board of Directors must approve all supplemental appropriations to the budget and transfers between major accounts. The Authority's annual budget is presented as a balanced budget (inflows and reserves equal outflows and reserves) adopted for the General Fund at the detailed expenditure-type level.

The Authority presents a comparison of the annual budget to actual results for the General Fund at the functional expenditure-type major object level for financial reporting purposes. The budgeted expenditures amounts represent the adopted budget plus supplemental budget adoptions due to the capital and operating grants that were awarded after the initial budget was adopted. There were no such supplemental changes during the year.

OTHER INFORMATION

Lake Elsinore & San Jacinto Watersheds Authority Organization For the Fiscal Year Ended June 30, 2020

STATE OF ORGANIZATION

The Lake Elsinore & San Jacinto Watersheds Authority (the Authority) is a Joint Exercise of Powers Agency created to implement projects and programs to improve the water quality and habitat in order to preserve agricultural land, protect wildlife habitat, and protect and enhance recreational resources, all for the benefit of the general public.

The Authority was authorized and empowered by the Joint Exercise of Powers under Section 6500 of Article 1, Chapter 5, Division 7, Title 1 of the Government Code of the State of California.

Agency Members

City of Canyon Lake City of Lake Elsinore County of Riverside Elsinore Valley Municipal Water District Santa Ana Watershed Project Authority

Board of Directors

Kasey Castillo Robert E. Magee Kevin Jeffries Phil Williams Brenda Dennstedt

Executive Staff

Mark Norton, Authority Administrator Karen Williams, CFO SAWPA

Legal Counsel

Law Office of David Wysocki

Auditor

Teaman, Ramirez & Smith, Inc. Certified Public Accountants

Date of Membership

April 5, 2000 April 5, 2000 April 5, 2000 April 5, 2000 April 5, 2000

Representing

City of Canyon Lake City of Lake Elsinore County of Riverside Elsinore Valley Municipal Water District Santa Ana Watershed Project Authority **REPORT ON INTERNAL CONTROLS AND COMPLIANCE**



Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With *Government Auditing Standards*

Board of Directors Lake Elsinore & San Jacinto Watersheds Authority Riverside, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the governmental activities and major fund of the Lake Elsinore & San Jacinto Watersheds Authority (the "Authority") as of and for the year ended June 30, 2020, and the related notes to the financial statement, which collectively comprise the Authority's basic financial statements, and have issued our report thereon dated December 10, 2020.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the Authority's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weakness. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Authority's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Jeaman Raminez & Smith, Inc.

Riverside, California December 10, 2020 Page Intentionally Blank

LESJWA BOARD MEMORANDUM NO. 2021.2

DATE:	February 18, 2021
то:	LESJWA Board of Directors
SUBJECT:	Santa Ana River Watershed Weather Modification Feasibility Study
PREPARED BY:	Mark Norton, LESJWA Authority Administrator

RECOMMENDATION

Staff recommends that the LESJWA Board receive and file the SAWPA feasibility study results as well as SAWPA's continued investigation and CEQA preparation for a Santa Ana River Watershed Weather Modification Program.

DISCUSSION

On June 4, 2019, SAWPA staff in conjunction with Tom Ryan, Metropolitan Water District of Southern California (MWDSC and/or MWD), provided a presentation to the SAWPA Commission about weather modification for water supply programs commonly known as cloud seeding programs. Cloud seeding is the process of adding a specific chemical agent into an already existing cloud mass that causes the cloud to thicken and/or water vapor to condense and fall as rain or snow. Cloud seeding programs have proven successful in many locations throughout Northern California and neighboring states; however, the program in Santa Barbara Water District is the only Southern California program in operation at this time. MWDSC has been financing water districts in Colorado and Northern California for several years to increase snowpack in the mountains using these methods. The project benefits MWD's customer water districts and neighboring states who also draw from the Colorado River, and who also contribute money to the project.

After the June 4, 2019, Commission meeting, SAWPA approached the SAWPA member agency GMs to determine if there was interest in conducting a feasibility study for potential weather modification for water supply in the Santa Ana River Watershed. The GMs were supportive and felt such a feasibility study could be a good first step for possible regional implementation and funding of such a program using DWR Proposition 1 Integrated Regional Water Management (IRWM) grant funding under Round 2 anticipated in the FY 21-22 timeframe. Further, the potential benefits of increased precipitation in the watershed, 5-15% on average, could have significant benefit to local ski resorts, forest fire suppression, downstream stormwater recharge, and replenishment of natural lakes like Lake Elsinore which is very dependent on storm flow.

On August 6, 2019, the SAWPA Commission supported SAWPA staff issuing a Request for Proposals (RFP) for a feasibility study to conduct the Santa Ana River Watershed Weather Augmentation Study. Based on a review panel recommendation, the SAWPA Commission on December 17, 2019 approved an agreement for services and task order with North American Weather Consultants Inc. to conduct a feasibility study for the Watershed Weather Modification for Water Supply Feasibility Study. Funding for this study was provided by each SAWPA member agency contributing \$15,000 each for the \$75,000 study.

SAWPA staff has conducted extensive outreach to all potentially interested and impacted agencies from a future cloud seeding program to invite technical staff to participate in review and discussion meetings with the consultant. These meetings were held virtually by Zoom on the following dates: June 3rd, Sept. 3rd, and Nov. 2nd. Many questions and concerns were raised based on the review of task interim reports. Some of the concerns resulted in changes to the overall program and site locations to ensure no added risk would occur because of the cloud seeding program for areas with little to no stormwater management infrastructure. Additionally, at the request of some SAWPA Commissioners from the May 19, 2020

SAWPA Commission meeting and by various SAWPA member agency GMs, additional presentations were provided to governing boards of the SAWPA member agencies and other water agencies by SAWPA staff and by Tom Ryan, the MWDSC cloud seeding program representative.

The final report for the feasibility study was completed in November 2020 and a final presentation was provided to the SAWPA Commission on Dec. 1, 2020. Based on the technical review and results of the feasibility, SAWPA staff believes there is sufficient benefit to the watershed and SAWPA member agencies, to proceed with further analysis and CEQA for a future watershed wide cloud seeding program. At the Dec. 1, 2020 SAWPA Commission meeting, SAWPA staff recommended that the ground seeding site location analysis and CEQA development be included in the FY 21-22 Budget as preparation for a future three-year pilot watershed wide cloud seeding program to start in FY22-23.

No action was taken at the request of the SAWPA Commission pending further review of the SAR Watershed weather modification feasibility study by the new SAWPA General Manager who is expected to be joining SAWPA in mid-February 2021.

RESOURCE IMPACTS

The ground seeding site location analysis is estimated to cost \$30,000 and the CEQA analysis is estimated to cost \$60,000. If included in the SAWPA FY 21-22 Budget, the \$90,000 cost would be shared equally among the five member agencies. Additional cost share partners who may benefit will be approached in the future which may decrease the member agency share.



SANTA ANA RIVER WATERSHED WEATHER MODIFICATION FOR WATER SUPPLY FEASIBILITY STUDY

MARK NORTON, PE, WATER RESOURCES & PLANNING MANAGER SANTA ANA WATERSHED PROJECT AUTHORITY

AUTHORITY ADMINISTRATOR, LESJWA



WxMod Purposes & Process

"Natural" weather

- Dust, ash, pollution nuclei
- Precipitation augmentation and snowpack enhancement, hail suppression, fog dispersal
- Super-cooled Liquid Water (SLW)
 - Silver iodide (AgI) as nuclei
- Ground (generators, flares) or aerial based
- 10% increase in precipitation
 - Within range of variability
- Not a drought buster

WxMod History

Background Started in the U.S. in 1940s Overselling, minimal science Misconceptions remain Advances since the 1940s WX forecasting Measurement Computing Seeding methods



Winter Conceptual Model



WxMod Users & Costs

150 programs in 40 countries and 11 states

- Ski areas, Power utilities
- Insurance companies
- Water resources agencies
- Conservation, and Irrigation districts
- Research institutes
- Costs
 - \$4-40/AF, including planning


North American Projects

Local sponsorship Education Outreach



Cloud Rustling

Downwind Effects Misconception

- "Robbing Peter to pay Paul"
- WxMod activates precipitation otherwise unavailable
- Long-term research (44+ studies) consistently shows no precipitation decreases; some downwind increases shown



Potential Environmental Effects

- Agl is not soluble or biologically available
- 50 years of physical, biological, aquatic, soils & vegetation studies found:
 - Subtle or indiscernable effects
 - Potentially beneficial (more runoff)
- Strong studies with credible results
- Newer assessment methods and regulations suggest continued research
- Consider cumulative effects, monitoring

Potential Health Effects

Silver Iodide (Agl) Not been measured above background Human effects No effects found in 50 years More silver exposure in tooth fillings More iodine in salt on food Concentrations EPA drinking water quality 0.1 mg/l U.S. Public Health Service level 0.5 mc/l Seeded rainfall is 0.1 mc/l

Increased Snowload

Avalanche Suspension criteria Snow removal Similar amount of effort required Flooding potential Agency coordination Crop yield / pasture value Economic trade-offs

Snow removal v. water supply / tourism



Licensing and Permitting

Operators licensed Project permits issued Conditions and safeguards Record keeping and annual reporting State statutes Governmental immunity Liability insurance Separate from environmental Few legal challenges



ASCE Guidance

- Design and Operation of Precipitation Enhancement Projects (42-17)
- Manual on Engineering Practice #81, Guidelines for Cloud Seeding to Augment Precipitation (3rd edition)
- Design and Operation of Hail Suppression Projects (39-15)
- Design and Operation of Supercooled Fog Dispersal Projects (44-13)

California Projects

Since the 1950s 12-15 per year Winter orographic Water and power Described in California Water Plan



Wyoming WxMod Pilot Program

- State funded \$15 million over 10 years
- Randomized cross-over experiment
- Independent evaluation by NCAR
- Radiometers, snow chemistry, high resolution precipitation gauges







WWMPP Conclusions

- Statistical, physical, and modeling analysis shows cloud seeding is a viable technology
- Climatology study demonstrates that 30% of wintertime precipitation fell from seedable storms
- Half the time that seedable conditions were met there was no precipitation, indicating cloud seeding opportunities

Summary

Advances since the 1940s, misconceptions remain +5-15% increase within range of variability Cost-effective part of water operations portfolio None or positive downwind effects No environmental or health effects Local leadership, education, support is important Number of projects increasing Recent research answering key questions

On June 4, 2019 Tom Ryan from MWDSC discussed ongoing weather augmentation for water supply – cloud seeding programs with SAWPA Commission



RFP and Consultant Selection

- SAWPA directs staff to issue RFP for Santa Ana River Watershed Weather Augmentation Feasibility Study
- Two consultants responded to feasibility study RFP
 - North American Weather Consultants Inc.
 - RHS Consulting, Ltd.
- Proposal Review Team
 - SBVMWD, WMWD, OCWD, SAWPA, MWDSC
- North American Weather Consultants Inc. recommended and awarded contract for \$75K to conduct feasibility study



Ground Based Seeding Methods

CNG's (Cloud Nuclei Generators)



- Ideal for orographic lift (winds caused by land barriers)
- Create a continuous plume
- Inexpensive to install and operate

AHOGS (Automated High Output Ground Seeding) Systems



- Depend on strong convective storm attributes (turbulence)
- Deliver a higher concentration of Silver lodide rapid release
- Operated remotely

Aerial Seeding



Technical Feasibility

- Unlike commercial air traffic that quickly leaves an area of high traffic, cloud seeding aircraft occupy the same airspace for an extended period of time
- Flight tracks for the eastern target areas are more likely to receive FAA approvals during times of high traffic, and during periods of storm activity.

Economic Feasibility

- Land barriers must be of an appropriate size to benefit from aerial seeding
- Annual runoff must support the investment of an aerial component
- Preference should be given to areas with greater potential increases

Refined – Ground Seeding Sites



Yellow Pins = AHOGS **Red Bullseyes** = CNG's

Estimated Natural Annual Streamflow



Total Projected Increases

Target Area	Seasonal Precip.	Percent	Avg. Natural	Streamflow Increase	Percent
	Increase (inches)	Increase	Streamflow (AF)	(AF)	Increase
NW	0.41	3.5%	25,000	2,043	8.2%
NE	0.49	4.1%	65,000	4,330	6.7%
SW	0.59	3.7%	5,000	447	9.0%
SE	0.49	4.5%	10,000	1,373	13.7%
	TOTAL w/	Ground Only	105,000	8,193	7.8%

Target Area	Seasonal Precip.	Percent	Avg. Natural	Streamflow Increase	Percent
	Increase (inches)	Increase	Streamflow (AF)	(AF)	Increase
NW	0.41	3.5%	25,000	2,043	8.2%
NE	0.89	7.3%	65,000	7,772	12%
SW	0.59	3.7%	5,000	447	9.0%
SE	0.49	4.5%	10,000	1,373	13.7%
		TOTAL	105,000	11,635	11.1%

Estimates – Ground and Aerial Seeding

	Rat	е	Frequency		
Annual Operations					
Set Up	\$	40,000	1	\$	40,000
Take Down	\$	31,000	1	\$	31,000
Reporting	\$	10,000	1	\$	10,000
Monthly Operations					
Fixed Services	\$	55,000	5	\$	275,000
Variable Items (timed expen		es are bill	ed on a per ho	our	basis)
Ground Flares	\$	110	60	\$	6,600
Generator Run Time	\$	19.50	600	\$	11,700
Flight Time	\$	375	30	\$	11,250
Aerial Flares	\$	110	150	\$	16,500
			TOTAL	\$	402,050
	COST PER ACRE-FOOT \$ 35.61				35.61
	Benefit to Cost 7.1			7.16	

Pricing Estimates – Ground Based Seeding Only

	Rat	е	Frequency		
Annual Operations					
Set Up	\$	33,500	1	\$	33,500
Take Down	\$	24,000	1	\$	24,000
Reporting	\$	10,000	1	\$	10,000
Monthly Operations					
Fixed Services	\$	24,500	5	\$	122,500
Variable Items (timed exp		es are bill	ed on a per ho	our	basis)
Ground Flares	\$	110	60	\$	6,600
Generator Run Time	\$	19.50	600	\$	11,700
Flight Time	\$	375	N/A		-
Aerial Flares	\$	110	N/A		-
			TOTAL	\$	208,300
	COST PER ACRE-FOOT \$ 25.42				25.42
	Benefit to Cost 10.03			10.03	

Next Steps

- Continue briefings to interested governing bodies and agencies in watershed
- Recommendations on next steps will be brought to SAWPA Commission upon review of new SAWPA GM.
 - Study of Ground Based Seeding Unit Sites and Access
 - CEQA/Permits

Potential cost share partner agencies and companies who may benefit are being approached by SAWPA



Recommendation

Receive and file the SAWPA feasibility study results as well as SAWPA's continued investigation and CEQA preparation for a Santa Ana River Watershed Weather Modification Program. Page Intentionally Blank

LESJWA BOARD MEMORANDUM NO. 2021.3

DATE:	February	18.	2021

- SUBJECT: FY 2020-21 Technical Support to Lake Elsinore/Canyon Lake TMDL Task Force Additional In-lake Modeling Scenarios
- TO: LESJWA Board of Directors

FROM: Mark Norton, P.E., Authority Administrator

RECOMMENDATION

Staff and the Lake Elsinore and Canyon Lake (LE&CL) Nutrient TMDL Task Force recommend that the Board of Directors authorize a Change Order to Task Order No. CDM160-04 with CDM Smith, Inc. for an amount not-to-exceed \$37,160.00 to conduct additional in-lake modeling scenarios to support the TMDL adoption process for the Lake Elsinore/Canyon Lake (LECL) Nutrient TMDL Task Force for Fiscal Year 2020-21.

DISCUSSION

On January 25, 2021, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force (LE/CL Task Force) reviewed and recommended for approval a proposal from CDM Smith to conduct additional in-lake modeling scenarios to support the TMDL adoption process.

These additional model scenarios are intended to provide key information needed from peer reviewers and Regional Board staff to recommend adoption of the TMDL revision. Specifically, the new lake modeling scenarios are intended to provide supplemental information to address the following themes from peer review:

- Use of the median of measured nutrient concentrations from the San Jacinto River at Cranston Guard Station to represent nutrient wash-off from all undeveloped canyons. Multiple lines of evidence were presented to support this assumption and additional data gathering will commence following adoption of the TMDL revision. Despite this, there remains a level of uncertainty that could warrant an alternative statistical method involving use of the 25th percentile of the same dataset. The EPA Nutrient Criteria Technical Guidance Manual for lakes and reservoirs employs a 25th percentile as an appropriate margin of safety relative to a threshold between reference and minimally impacted waters.
- Assumption of the levee within Lake Elsinore as part of the reference condition. The Task Force had made a case that the levee project was implemented to improve water quality and should not be assumed to exist in a pre-development condition. Peer reviewers and the Regional Board staff pose the question of how impactful the assumption of a larger lake basin is to the resulting numeric targets.
- Lack of sensitivity analysis. The peer review and Regional Board noted that the technical report and other supporting documentation did not provide any sensitivity analysis regarding the lake water quality models used to create numeric targets. The response to peer review referenced numerous published CAEDYM applications that incorporated sensitivity analyses developed by others. To provide some information specific to Canyon Lake and Lake Elsinore, a series of four sensitivity modeling runs (two in Canyon Lake, two in Lake Elsinore) are proposed to investigate the role of the sediment nutrient flux parameter and hydrologic inflows under the reference condition in both lakes for a shorter simulation period. These were two key model parameters identified as potentially sensitive by the Regional Board and modeling team. Sensitivity runs will involve adjustment of the model parameters by a constant percentage and evaluation of the associated change in key model outputs including, water level, nutrient concentration, dissolved oxygen, ammonia, and chlorophylla.

Included in this proposal were additional technical support services to the Lake Elsinore/Canyon Lake (LECL) Nutrient TMDL Task Force during the ongoing Basin Plan amendment process.

The attached Task Order with CDM Smith provides additional in-lake modeling scenarios to support the TMDL adoption process to Lake Elsinore/Canyon Lake (LECL) Nutrient TMDL Task Force. Included with this Task Order is a scope of work and budget providing a detailed description of support services to be performed by the consultant, CDM Smith, through FY 2020-21 as highlighted below:

- Meeting and Coordination
- Alternative Reference Scenario
- Sensitivity Analysis
- Technical Memorandum on Findings from Supplemental Modeling

BACKGROUND

In June of 2015, the LE/CL Task Force petitioned the Santa Ana Water Board to reopen and revise the Nutrient TMDLs based on the wealth of new information developed over the last 10 years. The Santa Ana Water Board agreed to make this effort a high priority as part of the recent Triennial Review (R8-2015-0085). As part of this agreement, the LE/CL Task Force has accepted responsibility to develop the documentation needed to update and amend the Nutrient TMDL for Canyon Lake and Lake Elsinore.

The reason for the TMDL update is to reflect the significant amount of new data that has developed since the LE/CL-TMDL was first enacted. This information has fundamentally transformed our understanding of how nutrient loading affects the lakes under both natural and undeveloped, and current land use conditions. The scientific studies commissioned by the Task Force have shown conclusively that many of the modeling assumptions used to develop the original TMDL were not accurate. Further, the land use has changed, regulatory policies and permits have been revised, and more specificity is needed to clarify compliance. The work by CDM Smith over the next three fiscal years will require significant scientific and regulatory justification for approval by the Santa Ana Regional Water Quality Control Board and EPA.

In October 2015, in response to a request for qualifications issued by LESJWA, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force Technical Advisory Committee unanimously recommend the selection of CDM Smith to lead the effort to revise and update the Lake Elsinore and Canyon Lake nutrient TMDLs. CDM Smith was selected by a proposal technical review committee composed of task force agencies, based upon the consultant's substantial knowledge of the TMDLs and professional expertise of consultants assembled for their team.

On December 17, 2015, the LESJWA Board approved the selection of CDM Smith and authorized the first of a series of Task Orders with CDM Smith to revise and update the Lake Elsinore and Canyon Lake nutrient TMDLs. Expenses incurred by CDM Smith to date remain within budget of the overall TMDL Update effort proposed by the consultant, and on time according to their original schedule.

On October 20, 2016, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force (LE/CL Task Force) unanimously recommended the second in a series of Task Orders prepared by CDM Smith to complete the effort to revise and update Lake Elsinore and Canyon Lake Nutrient TMDLs Technical Document and submit a final Basin Plan Amendment package to the Regional Board.

On December 21, 2017, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force (LE/CL Task Force) unanimously recommended the third in a series of Task Orders prepared by CDM Smith to complete the effort to revise and update Lake Elsinore and Canyon Lake Nutrient TMDLs Technical Document and submit a final Basin Plan Amendment package to the Regional Board.

On December 10, 2018, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force (LE/CL Task Force) unanimously recommended a Change Order to the CDM Smith agreement to further support the TMDL adoption process and TMDL-related implementation activities ongoing during the Basin Plan amendment process.

On June 18, 2020, the members of the Lake Elsinore and Canyon Lake Nutrient TMDL Task Force (LE/CL Task Force) unanimously recommended a Task Order prepared by CDM Smith to provide further support for the LE&CL TMDL adoption process and additional technical support services to the LECL Nutrient TMDL Task Force for fiscal year 2020-21. This was due to internal delays by Regional Board staff and staff turnover, which has resulted in the Basin Plan Amendment process taking far more time than originally anticipated and requiring further justification of the new TMDL.

RESOURCES IMPACT

All funding for this Task Order is provided by the TMDL Task Force FY 2020-21 Budget for an amount not-to-exceed \$37,160. All staff contract administration time for this contract will be taken from the TMDL budget and funded by the TMDL Stakeholders.

Attachment:

- 1. CDM Smith Change Order No. 1 to CDM160-04
- 2. CDM Smith Scope of Work

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LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY CHANGE ORDER NO. 1 TO TASK ORDER NO. CDM160-04

CONSULTANT:	CDM Smith, Inc. 600 Wilshire Boulevard, Suite 750 Los Angeles, CA 90017			VENDOR NO.: 157		
PROJECT:	Update and Revise the Lake Elsinore and Canyon Lake Nutrient TMDLs					
COST:	\$37,160.00					
REQUESTED BY:	Mark Norton, Authority Administrator			February 18, 2021		
FINANCE:	Karen Williams, Deputy GM/CFO	Date				
FINANCING SOURC	E: Acct. Coding: Acct. Description:	160-TMDL-6 Consulting G	113-01 eneral			
BOARD AUTHORIZ	ATION REQUIRED FOR THIS CHAI	NGE:	YES (X)	NO ()		

Consultant is hereby directed to provide the work necessary to comply with this change order.

DESCRIPTION / JUSTIFICATION OF CHANGE: The purpose of this change order is for additional budget and scope of work for consultant to conduct additional in-lake modeling scenarios intended to provide key information needed from peer reviewers and Regional Board staff to recommend adoption of the TMDL revision. This includes: Meeting and Coordination, Alternative Reference Scenario, Sensitivity Analysis and Technical Memorandum on Findings from Supplemental Modeling as described in the attached Proposal.

CHANGE IN CONTRACT TIME: June 30, 2021

CHANGE IN TASK ORDER PRICE:	Original Task Order Amount:	\$ 100,000.00
	Change Order No. 1 Amount:	\$ 37,160.00
	Amended Contract Total:	\$ 137,160.00

ACCEPTANCE:

Contractor accepts the terms and conditions stated above as full and final settlement of any claims arising from or related to this Change Order. Contractor agrees to perform the above described work in accordance with the above terms and in compliance with applicable sections of the Contract Specifications. This Change Order is hereby agreed to, accepted and approved, all in accordance with the General Provisions of the Contract Specifications.

LAKE ELSINORE & SAN JACINTO WATERSHEDS AUTHORITY

Phil Williams, LESJWA Chair

Date

CDM SMITH, INC.

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600 Wilshire Blvd, Suite 750 Los Angeles, CA 90014 Telephone: (213) 457-2200

January 22, 2021

Mr. Mark Norton Senior Engineer Lake Elsinore and San Jacinto Watershed Authority (LESJWA) Santa Ana Watershed Project Authority Sterling Way Riverside, CA 92501

Subject: Proposal for Supplemental Lake Water Quality Modeling

Background

In June 2015, the Lake Elsinore Canyon Lake (LECL) Task Force petitioned the Santa Ana Water Board to reopen and revise the Nutrient TMDLs for Lake Elsinore and Canyon Lake based on the wealth of new information developed over the previous 10 years. Following approval of the petition, a consulting team led by CDM Smith was contracted to develop the technical documentation and administrative record needed to support adoption of revised TMDLs. Since the completion of the TMDL Technical Report, this team has continued to support the Task Force on tasks identified as important to support the adoption process. Regional Board staff reviewed the March 23, 2020 response to peer review comments and have been actively coordinating with the technical team to understand the overall approach for the overall TMDL revision and key concerns raised in peer review. This process has led to a request for additional lake water quality model simulations, which are beyond the scope of work planned for ongoing support to the Task Force in fiscal year 2020-21. Specifically, the new lake modeling scenarios are intended to provide supplemental information to address the following themes from peer review:

- Use of the median of measured nutrient concentrations from the San Jacinto River at Cranston Guard Station to represent nutrient washoff from all undeveloped canyons. Multiple lines of evidence were presented to support this assumption and additional data gathering will commence following adoption of the TMDL revision. Despite this, there remains a level of uncertainty that could warrant an alternative statistical method involving use of the 25th percentile of the same dataset. The EPA Nutrient Criteria Technical Guidance Manual for lakes and reservoirs¹ employs a 25th percentile as an appropriate margin of safety relative to a threshold between reference and minimally impacted waters.
- Assumption of the levee within Lake Elsinore as part of the reference condition. The Task Force had made a case that the levee project was implemented to improve water quality and should not be assumed to exist in a pre-development condition. Peer reviewers and the Regional Board staff pose the question of how impactful the assumption of a larger lake basin is to the resulting numeric targets.
- Lack of sensitivity analysis. The peer review and Regional Board noted that the technical report and other supporting documentation did not provide any sensitivity analysis with regard to the lake water quality models used to create numeric targets. The response to peer review referenced numerous published CAEDYM applications that incorporated sensitivity analyses developed by

¹ https://www.epa.gov/sites/production/files/2018-10/documents/nutrient-criteria-manual-lakes-reservoirs.pdf

others. To provide some information specific to Canyon Lake and Lake Elsinore, a series of four sensitivity modeling runs (two in Canyon Lake, two in Lake Elsinore) are proposed to investigate the role of the sediment nutrient flux parameter and hydrologic inflows under the reference condition in both lakes for a shorter simulation period. These were two key model parameters identified as potentially sensitive by the Regional Board and modeling team. Sensitivity runs will involve adjustment of the model parameters by a constant percentage and evaluation of the associated change in key model outputs including, water level, nutrient concentration, dissolved oxygen, ammonia, and chlorophyll-a.

Scenario	Canyon Lake	Lake Elsinore	Number of Simulations
1. Alternative reference condition: 25 th percentile of Cranston Guard Sta nutrient concentration, add levee to Lake Elsinore	AEM3D 2001-2016	GLM 1916-2016	2
2a. Sensitivity for sediment flux parameter for NH4 and SRP	AEM3D 2007-2011	GLM 1916-2016	4
2b. Sensitivity for hydrologic inflows	AEM3D 2007-2011	GLM 1964-2016	2

A summary of the proposed model scenarios is presented in the following table.

The proposed scope of work below will satisfy the requested supplemental model simulations and provide key information needed for the Regional Board staff to recommend adoption of the TMDL revision. These tasks are described in more detail below.

Proposed Scope of Work

The CDM Smith team has prepared a scope of work and budget for the following potential tasks. These tasks will be completed within 90 days of notice to proceed. The CDM Smith team will employ the modernized lake water quality models, GLM for Lake Elsinore and AEM3D for Canyon Lake, to implement the supplemental model implementation.

<u>Task 1: Meeting and Coordination</u> – Modeling team will organize and participate in up to six bi-weekly coordination calls with the Regional Board to track progress and collaborate on technical elements of the model simulations. All other project coordination and LECL Task Force meetings will be covered under the existing scope for ongoing technical support in fiscal year 2020-2021.

<u>Task 2: Alternative Reference Scenario</u> – Two modifications will be made as follows; 1) a more conservative 25th percentile of the Cranston Guard Station dataset (0.16 mg/L TP; 0.68mg/L TN) will be used for watershed runoff inflows to the lakes, and 2) using post-LEMP lake bathymetry for the Lake Elsinore GLM simulation. Lake water quality simulations will be conducted using same simulation periods, meteorological data, computational time-steps, and general configuration as was employed using the CAEDYM models to support the December 2018 TMDL technical report.

<u>**Task 3: Sensitivity Analyses**</u> – Sensitivity analyses will be developed by applying the lake water quality models for varying parameter values associated with sediment nutrient flux rate and hydrologic inflows.

Mr. Mark Norton January 22, 2021 Page 3

Prior to implementing the simulations, parameter adjustment for sensitivity analysis will be vetted with the Regional Board staff to provide the most beneficial supplemental information.

Task 4 – Technical Memorandum on Findings from Supplemental Modeling – CDM Smith will prepare a draft technical memorandum that provides key findings from the alternative reference condition scenario and sensitivity analyses. Comments received from the Task Force will be considered in the interpretation of modeling results. The technical memorandum will include the same graphical results plotted in the December 2018 TMDL technical report Figures 3-8 to 3-16, 5-15, 5-24, 5-25. Full model output files will be submitted to the Regional Board in electronic format.

Key Personnel

The project will be managed by Steven Wolosoff (CDM Smith). Lake water quality modelers will include Dr. Paula Kulis (CDM Smith) and Dr. Michael Anderson (current subcontractor to CDM Smith).

Estimated Budget

CDM Smith proposes to complete the selected elements within this amended scope of work within the estimated budgets provided above on a time and materials basis in accordance with the rates used in the ongoing TMDL revision project. The proposed budget for all of the tasks identified in this scope of work is \$37,160, shown by task in the following table. This work is anticipated to occur will be performed over the period of February through May of 2021.

Teck	CDM	Smith	Michael	Total Cast	
Task	Hours	Labor	Hours	Labor	Total Cost
Task 1 – Project Admin, Bi-weekly Coordination Calls, Task Force Presentations	28	\$ 4,840	6	\$ 900	\$ 5,740
Task 2 – Alternative Reference Scenarios	28	\$ 5,120	24	\$ 3,600	\$ 8,720
Task 3 – Sensitivity Analysis	50	\$ 8,860	24	\$ 4,500	\$ 13,360
Task 4 – Technical memo and model outputs	40	\$ 7,540	12	\$ 1,800	\$ 9,340
Total	146	\$ 26,360	66	\$ 10,800	\$ 37,160

Closing

Please call me at (949) 930-7252 or Steven Wolosoff at (617) 452-6393 if you any questions regarding our proposal or need any further information. We look forward to assisting LESJWA in conducting these proposed tasks.

Very truly yours,

Alberto Acevedo CSL | Sr Project Manager

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LESJWA BOARD MEMORANDUM NO. 2021.4

DATE:	February 18, 2021
TO:	LESJWA Board of Directors
SUBJECT:	ACOE Lake Elsinore Ecosystem Restoration Feasibility Study
PREPARED BY:	Mark R. Norton, P.E., Authority Administrator

RECOMMENDATION

Staff recommends that LESJWA Board of Directors receive and file verbal update from EVWMD staff about a proposed ACOE Ecosystem Restoration Feasibility Study for Lake Elsinore.

BACKGROUND

In 2019 EVMWD staff contacted the U.S. Army Corps of Engineers (USACE) to request Federal assistance in developing an aquatic ecosystem restoration study for Lake Elsinore. The study authority for this work is contained in Section 206 of the Water Resources Development Act (WRDA) of 1996. The Section 206 authority allows the USACE to carry out an aquatic ecosystem restoration and protection project if it is determined that the project will improve the quality of the environment, is in the public interest, and is cost-effective.

The first step in this process was for the USACE to conduct a Federal Interest Determination (FID) fully funded by the ACOE. The purpose of the FID was to determine if a study is likely to lead to an implementable project. Based on available information, the FID would identify problems and opportunities, potential solutions, identification of Federal interest and potential for solutions that would result in a policy-consistent project of a scope appropriate for the Section 206 Continuing Authorities Program (CAP). The FED CAP study was completed in Feb. 2020 and indicated that there was sufficient evidence to proceed with a Section 206 Feasibility Study. Following the completion and approval of this FID, the USACE and the non-Federal sponsor executed a Project Management Plan (PMP) which was completed in November 2020.

The CAP Section 206 program is conducted in partnership with a non-Federal sponsor. EVWMD has agreed to serve as lead for the project with local funding support from the City of Lake Elsinore and County of Riverside. LESJWA staff discussed potential in-kind support and/or funding as well as taking over the lead for the project with EVWMD. EVWMD staff indicated a preference to continue to serve as lead and supported in-kind support of LESJWA with past studies and data to assist the development of the USACE feasibility study.

Attached are two figures from the PMP reflecting the most likely aquatic ecosystem projects to be investigated. If implemented, the Federal share of planning, design and construction is limited to \$10,000,000. Early estimates for the ACOE Feasibility Study with matching cost shares are shown in the attached cost share agreement. Mr. Greg Morrison of EVWMD will provide a verbal report regarding the current status and cost sharing agreements with the ACOE and local project partners.

BUDGET IMPACT

In-kind staff support in providing past related LESJWA studies and data.

Attachment:

- 1. Two preliminary aquatic ecosystem project areas at/near Lake Elsinore
- 2. ACOE Feasibility Study Cost Share Agreement

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Figure 2: Wetland creation/restoration (outlined in yellow)

Figure 3: Riparian Restoration (outlined in red)



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COST SHARING AND COOPERATIVE AGREEMENT FOR AQUATIC ECOSYSTEM RESTORATION PROJECT

This Agreement to Share Costs for Aquatic Ecosystem Restoration Project ("Agreement") is made as of ______, 2021, by and between the Elsinore Valley Municipal Water District ("EVMWD"), the County of Riverside ("County"), and the City of Lake Elsinore ("City"). EVMWD, County, and City are hereinafter collectively referred to as the "Parties" or individually as a "Party."

RECITALS

WHEREAS, EVMWD and the Army Corps of Engineers have entered or will enter into a project partnership agreement ("PPA") for an aquatic ecosystem restoration project benefitting Lake Elsinore ("Project") in which EVMWD will serve as the identified Non-Federal Sponsor;

WHEREAS, as among the Parties, EVMWD will act as lead agency in regards to the PPA and this Agreement;

WHEREAS, the PPA requires local cost-sharing for the construction costs and potentially other costs of the Project between the United States Army Corps of Engineers and the Non-Federal Sponsor;

WHEREAS, Section 103 of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213) ("WRDA"), specifies the local cost-sharing requirements applicable to the PPA;

WHEREAS, EVMWD, the County, the City, and their constituencies will each benefit from the Project;

WHEREAS, the Parties desire to enter into this Agreement to equally share the local costs required of the Non-Federal Sponsor of the Project, as described in WRDA, the PPA and accompanying Project documents; and

WHEREAS, by this Agreement the Parties wish to define how such "Local Cost Share" will be accounted for and what types of contributions by each of the Parties will qualify toward the satisfaction of the Local Cost Share requirement.

AGREEMENT

NOW THEREFORE, in consideration of the mutual covenants, promises, and conditions set forth in this Agreement, and for other good, valuable, and adequate consideration, the Parties hereto agree as follows:

- 1. <u>Purpose</u>. The purpose of this Agreement is to identify the Parties' individual and collective responsibilities and cost-sharing obligations with respect to the Project.
- 2. <u>Incorporation of Recitals</u>. The Recitals set forth above are incorporated herein and made an operative part of this Agreement.
- 3. <u>Term</u>. The term of this Agreement shall commence upon its full execution by all Parties and shall end at the later of the termination of the Project or whenever all payments or other contributions toward the Local Cost Share have been made by all Parties.
- 4. Party Responsibilities.
 - a. <u>Party Lead</u>: EVMWD is hereby designated lead agency for this Agreement and the PPA.
 - b. <u>Responsibilities of All Parties</u>: The Parties agree to participate in the cost-sharing component payable by the Non-Federal Sponsors pursuant to WRDA and the PPA. Each Party agrees to be timely and responsive in this joint effort. The Parties agree to try to reach consensus on decisions related to this Agreement whenever possible, and to elevate any issues that cannot be resolved by staff to their superiors and boards, as needed, for resolution. The Parties further agree to comply with the requirements of WRDA and PPA with respect to their activities related to this Agreement and the Project.
- 5. Payment.
 - a. <u>Cost Sharing</u>: The Parties hereby agree to make equal contributions toward the local share of Project costs assigned to the Non-Federal Sponsor as described in the PPA and WRDA. These costs include, but are not limited to, an equal contribution toward the costs associated with the Feasibility Phase of the Project, the thirty-five percent (35%) of construction costs for the Project, and all costs in excess of the Federal Participation Limit as specified in the PPA. The Parties agree that, per WRDA and the PPA, the following contributions are likely to be eligible for each Party's Local Cost Share contribution.
 - Direct, monetary financial contributions
 - Contributions of a Party's real property interests, specifically easements, rights-of-way, and dredged material disposal areas required for the Project and performance of all necessary relocations may ordinarily be included in the Party's Local Share, subject to any further requirements of WRDA and the PPA. The general parameters for valuation of contributed real property interests are described in the PPA and in the attached Exhibit B.
 - Providing "in-kind contributions," meaning a Party's contribution of those materials or services that are identified as being integral to the Project by the Division Engineer for the Los Angeles Division of the Army Corps of Engineers subject to any further requirements of WRDA and the PPA.

The material or service must be part of the work that the Federal Government would otherwise have undertaken for design and construction of the Project. In-kind contributions may also include any investigations performed by the any Party to identify the existence and extent of any hazardous substances that may exist in, on, or under real property interests required for the Project. The Party proposing to use is responsible for obtaining all applicable licenses and permits necessary for such work.

The Parties further agree that if any contributions toward the Local Cost Share made by any Party are deemed ineligible to satisfy WRDA or PPA requirements by the Army Corps of Engineers or other agency with authority over the Project, the contributing Party shall be responsible for making alternative contributions to meet its portion of the Local Cost Share under this Agreement.

- b. <u>Share of Expenses</u>: Exhibit "A" attached to this Agreement and labeled "<u>Share of</u> <u>Expenses</u>" describes in greater detail the overall budgeted value of the Project, the estimated amount of total Local Cost Share required by WRDA and the PPA for the Project, and the anticipated form of contribution by each Party to its proportionate responsibility of Local Cost Share, whether in the form of monetary contribution or other asset contribution agreed to by the Parties and, if necessary, the Army Corps of Engineers.
- c. <u>Exceedances of Estimated Total Cost Share</u>: The total portion of Local Cost Share incurred by each Party shall not exceed those detailed in Exhibit A (Share of Expenses) without the prior written approval of each Party. Each Party shall be responsible for its equal share of the Local Cost Share.
- d. <u>Timing</u>: To ensure the prompt progress of the Project, the Parties hereby agree to timely contribute their respective portions of the Local Cost Share. Monetary contributions shall be made payable to EVMWD and paid within thirty (30) days of EVMWD's submission of an invoice to the Party.
- e. <u>Maintenance of Records</u>: All Parties shall maintain complete and accurate records with respect to all costs, contributions and expenses incurred under this Agreement. All such records shall be clearly identifiable. Each Party shall allow a representative of the other Parties during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this agreement.
- 6. <u>Compliance With Project Agreement</u>. Performance of this Agreement, and the activities of the Parties, shall be subject to the rights and obligations set forth in the Agreement, in WRDA and in the PPA.
- 7. <u>Relationship of parties</u>: Each Party shall act in independent capacities in the performance of their respective rights and obligations under this Agreement, and none is to be considered the officer, agent, or employee of any other Party.

- 8. <u>Compliance With Legal And Regulatory Requirements.</u> In carrying out its respective activities, each Party shall at all times be in compliance with all applicable local, state and federal laws, rules and regulations, and regulations in any manner affecting the performance of its obligations under this Agreement. Each Party shall be liable to the other Party for all violations of such laws and regulations in connection with the respective activities.
- 9. <u>Waiver and Consent.</u> No term or provision hereof shall be deemed waived and no breach of any term or provision hereof shall be deemed consented to, unless such waiver or consent shall be in writing and signed by the Party alleged to have so waived or consented. No waiver by any Party of any term or provision hereof, whether express or implied, shall constitute a waiver by the Party of any other term or provision hereof. No consent by any Party to a breach of any term of provision hereof, whether express or implied, shall constitute a consent by that Party to a breach of any other different or subsequent breach of any term or provision hereof.
- 10. Jurisdiction and Venue. In all matters concerning the validity, interpretation, performance, or effect of this Agreement, the laws of the State of California shall govern and be applicable. The Parties hereby agree and consent to the exclusive jurisdiction of the courts of the State of California and that venue of any action brought hereunder shall be in Riverside County, California.
- 11. <u>Disputes.</u> The Parties agree to mediate any dispute prior to filing suit or prosecuting suit against the other Parties. The requirements of paragraph 12(b), below, shall also be satisfied prior to filing any suit. In the event suit is brought upon this agreement to enforce its terms, each Party shall be responsible for its own attorneys' fees and costs.

12. Term and Termination.

- a. <u>Term</u>: The term of this Agreement shall commence as described in Paragraph 3, above. This Agreement shall remain in effect during the term unless earlier terminated under the procedures outlined in <u>Notice and Opportunity to Care</u> described in paragraph 12(b).
- b. <u>Notice and Opportunity to Cure</u>: If either Party to this Agreement believes that the other Party has failed to perform any obligation of that Party in accordance with the terms of this Agreement ("Default"), the Party alleging the Default shall provide written notice ("Default Notice") to the other Party, setting forth the nature of the alleged Default. Unless otherwise provided by a specific term of this Agreement, the Party claimed to be in Default shall have thirty (30) days from the receipt of the Default Notice to completely cure such Default or, if such Default cannot reasonably be cured within such thirty (30) day period, to commence the cure of such Default within the thirty (30) day period and diligently prosecute the cure to completion thereafter. If the Party claimed to be in Default does not cure such Default within the time period and procedures as set forth herein, the Party alleging Default may then terminate this Agreement and/or seek any applicable legal or equitable remedies.

- 13. <u>Advice of Counsel</u>. Each Party acknowledges it has consulted with and been advised by its respective attorneys concerning the terms of this Agreement, or that it knowingly declined to consult with or seek the advice of an attorney, and that it has executed this Agreement after independent investigation.
- 14. <u>Warranty of Authority to Execute Agreement</u>. Each person executing this Agreement on behalf of any Party hereto hereby warrants that he or she has authority to so execute this Agreement in that capacity, that no other approval or consent other than that of the person executing this Agreement is necessary for the due and legal execution of this Agreement and that the Party on whose behalf the Agreement is signed, including that Party's agents, officers and employees, is legally bound thereby as of the date the Agreement is executed.
- 15. <u>Notices</u>. Written notices to be given to either Party must be given by personal delivery or by registered or certified mail addressed and delivered as set forth below.

Elsinore Valley Municipal Water District 31315 Chaney St Lake City, CA 92530 (951) 674-3146 Attn: General Manager

County of Riverside

City of Lake Elsinore

16. <u>Invalidity and Severability</u>. If any portion of this Agreement is declared invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions shall continue in full force and effect.

IN WITNESS WHEREOF, each of the Parties have caused this Agreement to be executed by its respective duly authorized officers.

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

By:	
Title:	

COUNTY OF RIVERSIDE

By: ______ Title: ______

CITY OF LAKE ELSINORE

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EXHIBIT A

SHARE OF EXPENSES AMONG THE PARTIES

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1. **Feasibility Phase Cost Share:** Each Party shall be responsible for its equal share of costs in regards to the Feasibility Phase of the Project. These costs include, but are not limited to, the costs associated with the Project Management Plan, the Feasibility Cost Share Agreement, and the Feasibility Study.

Table A-1: Feasibility Flase Cost Share bleakdown				
Party	Party's Approximate Share of Responsibility (%)	Estimated Cost (\$)		
Elsinore Valley Municipal Water District	16.66%	\$250,000		
County of Riverside	16.66%	\$250,000		
City of Lake Elsinore	16.66%	\$250,000		
Army Corp of Engineers	50%	\$750,000		
	Approximate Total:	\$1,500,000		

Table A-1: Feasibility Phase Cost Share Breakdown

2. **Project Construction Cost Share:** Each Party shall be responsible for its equal share of costs in regards to the Project construction.

Party	Party's Approximate Share of Responsibility (%)	Estimated Cost (\$)	
Elsinore Valley Municipal Water District	11.66%	\$1,600,000	
County of Riverside	11.66%	\$1,600,000	
City of Lake Elsinore	11.66%	\$1,600,000	
Army Corp of Engineers	65%	\$10,000,000	
	Approximate Total:	\$15,000,000	

Fable A-2: Projec	t Construction	Cost Share	Breakdown
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3. Exceedances of Estimated Total Cost Share: Each Party shall be responsible for its equal share of all costs in excess of the Federal Participation Limit as specified in the PPA.

Party	Party's Approximate Share of Responsibility (%)
Elsinore Valley Municipal Water District	33.33%
County of Riverside	33.33%
City of Lake Elsinore	33.33%

Table A-3: Responsibility of Exceedances Breakdown

EXHIBIT B

VALUATION OF REAL PROPERTY INTERESTS TO MEET LOCAL COST SHARE

Per the PPA, no later than 6 months after it provides the Government with authorization for entry on the real property, the Non-Federal Sponsor (NFS) will provide documents to the Government sufficient to determine the amount of credit to be provided. As such, they must follow the below procedure.

• The NFS must obtain an appraisal of the fair market value of the property by a qualified appraiser accepted by the parties.

• The date of valuation of the real property is the date the NFS provides the Government with authorization for entry onto the property.

• The NFS must submit this appraisal no later than 60 days after granting the Government entry or concludes acquisition of the interest.

• If the NFS doesn't provide an appraisal, the Government will do it.

• The Government will credit the NFS the appraised amount approved by the Government.

• The Government can waive the required appraisal if the NFS determines the property proposed for acquisition is \$10k or less or the property is donated to the NFS and the NFS was released in writing from its obligation to appraise the property by the previous owner.

• The Government will include in construction costs and credit towards NFS share of costs any incidental costs (i.e. closing/title costs, appraisal costs, survey costs, etc.) in acquiring any real property interests

LESJWA BOARD MEMORANDUM NO. 2021.5

DATE:	February 18, 2021
TO:	LESJWA Board of Directors
SUBJECT:	Lake Elsinore Advanced Pumped Storage Project (LEAPS) Update
PREPARED BY:	Mark R. Norton, P.E., Authority Administrator

RECOMMENDATION

Staff recommends that the Board of Directors receive and file status report on Nevada Hydro Company's, Inc. (Nevada Hydro) Lake Elsinore Advanced Pumped Storage (LEAPS) Project.

BACKGROUND

Nevada Hydro has filed a license application with the Federal Energy Regulatory Commission (FERC) for the LEAPS Project. This application was accepted by FERC in July 2019 and the FERC's scoping under NEPA is expected to commence soon. Thereafter and concurrent with this application, many other permits and CEQA work would be required before the project can move into implementation.

The proposed project would consist of the following: (1) a new upper reservoir with a 200-foot high main dam and storage of 5,750 acre-feet to be located in the mountains above Lake Elsinore, (2) a 21-foot diameter concrete power shaft and power tunnel with two steel lined penstocks, (3) an underground powerhouse with two reversible pump-turbine units with a total capacity of 500 megawatts, (4) an existing lower reservoir (Lake Elsinore), and (5) about 32 miles of 500 kV transmission line connection the project to an existing transmission line owned by Southern California Edison located north of the proposed project and to an existing San Diego Gas & Electric Company transmission line located to the south.

The State has indicated that because the applicant is not a public agency, the State Water Board will be the CEQA-lead agency. In order to fulfill CEQA requirements, the applicant must enter into a third-party MOU contract among State Water Board, the Applicant (Nevada Hydro) and an environmental consultant (Cardno) hired by the State. The MOU was executed and signed by the SWRCB Deputy Director on June 25, 2020. The MOU parties are coordinating to establish the Project scope, budget, and timeline. FERC issued the Notice of Intent on June 18, 2020 and then issued their Scoping Document which presents an initial look at the resource areas that will be analyzed under NEPA.

In recent discussions with the State Water Board project manager, Mr. Chase Hildeburn PE, he reported that they are expecting things to start moving in the very near future. Once FERC issues their Notice of Ready for Environmental Analysis document, the State expects Nevada Hydro will submit their application for water quality certification which will start the clock on our 1-year timeline to act on the application. Once the WQC application is filed, the State will also begin the CEQA process. The State expects then to a public CEQA scoping meeting for the Project around early/mid-March 2021., so the CEQA scoping process will begin in the following months.

BUDGET IMPACT None. Page Intentionally Blank

LESJWA BOARD MEMORANDUM NO. 2021.6

DATE:	February 18, 2021
то:	LESJWA Board of Directors
SUBJECT:	Lake Elsinore & Canyon Lake Nutrient TMDL Task Force Update
PREPARED BY:	Mark R. Norton, P.E., Authority Administrator

RECOMMENDATION

Staff recommends that the LESJWA Board receive and file a status report regarding the Lake Elsinore and Canyon Lake Nutrient TMDL Revision Report, the 2020 TMDL Compliance Report and the Lake Elsinore and Canyon Lake TMDL Task Force activities.

DISCUSSION

Work continues by the Regional Board staff to review the Draft Staff Report/TMDL Revision Technical Report (TMDL Revision Technical Report) for Lake Elsinore, Canyon Lake, and the San Jacinto Watershed and respond to peer review comments. This report contains all the required elements for revision of the 2004 TMDLs, including revised Numeric Targets for both Lakes to require further reductions of nutrients discharged to the Lakes and an updated Implementation Plan. Response to the peer review comments were completed and submitted back to the Regional Board back in February 2020.

As of September 2020, new Regional Board staff have been hired and extensive review of the Task Force consultants' feedback to peer reviewers continues. Additional modeling scenarios have been requested by Regional Board staff and the task force has indicated support for consultants to conduct that work in the next few months. Once this work is completed by April 2021, another Regional Board public hearing will likely be scheduled for possible Board adoption in the summer of 2021.

On December 23, 2020, the final 2020 TMDL Compliance document that reflected an accounting of wasteload loadings and allocations from the TMDL responsible parties over the past 10 years. Water quality sampling results indicate that compliance with the nutrient limits were met for nitrogen and phosphorus based on the historical and planned nutrient offsets of alum application at Canyon Lake in October and operation of the Lake Elsinore Aeration and Mixing System offsets. The report is included as an attachment to this memo.

The LE/CL TMDL Task Force activities continue to support the TMDL update and monitoring activities. In November 2020, LESJWA/SAWPA staff will to be sharing a draft of the LE/CL TMDL Task Force FY 21-22 Budget based on the TMDL agreement. The draft FY21-22 Task Force Budget is then reviewed and considered for several meetings and will likely be approved by February 2021.

BUDGET IMPACT

None

Attachment:

1. Final 2020 TMDL Compliance Report

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Lake Elsinore and Canyon Lake Nutrient TMDL 2020 Final Compliance Assessment



Prepared for: Lake Elsinore & San Jacinto Watersheds Project Authority 11615 Sterling Avenue Riverside, California 92503

Prepared by: Theresa A. Dunham, Kahn, Soares & Conway, LLP Steven Wolosoff, CDM Smith Richard Meyerhoff, GEI Consultants John Rudolph and Chris Stransky, Wood Environmental.

December 2020



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Lake Elsinore and Canyon Lake lie within the San Jacinto River watershed, an area encompassing approximately 780 square miles in the San Jacinto River Basin. The Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) identifies both lakes and their applicable beneficial uses. The lakes are waters of the United States, and thus are subject to certain provisions in the federal Clean Water Act (CWA). Section 303(d) of the CWA requires states to identify waters within its boundaries for which effluent limitations are not stringent enough to implement applicable water quality standards, which consist of the designated uses and water quality criteria for such waters. The identification of such waters is often referred to as being listed as "impaired" on California's 303(d) list of impaired waterbodies.

In the 1990s, the lakes were deemed to be impaired by low dissolved oxygen (DO) levels and excess algae growth with elevated nutrient concentrations (e.g., phosphorous and nitrogen) being cited as the primary cause of poor water quality in both lakes. The Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) responded to the impairments by preparing and adopting Total Maximum Daily Loads (TMDLs) for nutrient discharges to Lake Elsinore and Canyon Lake, as required by the CWA.

The LE/CL Nutrient TMDL for Canyon Lake and Lake Elsinore includes TMDL Numeric Targets, Wasteload and Load Allocations (WLA and LA, respectively), and an Implementation Plan. Included in the LE/CL Nutrient TMDL is a final compliance date of December 31, 2020 for meeting final total phosphorus and final total nitrogen TMDLs as 10-year running averages for each lake. A key component of the Implementation Plan was the option for stakeholders to work collaboratively to implement water quality improvement projects to achieve LE/CL Nutrient TMDL WLAs and LAs.

In 2005, the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) formed the Lake Elsinore and Canyon Lake TMDL Task Force (LECL Task Force) composed of stakeholders that would be subject to the LE/CL Nutrient TMDL in order to coordinate and share the cost of implementation efforts. The LECL Task Force is comprised of nearly all dischargers identified in the TMDLs, including: Municipal Separate Storm Sewer System (MS4) permittees, wastewater treatment plants, agricultural operators, concentrated animal feeding operations (dairies), and a number of other state, federal, or tribal agencies that own land or operate facilities that discharge in the watershed.

The 2020 Compliance Assessment Report provided here is not a requirement of the LE/CL Nutrient TMDL itself but has been prepared to assist stakeholders that are part of the LECL Task Force to meet various permitting and reporting obligations that exist outside the text of the LE/CL Nutrient TMDL. Data and information used in this 2020 Compliance Assessment Report for the LE/CL Nutrient TMDL are for the period of January 1, 2011 through October 31, 2020. Upon receiving final data for the remainder of 2020, the 2020 Compliance Assessment Report will be update dated and revised to include the additional data, and to respond to comments received from stakeholders and Santa Ana Water Board staff. Through the collaborative stakeholder efforts of LESJWA and the LECL Task Force, the 2004 TMDL Final watershed based WLAs and LAs for both Canyon Lake and Lake Elsinore are being met as a 10-year running average, as required by the Water Quality Control Plan for the Santa Ana Region. As shown below in **Tables ES-1 and ES-2**, no additional load reductions are needed to meet watershed allocations for Canyon Lake and Lake Elsinore.

Nutrient (kg/yr)	Measured External Load	Internal Load Offset with Alum	Total Net Load	Allocation to Watershed in TMDL	Additional Load Reduction Required
Total Phosphorus	5,835	2,079	3,756	3,845	-89
Total Nitrogen	15,625	0	15,625	22,268	-6643

Table ES-1. Compliance with Final Canyon Lake WLA/LAs for all Watershed Sources

Table ES-2. Compliance with Final Lake Elsinore WLA/LAs for all Watershed Sources

	2011-20	20 Average Ext	ernal Load	Total External	Additional Load	
Nutrient Load (kg/yr)	Canyon Lake Overflow	Modeled Local Runoff ¹	Supplemental Water ²	Load Allocation in TMDL	Reduction Required	
Total Phosphorus	1,775	921	2,496	6,922	-8,760	
Total Nitrogen	9,083	4,469	19,091	29,953	-41,310	

Section 1

Background and Purpose

Lake Elsinore and Canyon Lake lie within the San Jacinto River watershed, an area encompassing approximately 780 square miles in the San Jacinto River Basin. Located approximately 60 miles southeast of Los Angeles and 22 miles south of the City of Riverside, the San Jacinto River watershed lies primarily in Riverside County with a small portion located within Orange County. The Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) identifies both lakes and their applicable beneficial uses. (See Table 3-1, p. 3-42 in the Basin Plan; Santa Ana Water Board 2016) The lakes are waters of the United States, and thus are subject to certain provisions in the federal Clean Water Act (CWA). Section 303(d) of the CWA requires states to identify waters within its boundaries for which effluent limitations are not stringent enough to implement applicable water quality standards, which consist of the designated uses and water quality criteria for such waters. (33 U.S.C. Section 1313(c)(2)(A); 33 U.S.C. Section 1313(d)(1)(A)). The identification of such waters is often referred to as being listed as "impaired" on California's 303(d) list of impaired waterbodies.

Lake Elsinore was first listed on California's 303(d) list of impaired waterbodies in 1994. Canyon Lake was added to the list in 1998. The lakes were deemed to be impaired by low dissolved oxygen (DO) levels and excess algae growth. Elevated nutrient concentrations (e.g., phosphorous and nitrogen) were cited as the primary cause of poor water quality in both lakes. In response to listing the lakes on California's 303(d) list, the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) prepared and adopted Total Maximum Daily Loads (TMDLs) for nutrient discharges to Lake Elsinore and Canyon Lake, as required by the CWA. (33 U.S.C. Section 1313(d)(1)(C)). The Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Load (LE/CL Nutrient TMDL) was adopted by the Santa Ana Water Board on December 20, 2004 (Resolution R8-2004-0023), approved by the State Water Resources Control Board (State Water Board) on May 19, 2005, the California Office of Administrative Law on July 26, 2005, and became effective upon final approval by the United States Environmental Protection Agency (USEPA) on September 30, 2005.

The LE/CL Nutrient TMDL (as summarized in sections 1.1 and 1.2 of this Report) includes TMDL Numeric Targets, Wasteload and Load Allocations (WLA and LA, respectively), and an Implementation Plan. Included in the LE/CL Nutrient TMDL is a final compliance date of December 31, 2020 for meeting final total phosphorus and final total nitrogen TMDLs as 10-year running averages for each lake. (Basin Plan, Tables 5-9p, 5-9q and 5-9r, pp. 5-223 – 5.224.) The information provided in this report is intended to evaluate compliance with the LE/CL Nutrient TMDL, and its final WLAs and LAs, as adopted by the Santa Ana Water Board. Notably, the 2020 Compliance Assessment Report provided here is not a requirement of the LE/CL Nutrient TMDL but has been prepared to assist stakeholders meet various permitting and reporting obligations that exist outside the text of the LE/CL Nutrient TMDL. Data and information used in this 2020 Compliance Assessment Report for the LE/CL Nutrient TMDL are for the period of January 1, 2011 through October 31, 2020. Data, tables, figures and associated text may be updated as appropriate once all data for 2020 are available.

1.1 2004 TMDL

The technical basis for LE/CL Nutrient TMDL is summarized in a detailed technical support document prepared by the Santa Ana Water Boar staff (Santa Ana Water Board 2004). The LE/CL Nutrient TMDL as it has been incorporated into the Basin Plan includes specified numeric targets for DO, chlorophyll-*a*, ammonia, Total Phosphorus (TP) and Total Nitrogen (TN) for both lakes. It also established WLAs and LAs to govern the discharge of excess nutrients from non-point sources and point sources, respectively. The LE/CL Nutrient TMDL includes a detailed Implementation Plan, which describes a variety of activities that must be undertaken to meet water quality standards in Lake Elsinore and Canyon Lake. Since approval by USEPA, stakeholders throughout the watershed have initiated a large number of programs and projects to implement the requirements set forth in the Implementation Plan for the TMDL.

As adopted, the LE/CL Nutrient TMDL includes an implicit margin of safety, which incorporates the following (Basin Plan, page 5-225, Santa Ana Water Board 2016):

- The derivation of numeric targets based on the 25th percentile of data for Lake Elsinore; Canyon Lake numeric targets to be consistent with the Lake Elsinore targets;
- The use of multiple numeric targets to measure attainment of beneficial uses and thereby assure TMDL efficacy;
- The use of conservative literature values in the absence of site-specific data for source loading rates in the watershed nutrient model;
- The use of conservative assumptions in modeling the response of Lake Elsinore and Canyon Lake to nutrient loads; and
- Requiring load reductions to be accomplished during hydrologic conditions when model results indicate, in some instances, that theoretical loads could be higher.

Further, the nutrient TMDLs for each lake, as expressed in Tables 5-9p, 5-9q and 5-9r of the Basin Plan, account for seasonal and annual variations in external and internal loading through the use of a 10-year running average allocation approach (Santa Ana Water Board 2016): "This 10-year running average approach addresses variation in hydrologic conditions (wet, moderate and dry) that can dramatically affect both nutrient loading and lake response" (Basin Plan, p. 5-225, Santa Ana Water Board 2016). With respect to the numeric targets, they are intended to assess water quality improvements, and at the time of adoption, the Santa Ana Water Board believed that compliance with the targets would prevent excessive algae blooms and fish kills, particularly during the critical summer period (Basin Plan, p. 5-225, Santa Ana Water Board 2016).

In 2005, the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) formed the Lake Elsinore and Canyon Lake TMDL Task Force (LECL Task Force) composed of stakeholders that would be subject to the LE/CL Nutrient TMDL in order to coordinate and share the cost of implementation efforts. The LECL Task Force is comprised of nearly all dischargers identified in

the TMDLs, including: Municipal Separate Storm Sewer System (MS4) permittees, wastewater treatment plants, agricultural operators, concentrated animal feeding operations (dairies), and a number of other state, federal, or tribal agencies that own land or operate facilities that discharge in the watershed.

The LE/CL Nutrient TMDL Implementation Plan includes 14 different tasks for which implementation thereof started in March 2006. These tasks included, in part, requirements for nutrient water quality monitoring programs for the watershed and the lakes as well as development and implementation of nutrient reduction plans. Task 14 is the ongoing triennial review of the TMDL, WLAs and LAs, and it is supposed to coincide with the Santa Ana Water Board's triennial review process. The tasks in question have been implemented individually by dischargers and collectively through the LECL Task Force, as applicable. Dischargers subject to the TMDL are required to comply with its provisions in the manner as specified in individual permits (See Section 1.5 below).

In 2016, the LECL Task Force prepared a *TMDL Progress Report: Evaluation of Compliance with the 2015 Interim Response Targets for Dissolved Oxygen and Chlorophyll-a in Canyon Lake and Lake Elsinore* (2015 Interim Progress Report; Risk Sciences 2016). The report was submitted to the Santa Ana Water Board on June 30, 2016. The 2015 Interim Progress Report documented the tremendous efforts and successes that had been implemented by the LECL Task Force and its stakeholder members over the decade since the LE/CL Nutrient TMDL became effective (2005) and the date of publication of the Interim Progress Report. At that time, the 2015 Interim Progress Report found that Canyon Lake was meeting interim response targets. Prolonged drought conditions, however, made it difficult for Lake Elsinore to meet its interim response targets.

Starting in mid-2015, the LECL Task Force with Santa Ana Water Board support accepted responsibility to develop the documentation needed to update and amend the 2004 LE/CL Nutrient TMDL. In December 2018, a Draft TMDL Technical Report: *Revision to the Lake Elsinore and Canyon Lake Nutrient TMDLs* (Draft TMDL Technical Report) was released for public and peer review (LESJWA 2018). The Santa Ana Water Board held a public workshop on the Draft TMDL Technical Report and proposed revisions on May 3, 2019. The Santa Ana Water Board received peer review comments from six different peer reviewers on the Draft TMDL Technical Report on October 22, 2019. Since then, the Santa Ana Water Board staff has been working with the LECL Task Force to respond to questions and concerns raised by peer reviewers, USEPA and others as it relates to the Draft TMDL Technical Report, models used in the report and proposed revisions to the LE/CL Nutrient TMDL.

In the meantime, the 2004 LE/CL Nutrient TMDL remains in effect, and implementation of the TMDL and its provisions as incorporated into waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permits continues forward.

1.2 TMDL Numeric Targets

The numeric targets in the LE/CL Nutrient TMDL, as adopted in 2004, were based on reference conditions that the Santa Ana Water Board believed to exist when beneficial uses in the lakes were not significantly impacted by nutrients. The adopted targets include both "causal" and

"response" interim and final number targets for both lakes (**Table 1-1**). Causal targets were adopted for TP and TN, and response targets were adopted for chlorophyll-*a* and DO. Ammonia targets were included to prevent un-ionized ammonia toxicity to aquatic life in the lakes. (Basin Plan, p. 5-220; Santa Ana Water Board 2016.)

Table 1-1. Final N	umeric Compliance Targets for 2004 TMDLs	adapted from Table 5-9n in the Basin Plan,
Santa Ana Water	Board 2016)	

Indicator	Lake Elsinore	Canyon Lake
Total Phosphorus Concentration (Final)	Annual average no greater than 0.1 milligrams/liter (mg/L) to be attained no later than 2020	Annual average no greater than 0.1 mg/L to be attained no later than 2020
Total Nitrogen Concentration (Final)	Annual average no greater than 0.75 mg/L to be attained no later than 2020	Annual average no greater than 0.75 mg/L to be attained no later than 2020
Ammonia Nitrogen Concentration (Final)	Calculated concentrations to be attained no later than 2020 Acute: 1-hour average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the Criterion Maximum Concentration (CMC) (acute criteria), where CMC = $0.411/(1+10^{7.204-pH}) + 58.4/(1+10^{pH-7.204})$ Chronic: 30-day average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the Criterion Continuous Concentration (CCC) (chronic criteria), where CCC = $(0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.204})$ 7.688) * min (2.85, 1.45*10 ^{0.028(25-T)}	Calculated concentrations to be attained no later than 2020 Acute: 1-hour average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CMC (acute criteria), where CMC = $0.411/(1+10^{7.204-pH}) + 58.4/(1+10^{pH-7.204})$ Chronic: 30-day average concentration of total ammonia nitrogen (mg/L) not to exceed, more than once every three years on the average, the CCC (chronic criteria), where CCC = $(0.0577/(1+10^{7.688-pH}) + 2.487/(1+10^{pH-7.208})) * min (2.85, 1.45*10^{0.028(25-T)})$
Chlorophyll- <i>a</i> Concentration (Final)	Summer average no greater than 25 μg/L; to be attained no later than 2020	Annual average no greater than 25 μg/L; to be attained no later than 2020
Dissolved Oxygen Concentration (Final)	No less than 5 mg/L 1 meter (m) above lake bottom to be attained no later than 2020	Daily average in hypolimnion no less than 5 mg/L; to be attained no later than 2015

As previously noted, the 2015 Interim Progress Report evaluated relevant nutrient data and information to determine if the lakes were achieving the interim numeric targets (Risk Sciences 2016). This 2020 Compliance Assessment does not repeat that evaluation and instead focuses on assessing data and information to determine if the lakes are achieving the final targets that are in Table 5-9n of the Basin Plan. As of December 31, 2020, the interim targets will no longer apply and are replaced by the final targets.

1.3 Wasteload and Load Allocations

The 2004 TMDL technical report for the LE/CL Nutrient TMDL shows how nutrient loading to Canyon Lake and Lake Elsinore varies depending on the hydrologic conditions in the San Jacinto watershed for any given year (Santa Ana Water Board 2004). Using an 87-year record of flow data from a U.S. Geological Survey (USGS) gauging station downstream of Canyon Lake, the LE/CL

Nutrient TMDL identifies three hydrologic conditions (wet, moderate, dry) and the relative frequency of these variably hydrologic conditions (Basin Plan, p. 5-222; Santa Ana Water Board 2016). Taking into consideration these three hydrologic conditions, the LE/CL Nutrient TMDL sets TMDLs, WLAs and LAs for each lake based on 10-year running flow weighted average for total phosphorus and total nitrogen loads

(**Tables 1-2, 1-3 and 1-4**). Final TMDLs, WLAs and LAs are to be achieved as soon as possible but no later than December 31, 2020.

TMDL	Final Total Phosphorus TMDL (kg/yr) ^{a, b}	Final Total Nitrogen TMDL (kg/yr) ^{a, b}
Canyon Lake	8,691	37,735
Lake Elsinore	28,584	230,025

Table 1-2. Nutrient TMDLs and Compliance Dates for Lake Elsinore and Canyon Lake (adapted from Table 5-9p in the Basin Plan, p. 5-223, Santa Ana Water Board 2016)

^a Final compliance to be achieved as soon as possible, but no later than December 31, 2020 ^b TMDL specified as 10-year running average

Table 1-3. Canyon Lake Nitrogen and Phosphorus Wasteload and Load Allocations ^a (adapte
from Table 5-9g in the Basin Plan, p. 5-223, Santa Ana Water Board 2016)

Canyon Lake Nutrient TMDL	Final Total Phosphorus Load Allocation (kg/yr) ^{b, c}	Final Total Nitrogen Load Allocation (kg/yr) ^{6, c}
TMDL	8,691	37,735
WLA	486	6,248
Supplemental Water	48	366
Urban	306	3,974
CAFO	132	1,908
LA	8,205	31,487
Internal Sediment	4,625	13,549
Atmospheric Deposition	221	1,918
Agriculture	1,183	7,583
Open/Forest	2,037	3,587
Septic Systems	139	4,850

^a TMDL allocations for Canyon Lake apply to those land uses located upstream of Canyon Lake

^b Final allocation compliance to be achieved as soon as possible, but no later than December 31, 2020 ^c TMDL and allocations specified as 10-year running average

Lake Elsinore Nutrient TMDL	Final Total Phosphorus Load Allocation (kg/yr) ^{b, c}	Final Total Nitrogen Load Allocation (kg/yr) ^{b, c}
TMDL	28,584	239,025
WLA	3,845	7,791
Supplemental Water ^d	3,721	7,442
Urban	124	349
CAFO	0	0
LA	21,969	210,461
Internal Sediment	21,554	197,370
Atmospheric Deposition	108	11,702
Agriculture	60	213
Open/Forest	178	567
Septic Systems	69	608
Canyon Lake Watershed ^e	2,770	20,774

 Table 1-4. Lake Elsinore Nitrogen and Phosphorus Wasteload and Load Allocations^a (adapted from Table 5-9r in the Basin Plan, p. 5-224, Santa Ana Water Board 2016)

^a The Lake Elsinore TMDL allocations for urban, agriculture, open/forest, septic systems and CAFOs only apply to those land uses located downstream of Canyon Lake.

^b Final allocation compliance to be achieved as soon as possible, but no later than December 31, 2020.

^c TMDL and allocations specified as 10-year running average.

^d WLA for supplemental water should be met as soon as possible as a 5 year running average.

^e Allocation for Canyon Lake overflows.

1.4 Lake Elsinore/Canyon Lake Task Force

In 2005, stakeholders throughout the San Jacinto River watershed voluntarily formed the Lake Elsinore & Canyon Lake TMDL Task Force (LECL Task Force) to coordinate implementation efforts and to assure efficient and cost-effective compliance with the numerous TMDL requirements. The LECL Task Force is comprised of nearly all dischargers named in the TMDL and is managed by LESJWA.¹ The LECL Task Force meets monthly and staff from the Santa Ana Water Board regularly attend and participate in LECL Task Force meetings.

¹ The LECL Task Force members currently include: Riverside County, City of Beaumont, City of Canyon Lake, City of Hemet, City of Lake Elsinore, City of Moreno Valley, City of Murrieta, City of Menifee, City of San Jacinto, City of Riverside, City of Perris, City of Wildomar, Caltrans, California Department of Fish and Wildlife, Elsinore Valley Municipal Water District, March Air Force Reserve Joint Powers Authority, U.S. Air Force March Air Force Base, California Department of Transportation Eastern Municipal Water District, San Jacinto Agricultural Operators and San Jacinto Dairy and CAFO Operators. The United States Forest Service was a member previously but has withdrawn its LECL Task Force membership.

Collectively, the LECL Task Force manages an annual budget of almost \$1 million and is responsible for:

- Implementing the watershed-wide water quality monitoring program.
- Implementing the water quality monitoring program for both lakes.
- Updating the watershed runoff model used to estimate nutrient loads.
- Conducting special studies to aid in selection of mitigation projects.²
- Implementing the Lake Elsinore Sediment Nutrient Reduction Plan.
- Implementing the Canyon Lake Sediment Nutrient Reduction Plan.
- Revising and updating the TMDL (including targets and allocations).
- Completing a fisheries management report for Lake Elsinore (LESJWA 2020).

In the 15 years since it commenced operations, the LECL Task Force has implemented several large-scale water quality improvement projects to reduce nutrient loads released by lake bottom sediments. In addition, individual LECL Task Force agencies and stakeholders have implemented a wide array of best management practices (BMPs) designed to reduce nitrogen and phosphorus pollution in stormwater runoff from urban and agricultural areas.

The remainder of this report will focus on implementation and monitoring programs that have been implemented over the 10-year compliance period for January 1, 2011 through December 31, 2020. Implementation efforts include in-lake projects such as alum applications in Canyon Lake and operation of the Lake Elsinore Aeration and Mixing System (LEAMS) in Lake Elsinore; other efforts include watershed controls implemented by MS4 and agricultural operators. This report will also evaluate data to determine if numeric targets, TMDLs, WLAs, and LAs have been achieved, and compliance with individual permit terms related to the LE/CL Nutrient TMDL. The status of each lake and individual permit compliance will be addressed separately.

1.5 Applicable Permit Requirements

In general, TMDLs are not self-executing and rely on additional action by regional boards to impose pollutant restrictions on dischargers to achieve the TMDLs and associated WLAs and LAs. The Santa Ana Water Board has adopted several different orders for various individual or categories of dischargers to require compliance with the 2004 LE/CL Nutrient TMDL provisions. The State Water Board adopted a General Order for small MS4s in 2013 and subsequently incorporated LE/CL Nutrient TMDL requirements for March Air Reserve Base (March ARB) in 2017. Permit provisions specific to the LE/CL Nutrient TMDL that apply to stakeholders that are members of the LECL Task Force are summarized for individual and categories of dischargers as applicable.

² See: <u>http://www.sawpa.org/collaboration/projects/lake-elsinore-canyon-lake-tmdl-task-force/</u>

1.5.1 Stormwater – Phase I MS4s

The Riverside County Flood Control and Water Conservation District (RCFC&WCD), the County of Riverside, and the Incorporated Cities of Riverside County within the Santa Ana Region are subject to NPDES permit and Waste Discharge Requirements Order No. R8-2010-0033 (Riverside MS4 Permit), which regulates the discharge of pollutants in urban runoff. The Riverside MS4 Permit includes interim and final water quality based effluent limitations (WQBELs)³ to implement the LE/CL Nutrient TMDL.

Relevant here are the final WQBELs. To comply with the LE/CL Nutrient TMDL WLAs that are applicable to urban stormwater, the Riverside MS4 permittees were required to submit a Comprehensive Nutrient Reduction Plan (CNRP) by December 31, 2011. The CNRP needed to include, in detail, the specific actions that would be taken to achieve the urban WLA by December 31, 2020. Once approved by the Santa Ana Water Board, the CNRP became the final WQBELs for the LE/CL Nutrient TMDL.

The Riverside County MS4 permittees timely submitted a draft CNRP by December 31, 2011. Following receipt of Santa Ana Water Board comments on the draft CNRP (March 20, 2012) and continued discussions with the Santa Ana Water Board, final and revised final CNRPs were submitted June 28, 2012 and January 28, 2013, respectively. The revised final CNRP was approved by the Santa Ana Water Board on July 19, 2013 (Resolution No. R8-2013-0044). As the approved final WQBEL, compliance with the CNRP constitutes compliance with the LE/CL Nutrient TMDL. In the event that compliance with the CNRP is not achieved, the Riverside County MS4 permittees may also demonstrate compliance with the WLAs through either of the following methods:

- Directly, using relevant monitoring data and approved modeling procedures to estimate actual nitrogen and phosphorus loads being discharged to the lakes, or,
- Indirectly, using water quality monitoring data and other biological metrics approved by the [Santa Ana Water] Board, to show Water Quality Standards are being consistently attained (as measured by the response targets identified in the LE/CL TMDL).⁴

As part of the CNRP, the Riverside MS4 permittees are required to submit a Final Compliance Assessment Report by December 31, 2020, to assess expected compliance with final TMDL requirements, which includes the WLAs based on a 10-year running average. This report is intended to fulfill the requirement for submittal of a Final Compliance Assessment Report and to assess compliance with the Canyon Lake and Lake Elsinore TP and TN TMDLs as a 10-year running average. Relevant key permit and CNRP requirements, and MS4 Program/Permittees or LECL Task Force actions taken to meet certain requirements are summarized in Table 1-5.

³ See Santa Ana Water Board Order No R8-2010-0033, pp. 65-69.

⁴ Order No. R8-2010-0033, p. 69.

Permit/CNRP Provision	Due Date	Submittal/Report/Approval
Permit VI.D.2.a – Implement in-lake and watershed monitoring programs. (Order No. R8-2010-0033, page 65.)	Annual reports due August 31 of every year	Lake Elsinore & Canyon Lake Watersheds Nutrient TMDL Monitoring 2019-2020 Annual Report, submitted by LECL Task Force by August 31 each year. ^a (See, e.g., https://sawpa.org/task-forces/lake- elsinore-and-canyon-lake-tmdl-task- force/#monitoring-program.)
Permit VI.D.2.d. – Final WQBELs (Order No. R8-2010-0033, pages 66- 69.)	Comprehensive Nutrient Reduction Plan by December 31, 2011.	<i>Comprehensive Nutrient Reduction Plan for</i> <i>Lake Elsinore and Canyon Lake</i> , submitted by Riverside County Flood Control & Water Conservation District, on behalf of MS4 permittees, December 31, 2011: Final submitted January 28, 2013.
Permit VI.D.2.h. – Summarize all relevant data from water quality monitoring programs and evaluate compliance with LE/CL TMDL	Annually, Annual Report	Santa Ana River Watershed Annual Progress Report Fiscal Year 2019-2020, Riverside County Flood Control & Water Conservation District, November 30, 2020.
Permit VI.D.2.f. – CNRP incorporated into Order as final WQBELs upon Santa Ana Water Board approval. (Order No. R8-2010-0033, page 67.)	Approval necessary by December 31, 2020 for CNRP to be the final WQBELs.	Approved by Santa Ana Water Board, July 19, 2013, Resolution No. R8-2013-0044.
Monitoring and Reporting Program, III.D.2 Monitor and report effectiveness of BMPs implemented to control nutrient inputs into the lakes from Urban Runoff and determine progress towards attaining compliance with WQBELs/WLAs.	Annually, Annual Report	Santa Ana River Watershed Annual Progress Report Fiscal Year 2019-2020, Riverside County Flood Control & Water Conservation District, November 30, 2020
CNRP, Table E-1. CNRP Implementation Plan – Interim Compliance Assessment	By June 30, 2016	TMDL Progress Report: Evaluation of Compliance with the 2015 Interim Response Targets for Dissolved Oxygen and Chlorophyll-a in Canyon Lake and Lake Elsinore, submitted by the LECL Task Force (June 30, 2016)
CNRP, Table E-1. CNRP Implementation Plan – Final Compliance Assessment	By December 31, 2020	Lake Elsinore & Canyon Lake Nutrient TMDLs Compliance Assessment, submitted by LECL Task Force by December 31, 2020

Table 1-5 Summary of Key MS4 Permit and CNRP Requirements⁵

⁵ Order No. R8-2010-0033 and the CNRP collectively include many milestones related to implementing the LE/CL TMDL and its Implementation Plan. Compliance with these requirements have been documented overtime through the submittal of Annual Progress Reports submitted by the MS4 Program/Permittees and submittals from the LECL Task Force on behalf of LECL Task Force members. The table provided here is not intended to identify all milestones, but provides a summary of key permit and CNRP requirements/milestones and how compliance has been achieved.

	-	
Permit/CNRP Provision	Due Date	Submittal/Report/Approval
CNRP, Table E-1. CNRP Implementation Plan – TMDL Revision	Prior to potential triennial review dates in 2015 and 2019	Draft TMDL Technical Report: Revision to the Lake Elsinore and Canyon Lake TMDLs, submitted by LESJWA in collaboration with the LECL Task Force (December 1, 2018)

Table 1-5 Summary of Key MS4 Permit and CNRP Requirements⁵

^a The Annual Report is submitted as a Draft by August 31 of each year, and then finalized after comments are received from the Santa Ana Water Board .

1.5.2 Agriculture Operators

The Santa Ana Water Board adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Agricultural Operations in the Watersheds of the San Jacinto River and its Tributaries, and Canyon Lake and Lake Elsinore and their Tributaries, Collectively, "The San Jacinto River Watershed" (Order No. R8-2016-0003, as amended by Order No. R8-2017-0023). The Conditional Waiver for Agricultural Dischargers, or CWAD, incorporates requirements for agricultural dischargers to comply with TMDL provisions either individually or as part of a Discharger/Coalition Group. Compliance with the LE/CL Nutrient TMDL as part of a Discharger/Coalition Group is contingent on the payment of apportioned fees to the LECL Task Force.⁶

The Western Riverside County Agriculture Coalition (WRCAC) represents the interests of its member agricultural operators and dairy operators on the LECL Task Force. Participation in the LECL Task Force through WRCAC allows agricultural operators that are members of WRCAC to fulfill TMDL requirements in an efficient manner. On behalf of its agricultural and dairy members, WRCAC submitted an Agricultural Nutrient Management Program (AgNMP) to the Santa Ana Water Board in April 2013 to satisfy agricultural activity requirements contained in the LE/CL Nutrient TMDL Implementation Plan. Agricultural operators that are not members of WRCAC are individually responsible for fulfilling applicable TMDL Implementation Plan requirements.⁷

The Santa Ana Water Board adopted the CWAD after the AgNMP was originally submitted in April of 2013, and the CWAD included a new requirement for a proposed AgNMP to be submitted within 6 months of submittal of the Draft TMDL Technical Report.⁸ The Draft TMDL Technical Report was submitted to the Santa Ana Water Board on December 1, 2018. However, as allowed by the CWAD, the date for submittal of the AgNMP could be extended by the Santa Ana Water Board's Executive Officer as long as certain conditions were met.⁹ On December 17, 2019, the Santa Ana Water Board's Executive Officer extended the time for submittal of the AgNMP until two years after the effective date of the revised LE/CL TMDLs, which is still pending. Thus, the due date for submittal of the AgNMP has not yet been established.

⁶ CWAD, p. 25, Part C., paragraph 9.

⁷ CWAD, p. 14, Findings paragraph 69.

⁸ CWAD, p. 25, Part C, paragraph 10.

⁹ CWAD, p. 25, Part C, paragraph 10.

In the meantime, WRCAC, on behalf of its members that are subject to the CWAD, has developed a Water Quality Index Tool and conducted aerial mapping to assist in development of the AgNMP. The Water Quality Index Tool is designed to be multi-functional, including maintaining and verifying farm records related to irrigation practices and nutrient management.

The CWAD sets forth three options for how agriculture may show compliance with LAs in the LE/CL Nutrient TMDL. The options are as follows:

- Demonstrate, using monitoring data and approved modeling procedures, that the external loads comply with the numeric load allocation;
- Demonstrate that the numeric targets specified in the LE/CL Nutrient TMDL are attained consistently; or,
- Complete and timely implement an approved AgNMP, updated as necessary to assure that the agricultural load allocation will be achieved.

This report is intended to demonstrate compliance for agricultural operators that are members of WRCAC through one or both of the first two options identified immediately above.

1.5.3 Dairy Operators

WRCAC represents dairy operators that are its members on the LECL Task Force. Dairy operators are individually subject to the terms and conditions of Order No. R8-2018-0001, which is an NPDES Permit and General Waste Discharge Requirements for Concentrated Animal Feeding Operations (Dairies and Related Facilities) within the Santa Ana Region (Dairy Order).

The Dairy Order includes specified BMPs as WQBELs, which are designed to ensure that dairy operators are attaining WLAs assigned to CAFOs in adopted TMDLs.¹⁰ Further, for dairies and related facilities that are located within the San Jacinto River Basin, dairies must also comply with specific Salt and Nutrient Requirements.¹¹ Provision J.3 of the Dairy Order includes requirements related to implementing (or cause to be implemented on their behalf) watershed and in-lake monitoring as required by the LE/CL Nutrient TMDL. Dairy operators participate in the LECL Task Force through WRCAC, which allows dairy operators to meet the monitoring requirements specified in Provision J.3 of the Dairy Order.

If a dairy operator is not participating in WRCAC, then a dairy operator must fulfill the LE/CL Nutrient TMDL monitoring requirements individually. Existing dairies in the San Jacinto River Basin are currently members of WRCAC, and each year WRCAC confirms San Jacinto River Basin dairy participation to the Santa Ana Water Board.¹²

Provision IV.J.3.e of the Dairy Order includes numeric WQBELs for TP and TN that are equivalent to WLAs for dairies in the Canyon Lake and Lake Elsinore TMDLs (See Tables 1-2 and 1-3 above.) The numeric WQBELs become applicable to dairy operators after December 31, 2020, if dairy

¹⁰ Dairy Order, p. 18-19. Provision B.2.

¹¹ Dairy Order, Provision J.

¹² Dairy Order, Findings B.4, page 7, As of December 31, 2017, there were 25 dairy facilities in the San Jacinto River Basin.

operators do not comply with Provision IV.J.3. of the Dairy Order. Dairy operators may comply with , or cause to be implemented on their behalf, the Provisions of IV.J.3. Dairy operator participation in the LECL Task Force through WRCAC allows the LECL Task Force to implement these provisions on behalf of participating dairy operators. Table 1-6 summarizes the key provisions from the Dairy Order and identifies how the requirements have been met on behalf of the dairy operators.

Key Dairy Order Requirement	Due Date	Submittal/Report/Approval
Provision IV.J.3. – Dairy must implement, or cause to be implemented on their behalf, LE/CL Nutrient TMDLs water quality monitoring plan approved by Regional Board on 2006, as subsequently amended or revised	Ongoing, as required by the approved monitoring plan.	LE/CL Nutrient TMDL Monitoring Plan was updated in 2016, after being subject to public comment. (https://sawpa.org/task-forces/lake-elsinore-and- canyon-lake-tmdl-task-force/#monitoring-program.)
Provision IV.J.3.a. – Dairy must submit, or cause to be submitted on their behalf, the results of the water quality monitoring plan.	By August 15, annually	Lake Elsinore & Canyon Lake Watersheds Nutrient TMDL Monitoring 2019-2020 Annual Report, submitted by LECL Task Force by August 31 each year. ^a (See, e.g., https://sawpa.org/task-forces/lake- elsinore-and-canyon-lake-tmdl-task- force/#monitoring-program.)
Provision IV.J.3.b. – Results of water quality monitoring plan must include analysis to demonstrate achievement or progress towards achievement of WLAs for Canyon Lake.	By August 15, annually	Lake Elsinore & Canyon Lake Watersheds Nutrient TMDL Monitoring 2019-2020 Annual Report, submitted by LECL Task Force by August 31 each year. ^a (See, e.g., https://sawpa.org/task-forces/lake- elsinore-and-canyon-lake-tmdl-task- force/#monitoring-program.)
Provision IV.J.3.c. – Dairy, in cooperation with other stakeholders, must include recommendations to improve monitoring program, if necessary.	By August 15, annually	LE/CL Nutrient TMDL Monitoring Plan was updated in 2016, after being subject to public comment. (https://sawpa.org/task-forces/lake-elsinore-and- canyon-lake-tmdl-task-force/#monitoring-program.)
Provision IV.J.3.d. – Dairy, in cooperation with other stakeholders, must propose improvements to watershed-wide projects if WLAs not being met and water quality objectives are not attained.	By August 15, annually	Draft TMDL Technical Report: Revision to the Lake Elsinore and Canyon Lake TMDLs, submitted by LESJWA in collaboration with the LECL Task Force (December 1, 2018), includes recommendations for special studies and improvements to watershed- wide projects.

Table 1-6 Summary of Key Dairy Order Requirements

^a The submittal date for the Annual Report varies between the Dairy Order and the MS4 permit by 15 days. In the past, the MS4 permit date has been used as the controlling date. Going forward, the LECL Task Force will adjust the date to meet the earlier August 15 date as provided for in the Dairy Order.

Participation in the LECL Task Force through WRCAC, and implementing the BMP WQBELs, constitutes LE/CL Nutrient TMDL compliance for dairy operators in the San Jacinto River Basin. Based on the Dairy Order, no other demonstrations of compliance are necessary for dairy operators. Regardless, this report can be used to further demonstrate how dairy operators are meeting the WLAs for Canyon Lake and Lake Elsinore that are assigned to dairy operators.

1.5.4 Elsinore Valley Municipal Water District

Elsinore Valley Municipal Water District (EVMWD) discharges up to eight (8) million gallons per day (mgd) of tertiary treated wastewater (i.e., reclaimed water) to Lake Elsinore. The discharge of reclaimed water to Lake Elsinore is governed by Order No. R8-2013-0017, Waste Discharge and Water Reclamation Requirements for the Elsinore Valley Municipal Water District, Regional Water Reclamation Facility. Order No. R8-2013-0017 limits the amount of TN and TP that EVMWD may discharge to Lake Elsinore, unless EVMWD implements an approved plan to offset the amount of TN and TP discharged that is in excess of the limits contained in the Order.

In the absence of an approved offset plan, the applicable TN and TP limits for EVMWD discharges to Lake Elsinore are as follows:

- The 12-month running average of TN concentration of the discharge shall not exceed 1 mg/L, and the 5 year running average of mass of TN shall not exceed 16,372 pounds/year.
- The 12-month running average of TP concentration of the discharge shall not exceed 0.5 mg/L, and the 5 year running average mass limit of TP shall not exceed 8,186 pounds/year.

The Santa Ana Water Board has approved an offset plan for discharges of TN and TP from EVMWD's Regional Water Reclamation Facility. The offsets are based on the operation of the LEAMS Project for a sufficient period of time each year to provide the required offsets for TN and TP that are in excess of the limits. To document LEAMS operations and generation of offsets for demonstrating permit compliance, EVMWD submits a report directly to the Santa Ana Water Board. Prior to 2017, the report was submitted on a triennial basis. Since 2017, the report has been sent annually.

1.5.5 Stormwater – Phase II – Non-traditional MS4

The State Water Board adopted Order 2013-0001-DWQ, which authorizes stormwater discharges from small MS4s and non-traditional MS4s. On December 19, 2017, the State Water Board amended Order 2013-0001-DWQ to incorporate TMDL provisions so that such provisions now applied to Phase II entities. For the LE/CL Nutrient TMDL, March Air Reserve Base (March ARB) was identified as a responsible entity.¹³ Attachment G to Order 2013-0001-DWQ indicates that at the time of State Water Board adoption, March ARB had already committed to participate in the LECL Task Force as an active paying member. By joining the LECL Task Force, March ARB agreed to commit to cooperative implementation actions, monitoring actions, and special studies.

In addition to LECL Task Force participation to meet certain TMDL implementation provisions, March ARB must also demonstrate compliance with the Canyon Lake and Lake Elsinore WLAs by

¹³ See Attachment G to Order 2013-0001-DWQ as amended by Order 2017-XXXX-DWQ.

December 31, 2020.¹⁴ Under Order 2013-0001-DWQ, March ARB may demonstrate compliance with final WLAs if March ARB meets one or more of the criteria as specified in Section F.5.i.1.(ii) of the Order.¹⁵ Out of the seven (7) criteria specified, two are applicable here. They are as follows:

- Where a mass-based wasteload has been allocated to an individual or jointly to a group..., the
 permittee demonstrates, through an approach approved by the Regional Water Board or its
 designee, that the permittee's discharge is attaining the individual or joint allocation...;
- The permittee demonstrates the attainment of wasteload allocation through other factors as described by the specific TMDL(s) and as approved by the Regional Water Board or its designee.¹⁶

This report is intended to provide the information necessary demonstrate that March ARB is in compliance with WLAs.

¹⁴ Attachment G to Order 2013-0001-DWQ as amended by Order 2017-XXXX-DWQ, p. 72.

¹⁵ Attachment G to Order 2013-0001-DWQ as amended by Order 2017-XXXX-DWQ, p. 107.

¹⁶ Attachment G to Order 2013-0001-DWQ as amended by Order 2017-XXXX-DWQ, p. 107

Section 2

TMDL Implementation Program

The LECL Task Force collectively and dischargers individually have implemented numerous projects in the San Jacinto River watershed, Canyon Lake and Lake Elsinore to support efforts to comply with the interim and final TMDL compliance targets. The sections below describe the key projects implemented since the TMDL adoption and ongoing efforts to manage nutrients throughout the watershed.

2.1 Lake and Watershed Monitoring Program

The adopted LECL Nutrient TMDL required stakeholders to implement a long-term surveillance and monitoring program. Specifically, Task 4 of the TMDL Implementation Plan required stakeholders to prepare and implement a Nutrient Monitoring Program that included the following elements:

- A watershed-wide monitoring program to determine compliance with interim and/or final nitrogen and phosphorus allocations.
- A Lake Elsinore in-lake nutrient monitoring program to determine compliance with interim and final nitrogen, phosphorus, chlorophyll-*a*, and DO numeric targets.
- A Canyon Lake in-lake nutrient monitoring program to determine compliance with interim and final nitrogen, phosphorus, chlorophyll-*a*, and DO numeric targets.
- An annual report summarizing the data collected for the year and evaluating compliance with the TMDL, due August 15 of each year.

Following adoption of the LECL Nutrient TMDL, LESJWA developed a monitoring program to support TMDL implementation (LESJWA 2006). The Santa Ana Water Board subsequently approved the program's monitoring plan (2006 Monitoring Plan) (Resolution No. R8-2006-0031) and the LECL Task Force implemented the program from April 2006 through June 2012. This initial monitoring program focused on collecting data to better understand in-lake processes, watershed nutrient sources and compliance monitoring.

The 2006 Monitoring Plan utilized the monitoring stations recommended by the 2004 nutrient TMDL: (a) Three stations in Lake Elsinore; (b) four stations in Canyon Lake; and (c) five watershed stations. In-lake sampling was performed monthly October through May and biweekly June through September. Watershed sampling was conducted during three storm events per year. For both in-lake and watershed sampling, data were collected for a suite of nutrients, biochemical and chemical oxygen (BOD/COD) demand and total suspended solids (TSS). Additionally, in-lake samples were analyzed for general water quality properties (pH, specific conductance, DO, and temperature), chlorophyll-*a*, and dissolved/total organic carbon (DOC/TOC). In-lake samples were collected as depth-integrated samples, while watershed stormwater samples were flow-weighted composites.

This initial monitoring approach continued through July 2010. Following a review of available data that indicated consistent and similar nutrient concentrations and physical water quality parameters among the three sampling sites in Lake Elsinore and two sites in the eastern arm of Canyon Lake, the 2006 Monitoring Plan was revised for the 2010-2011 sampling season. Per the approved monitoring program revisions (Resolution No. R8-2011-0023), *in-situ* water quality parameters continued to be recorded at all original stations and the watershed sampling program remained unchanged. However, analytical sampling was reduced to one location in Lake Elsinore (LE02; center of lake) and three locations in Canyon Lake (CL07, CL08, and CL10) and selected non-nutrient analytes were no longer analyzed (i.e. BOD, COD, TOC, DOC).

Monitoring continued under the revised program through June 2012. At that time, in agreement with the Santa Ana Water Board, while watershed monitoring would continue, in-lake monitoring would be discontinued temporarily to redirect TMDL program funding towards nutrient reduction actions including lake stabilization and fishery management in Lake Elsinore and alum application in Canyon Lake.

In April 2015, the LECL Task Force prepared a draft revised monitoring work plan to support ongoing TMDL implementation. This plan reevaluated current conditions and established a revised monitoring framework to better assess water quality trends towards meeting the TMDL numeric targets. Specific goals of the final work plan included (Haley & Aldrich 2016):

- Evaluate the status and trends toward achieving TMDL response targets in both lakes;
- Determine how to quantify the degree of influence from natural background sources; and
- Distinguish and quantify the external pollutant loading originating from watersheds draining to the lakes.

Watershed monitoring remained unchanged, but based on the above goals, revisions to the previous in-lake monitoring program included:

- Sampling frequency reduced to bi-monthly (every other month) for both lakes.
- Full water column profiles of physical water quality parameters (pH, DO, specific conductance, and temperature) recorded at 1-m intervals in both the morning and afternoon at each in-lake station. These two measurement times were performed to better capture the diurnal cycle of DO and pH as influenced by algal activity. These data have been used to assess both temporal and spatial variability and their comparability to data obtained from the currently installed *in-situ* data sondes operated by EVMWD.
- Acquisition of satellite imagery (30-m resolution) concurrent to in-lake sampling events to assess lake-wide estimates of chlorophyll-*a* and turbidity in both lakes.

The monitoring program was further revised by the LECL Task Force to include the following:

• Two additional annual monitoring events in Lake Elsinore, so that monthly sampling would occur during the summer period (June – September). This enhanced monitoring in Lake
Elsinore was initiated given the TMDL criteria for chlorophyll-*a* are based on a summer average, as opposed to an annual average for other constituents.

- Total and dissolved aluminum analyzed at all stations in Canyon Lake to evaluate any influence from alum treatments which have been performed biannually each year beginning in 2013.
- Analysis of the full constituent list at Canyon Lake Station CL09 during each sample event.
- Increased resolution satellite imagery (10-m resolution) was incorporated into the monitoring program for Canyon Lake. Finer satellite resolution allowed for a more accurate estimation of chlorophyll-*a* and turbidity in the eastern arm of Canyon Lake, as well as providing three times the number of lake-wide data points for data analysis.

The LECL also voluntary conducted monitoring for cyanobacteria (blue green algae) blooms using both in lake sampling and high resolution satellite imagery at Lake Elsinore to obtain at least a one year record of evaluation of Harmful Algae Blooms (HABs) in anticipation of future monitoring orders or regulations that pertain to HABs.

2.2 Canyon Lake Projects

Alum addition, an in-lake nutrient control BMP, has been implemented in Canyon Lake since 2013. When added to water, alum forms an aluminum hydroxide floc, which then binds with phosphorus in the water column and settles to the lake bottom. Once on the lake bottom, any remaining binding capacity is used to sequester a portion of phosphorus in porewater. The portion of phosphorus bound with aluminum on the lake bottom is inert and insoluble. It is no longer available for cycling back to the water column by processes of desorption and diffusive flux. The LECL Task Force, with partial support from a Proposition 84 Grant, implemented a pilot project to demonstrate the efficacy of alum addition for reducing bioavailable phosphorus as an algae control strategy in Canyon Lake. Following satisfactory completion of California Environmental Quality Act (CEQA) requirements, carefully controlled doses of alum have been applied via surface spreading twice per year in Canyon Lake since September 2013.

Table 2-1 summarizes the amount of alum added and estimated phosphorus reduction for each of the fifteen alum completed applications. Estimated TP reduction is based on an assumed ratio of 150:1 for alum (as dry alum) applied to phosphorus sequestered (or ~15:1 as Al:Al-P). The magnitude of TP reduction achieved with alum additions is dependent upon the water chemistry and can vary significantly between sites. Several studies have estimated this ratio from samples of bottom sediments to determine the ratio of applied aluminum (Al) to aluminum-bound phosphorus (Al-P) in settled floc or lake bottom sediment, with ranges of 4.9 to 12.6 (Huser et al. 2010), 9.8 to 11.4 (Rydin et al. 2007), and 4.4 to 12.0 (Barr 2008). Thus, a ratio of ~15:1 in estimation of TP reduction credits for Canyon Lake may be considered conservative. To date, 2,400 metric tons of alum have been applied and ~15,600 kilograms (kg) of phosphorus have been neutralized in Canyon Lake. The annual average reduction of ~2,100 kilogram/year (kg/yr) of phosphorus reduction is sufficient to offset all excess watershed loads to Canyon Lake and thereby allow all participating LECL Task Force entities with a WLA or LA to comply with the 2004 TMDL.

Date	Main Lake	East Bay	North Ski Area	Total	TP Removed (kg/event)
9/15/2013	140,000	50,000	0	190,000	1,267
2/10/2014	70,000	50,000	0	120,000	800
9/22/2014	140,000	50,000	0	190,000	1,267
4/9/2015	0	50,000	0	50,000	333
9/8/2015	169,900	42,100	0	212,000	1,413
5/9/2016	80,300	50,700	11,200	142,200	948
9/26/2016	142,000	35,800	8,400	186,200	1,241
2/22/2017	80,600	51,400	11,300	143,300	955
9/25/2017	131,600	28,700	7,000	167,300	1,115
2/12/2018	72,300	37,800	8,800	118,900	793
9/15/2018	145,900	38,700	9,000	193,600	1,291
3/25/2019	80,300	67,100	11,200	158,600	948
10/21/2019	121,000	22,455	5,600	149,055	994
4/14/ 2020	80,000	50,000	11,000	141,000	940
10/12/2020	145,900	38,700	9,000	193,600	1,291
Total	1,599,800	647,055	92,500	2,339,355	15,596
Annual Average	213,307	86,274	12,333	311,914	2,079

 Table 2-1. Alum Applications (Kilograms Dry Alum) by Lake Segment and Estimated TP Removed During

 Each Application Event (2013-2020)

Water quality has improved dramatically since the alum program began. TP levels have steadily decreased at all monitoring sites since the first alum treatment and these sites now meet the final TMDL TP target (see section 3.1.2. below). On average, conditions throughout Canyon Lake have been historically nitrogen-limited. However, since 2015 as a result of alum application, Canyon Lake has shifted to a more phosphorus-limited condition, an important goal for this water quality management approach. Specifically, pre- and post-alum application program N:P ratios are as follows:

- Pre alum addition Long-term (2011-2013) average N:P ratio of 4.6 and 6.5 in Main Lake and East Bay respectively.
- Post alum addition Long-term (2014 2020) average N:P ratio of 24.8 and 24.7 in Main Lake and East Bay, respectively.

Routine water quality monitoring is performed at four lake stations before and after each alum application. Two of the sampling sites are located in the main body of Canyon Lake (CL07 and CL08) and two are located in the East Bay (CL09 and CL10). **Figure 2-1** shows the decline in TP concentrations at all stations immediately following each alum application. The greatest reductions shown follow wet seasons with above average rainfall when TP in the water column is elevated prior to the alum additions. In events when TP concentrations were low prior to alum addition, most of the alum floc settles to the lake bottom and serves to bind porewater phosphorus, as has been shown in previous experiments (Cooke et al., 1982). This is apparent from sediment nutrient samples collected in 2014 after the first four alum applications in Canyon Lake, which showed a significant increase in aluminum bound phosphorus and a decline in mobile (labile and iron bound) partitions (**Figure 2-2**).

2.3 Lake Elsinore Projects

For more than 10 years, multiple in-lake BMPs have been implemented to improve water quality in Lake Elsinore. These BMPs include:

- Lake level stabilization program, described in Section 2.3.1
- Lake Elsinore Aeration and Mixing System (LEAMS), described in Section 2.3.2
- Fishery management, described in Section 2.3.3

2.3.1 Lake Level Stabilization Program

While the implementation of Lake Elsinore Management Plan (LEMP) was expected to stabilize lake water levels and improve water quality, variations in the lake level and water quality can still be substantial in Lake Elsinore. This is partly due to the location of the levee with toe elevation at 1240', climate patterns, but also as a result of runoff retention within Canyon Lake. Since 2007, EVMWD has provided supplemental makeup water to maintain lake levels in Lake Elsinore. Sources of supplemental water include EVMWD's tertiary treated reclaimed water (~95 percent of total supplemental water) and production from non-potable wells on islands in the lake (~5 percent of total supplemental water) (**Table 2-2**). These supplemental sources of water are largely due to grant funding provided by the State of California Proposition 13 Water Bond to LESJWA and then to local agencies. These included funding for a permanent recycled water pipeline from EVWMD WWTP to the lake, phosphorus removal facilities at the EVMWD WWTP and retrofits made to the pumping facilities of the non-potable island wells.



Figure 2-1. Depth-Integrated Total Phosphorus Concentrations in Canyon Lake Before and After Alum Applications



Figure 2-2. Comparison of Canyon Lake Bottom Sediment Samples Showing Changing Partitions of Phosphorus from before (2006) to after (2014) alum application (Figure from Anderson 2016) (M1 – M3 = Main Body Sediment Samples; E1 – E2 = East Bay Sediment Samples)

Year	Reclaimed Water (AFY)	Island Wells (AFY)	Total Supplemental Volume (AFY)
2007	2,361	0	2,361
2008	5,365	359	5,724
2009	5,470	404	5,874
2010	6,039	385	6,425
2011	1,920	6	1,925
2012	5,499	295	5,794
2013	5,843	264	6,106
2014	5,778	298	6,075
2015	1,930	50	1,981
2016	5,075	90	5,165
2017	6,818	175	6,993
2018	6,553	106	6,659
2019	7,501	148	7,649
2020	6,034*	302*	6,336
Total	72,186	2,881	75,066
Annual Average	5,156	206	5,362

Table 2-2. Volume Supplemental Water Additions to Lake Elsinore (*Reclaimed Water data through October 31, 2020; Island Well data through November 25, 2020)

The benefit of supplemental water additions to Lake Elsinore was evaluated using the linkage analysis for the currently proposed TMDL revision. This analysis found that Lake Elsinore would have been completely dry in 2014 without the collective hydrologic control achieved from implementation of LEMP and supplemental water additions (**Figure 2-3**). A dry lakebed condition is not supportive of designated beneficial uses in Lake Elsinore. Moreover, other public health issues associated with periods of lakebed desiccation, such as severe gnat infestations and dust, were prevented from occurring because of supplemental water additions that effectively stabilized lake levels.

2.3.2 Lake Elsinore Aeration and Mixing System (LEAMS)

LESJWA implemented an in-lake aeration system to improve aeration and circulation throughout the lake to better distribute oxygen levels in the water column. The in-lake aeration/mixing system was installed in Lake Elsinore in two phases. The first phase, implemented by the City of Lake Elsinore with Proposition 13 grant funding from LESJWA in 2005, involved the construction of axial flow water pumps to improve lake circulation. A second phase, implemented by EVMWD with LESJWA grant funding in 2007, involved construction of an in-lake aeration project designed to pump air through a system of twelve perforated pipelines submerged along the bottom of the lake (**Figure 2-4**). The intent of the aeration system is to improve circulation so that oxygen levels are better distributed throughout the water column. The bubble diffuser "lifts" oxygen-deficient bottom waters to the surface where it can be re-saturated through direct contact with the atmosphere. The LEAMS system began operating in 2008 and is operated for a minimum of 2000 hours annually.



Figure 2-3. Measured Water Level in Lake Elsinore versus Modeled Water Level without Supplemental Water Additions (dry lakebed condition occurs when water level drops to 1225')



Figure 2-4. Aeration Distribution Pipelines Submerged in Lake Elsinore (Source: Compliance Assessment for Interim Response Targets)

Maintaining oxygenated conditions at the lake bottom provides a significant reduction in the rate of sediment nutrient flux, or internal loading. The TMDL was developed assuming that operation of LEAMS would reduce internal TP load by 35 percent, a reduction of 11,606 kg/yr. Participation in the LEAMS operation is one way the watershed stakeholders offset loads of TP in excess of the WLA. In addition to providing a TP offset, LEAMS is estimated to provide removal of 44,000 kg/yr of TN (Risk Sciences 2020). In the case of this 2011-2020 compliance period, measured TP and TN loads did not exceed allocations in the 2004 TMDL, thus no additional offsets from LEAMS (other than those already recognized in the 2004 TMDL allocations) are needed in this compliance demonstration (see Section 3.2.1 for more detail). The LEAMS system operations is funded by the City of Lake Elsinore, EVMWD and the County of Riverside, along with TMDL nutrient offset credits and funding provided by LECL Task Force members.

2.3.3 Fishery Management Project

LESJWA and the LECL Task Force has worked collectively to improve water quality in Lake Elsinore through fishery management, habitat improvements and water quality monitoring. These early efforts funded by the Proposition 13 grant to LESJWA included development of a fisheries management plan (EIP Associates 2005) and implementation of a carp control program, sport fish stocking program, and periodic aquatic biological community surveys. At that time, the LECL Task Force identified carp removal as the highest priority fishery management strategy, given the impact carp can have on the aquatic environment. Potential impacts from carp include: (1) increasing nutrient loadings to the water column, thus enhancing algal production; (2) competing with desirable sport fish for food; (3) preventing many species of sport fish from successfully reproducing; and (4) preventing rooted aquatic vegetation from becoming established (EIP Associates 2005).

Carp can contribute to increased nutrient loading to the water column as a result of their foraging behavior. This behavior causes bioturbation or the resuspension of sediments from the lake bottom. Resuspended sediments can cause releases of bioavailable nutrients to the water column. Bioturbation rates in Lake Elsinore have been estimated to account for a lake-wide average of approximately 2 mg/m²/day TP and 5 mg/m²/day TN in Lake Elsinore (LESJWA 2018). Studies have shown that reductions in carp populations would be expected to provide corresponding reductions in TP. For example, a 2/3 reduction in the 2000-2001 carp population to less than 125 fish/acre (309 fish/hectare) may have reduced bioturbation TP loading rates by 1.3 mg/m²/day TP and 3 mg/m²/day TN (Anderson 2006). These estimated reductions in TP and TN loading rates, resulting from reductions in carp populations, were incorporated into models used to develop proposed revisions to the 2004 TMDLs (LESJWA 2018).

While EIP Associates (2005) identified carp removal as an important element of a fishery management program for Lake Elsinore, carp removal actually began in 2002 when LESJWA and the City of Lake Elsinore initiated a multi-year demonstration project to reduce the carp population. From 2003 to 2008, a total of 1.3 million pounds of carp was removed from the lake and by the end of 2008, the estimated carp population was 138 fish per acre (City of Lake Elsinore 2008). The carp removal program was so successful that it was suspended in 2008 because the carp population was so low that the carp could no longer be captured efficiently.

The LECL Task Force completed a draft technical report to support revisions to the existing TMDL in 2018 (LESJWA 2018). The proposed Implementation Plan in the Draft TMDL Technical Report includes fishery management as a potentially important component of a long-term TMDL implementation program. To further evaluate how fishery management could be used as a tool to improve water quality in the future, the LECL Task Force commissioned a study in 2019 to assess the current status of the Lake Elsinore fishery (and in particular the carp population) and identify potential management measures to further improve the fishery, supporting aquatic habitat and water quality.

The 2019 fish survey was the most comprehensive survey completed to date in Lake Elsinore and included both fish and plankton surveys (LESJWA 2020). Results from this survey were compared with findings from other surveys dating back to 2002. This comparison showed that the dominant fish species has changed over time. In 2002 and 2003 the fish community was dominated by Common Carp; with other species such as Threadfin Shad, Channel Catfish and Bluegill also common. The most recent survey found that the 2019 fish community is now dominated by Silverside Minnows and Mosquitofish (90% of fish abundance) (LESJWA 2020).

The 2019 survey found that the carp population continues to remain at low levels consistent with the levels previously achieved following implementation of the 2002-2008 carp removal program (**Figure 2-5**). Previous carp removal efforts from 2003 to 2008 reduced carp biomass density from a range of 503 to 1,100 pounds/acre (lbs/ac) in 2003 to only 62 lbs/ac in 2008. The 2019 survey provided the first estimate of carp biomass density in more than ten years. Study findings revealed that the 2019 carp biomass density was similar to that observed in 2008, at approximately 55.3 lbs/ac (see Figure 2-5). Based on these findings, LESJWA (2020) recommended that no additional carp removal be implemented at this time; however, periodic assessment of the carp population should continue to occur to verify that carp biomass density remains low.

In addition, to evaluating the need for additional carp removal, LESJWA (2020) also provided the opportunity to develop additional recommendations for fishery management in Lake Elsinore that could provide long-term aquatic community and water quality benefits. Accordingly, the following recommendations were provided to the LECL Task Force:

Fish Stocking Program

- Incorporate Striped/White Bass hybrids ("Hybrid Bass"), also known as "Wipers", "Palmetto Bass", or "Sunshine Bass," into the Lake Elsinore fish stocking program as this species provides top-down biomanipulation of the aquatic community and has a life history most suitable for Lake Elsinore conditions. In July 2020, the City of Lake Elsinore successfully stocked this target species.
- Continue stocking Black Crappie and Bluegill as survey data suggest that survival of these
 previously stocked species has been good; however, discontinue stocking Channel Catfish,
 Largemouth Bass, and Redear Sunfish due to the apparent poor survival of these species in
 recent years.
- Do not stock any baitfish at this time. Silverside minnows and Mosquitofish are present in high numbers and appear to be reproducing and maintaining a viable population.



Figure 2-5. Carp Biomass Density (lbs/ac) Observed in Late Summer/Early Fall from 2003 to 2019 (from LESJWA 2020).

 Continue to conduct periodic fish surveys to evaluate success of ongoing fish stocking activities, assess the potential to modify the species stocked and evaluate populations of other species.

Habitat Improvements

Habitat improvements can occur through continued efforts to stabilize lake levels (see Section 2.3.3. above). LESJWA (2020) provided additional habitat improvement recommendations for consideration, e.g., through projects designed to reconfigure the shoreline in selected areas to create peninsulas or small coves or even create islands. The outcome of any of these types of macro-habitat modifications would be to (a) increase the amount of available shoreline habitat where fish densities tend to be higher; and (b) provide ancillary water quality benefits. Example projects could include:

Plant rooted aquatic and emergent vegetation to provide (a) spawning habitat for many fish species; (b) habitat for small fish; (c) ambush habitat for large fish; (d) shelter for zooplankton; and (e) nesting habitat and food for waterfowl. In addition, aquatic plants will uptake nutrients otherwise used by algae and reduce resuspension of sediments due to wind and wave action.

• Create physical, non-plant structures to serve as fish habitat, e.g., gravel patches, rock piles, large woody materials, brush piles, or other fish attractors. These structures, which can be placed in deeper water where plants are not able to grow, can provide habitat for larger fish.

2.4 Watershed Nutrient Controls

Since the adoption of the 2004 TMDL, nutrient management in the San Jacinto River watershed has evolved in a significant way to reduce the washoff of nutrients from upstream drainage areas to Canyon Lake and Lake Elsinore. Watershed-based BMPs are currently being implemented by dischargers in the watershed through the implementation of the following Santa Ana Water Board-approved nutrient management plans:

- CNRP Developed collectively by the MS4s to address urban sources of nutrients in the watershed (see additional discussion in Section 1.5.1).
- AgNMP Developed collectively through WRCAC, agricultural landowners of greater than 20 acres prepared this initial plan to address agricultural sources of nutrients in the watershed (see additional discussion in Section 1.5.2).

Both of these nutrient management plans include a combination of watershed BMPs and participation in in-lake nutrient controls. Active participation in the LECL Task Force has been integral to implementation of these plans, allowing for frequent collaboration with the Santa Ana Water Board. The following sections highlight the work of these two groups to reduce washoff of nutrients from the watershed.

2.4.1 MS4 Program

MS4 permittees in the San Jacinto River watershed collaborate with the LECL Task Force to implement stormwater BMPs, oversee operations required for many existing water quality controls, direct routine watershed and in-lake monitoring, and conduct important water quality studies to assess the effectiveness of existing controls. Following is a discussion of the key watershed BMPs that generate nutrient reduction credits in the watershed.

Street Sweeping and Debris Removal

Street sweeping and MS4 facility debris removal are key CNRP implementation activities that reduce a significant source of nutrients in urban environments. The CNRP compliance analysis used a continuous simulation model of exponential pollutant buildup and washoff to estimate the nutrient load reduced as a result of street sweeping and debris removal program.¹⁷ The model reduces the amount of nutrient accumulation on streets and within MS4 facilities prior to storm events, available for potential washoff. The model provides an estimate of 0.15 kg/yr TP and 0.5 kg/yr TN of nutrient load avoided for every metric ton of sediment removed from streets or catch basins by the MS4 program. This credit basis was applied to reported 2020 street sweeping and debris removal by cities in the San Jacinto River watershed after discounting jurisdictional area within the watershed (**Table 2-3**). The total load reductions estimated in Table 2-3 are about

¹⁷ See Section 3.3.1 of the CNRP for detailed description of the model approach.

twice the baseline amount used in the CNRP based on MS4 program reporting in 2005-2010, which is due to enhancement of these important programs.

I. wiedistics	Sediment (Metric	: Removal Tons/yr)	Nutrient Load Reduction	
Jurisalction	Street Sweeping	Catch Basin Cleaning	TP (kg/yr)	TN (kg/yr)
Beaumont	275	14	43	145
Canyon Lake	18	2	3	10
Hemet	821	770	239	796
Lake Elsinore	426	346	116	386
Menifee	478	121	90	300
Moreno Valley	3482	79	534	1780
Murrieta	0.03	0	0.005	0.015
Perris	974	31	151	502
Riverside	29	3	5	16
Riverside County	781	740	228	760
San Jacinto	388	131	78	259
Wildomar	1	0	0.1	0.3
TOTAL	7674	2235	1486	4954

Table 2-3. Estimated Watershed Nutrient Washoff Reduction from Street Sweeping and MS4Facility Debris Removal by MS4 Permittees

Structural BMPs in New Development Water Quality Management Plans (WQMP)

Section XII of the Riverside MS4 Permit includes requirements for development projects to manage stormwater with post-construction BMPs. Thus, as urban development in the San Jacinto River watershed continues, additional stormwater BMPs will be implemented that are expected to reduce downstream nutrient loads to Lake Elsinore and Canyon Lake from current levels. The net reduction of nutrient loading to the downstream lakes because of a development project incorporating stormwater BMPs must account for the predeveloped condition of a site. For example, if a project involves redevelopment of an existing commercial property, there will be a net reduction in load from site modernization and stormwater capture. Conversely, if the project site was previously undeveloped, stormwater BMPs serve to prevent new excess nutrient washoff associated with the project from reaching the downstream lakes.

To date, stormwater BMPs have been deployed to capture and infiltrate or treat/release runoff from 9,400 acres of urban land use, representing ~10 percent of total urban land use in the San Jacinto River watershed. These stormwater BMPs reduce excess nutrient load from predeveloped land uses by 401 kg/yr TP and 1,162 kg/yr TN (**Table 2-4**).¹⁸

¹⁸ See Section 3.3.2 of the CNRP for a detailed description of the assumptions employed to estimate load reductions from post construction stormwater BMPs in WQMPs.

	Drainage Acres to	Nutrient Load Reduction		
Dest Management Practice	Stormwater BMPs	TP (kg/yr)	TN (kg/yr)	
Stormwater Infiltration	2,922	164	842	
Extended Detention	4,424	186	308	
Hydrodynamic Separator	1,133	21	42	
Vegetated Swale	333	9	0	
Media Filters	548	21	0	
Total	9,362	401	1,192	

Table 2-4. Estimated Watershed Load Reduction from WQMP Post Construction BMPs by MS4 Permittees

Stormwater quantity management requirements present a paradox in the San Jacinto River watershed that requires careful consideration as related to TMDL implementation. Water quality within Lake Elsinore is closely correlated to lake level, which is sensitive to the volume of watershed runoff that reaches the lake. Thus, stormwater runoff volume that reaches the downstream lakes is valuable to supporting MUN, REC1, and WARM beneficial uses, as applicable to each lake (LESJWA 2018). Historically, lake level fluctuations in Lake Elsinore have been so severe during extended periods of drought that there was a regular occurrence of a completely dry lakebed (LESJWA 2018). More recently, without efforts to stabilize lake levels through the addition of reclaimed water (see Section 2.3.1 above), Lake Elsinore would have been completely dry during the 2015-2016 period as a result of an extended drought period (LESJWA 2018). Retention of stormwater runoff on-site in the watershed in order to reduce nutrient washoff may exacerbate the problem of limited water quantity within Lake Elsinore. Using in-lake water quality controls to offset excess external nutrient loads allows for optimal benefits from stormwater to be achieved; however, MS4 permit requirements encourage development projects to infiltrate runoff, which reduces the volume of stormwater that reaches Lake Elsinore from the San Jacinto River watershed.

2.4.2 Agricultural Program

Within the San Jacinto River watershed, agricultural operators with greater than 20 acres of production are subject to the CWAD. A key requirement of the CWAD involved development and effective implementation of an AgNMP. Implementation of the AgNMP involves a combination of manure management, conservation tillage, winter cover crops, and buffers. Surveys of operators in the San Jacinto River watershed found that many growers have voluntarily incorporated nutrient controls. WRCAC, which prepared the initial AgNMP on behalf of its agricultural and dairy members, has developed a new management system, the Agricultural Surface Runoff Water Quality Index (WQIag). The purpose of this tool is to properly track and credit use of field operations and conservation practices designed to reduce nutrients in surface runoff. Higher index values are estimated for fields likely to have better water quality. Multiple factors are used to compute an index, including:

- Slope
- Soil properties
- Vegetative cover
- Nutrient application

- Tillage practices
- Pest management
- Irrigation
- Drainage

The WQIag is used to create a performance-based distribution of in-lake BMP offset fees to be used within a bubble compliance approach. Fields with the higher tier WQIag will receive a discount from the bubble compliance per acre average offset fee. Lower tier WQIag will pay at rates higher than average per acre for the bubble compliance. The offset fee discounts are intended to motivate farmers to manage fields to achieve the highest possible WQIag. Over time, edge-of-field monitoring data will be obtained and used to relate an WQIag to nutrient loading to surface waters. This outcome will allow for a more direct assessment of per operator watershed load reductions and more refined estimates of offset demands from in-lake BMPs.

Agricultural land area in the San Jacinto River watershed has steadily declined since the adoption of the LECL Nutrient TMDL. The source assessment that was employed in the development of the 2004 TMDL relied upon conditions representative of the mid-1990s - an agricultural acreage of ~77,000 acres and associated nutrient loading from all agricultural lands (including < 20-acre parcels). More recent mapping updates for agricultural lands subject to the CWAD (parcels > 20 acres) in 2007, 2010, 2014, 2016, and 2020 shows the extent of the reduction of agricultural land use since 2007 (**Figure 2-6**).

Nutrient load estimates for agricultural lands in the San Jacinto River watershed have been developed to support (1) preparation of the 2004 TMDL (Santa Ana Water Board 2004); (2) proposed revisions to the 2004 TMDL using 2014 land use map data (LESJWA 2018); and (3) the current update based on new land use mapping data to support this 2020 compliance assessment report. **Figure 2-7** illustrates the findings from each of these source assessments. Reductions in nutrient loads from agricultural land uses over time are apparent. It is also important to note that different methods have been employed in the various source assessments and associated analyses, described as follows:

- The source assessment for the 2004 TMDL did not parse different categories of agriculture or account for size (i.e., the 20-acre threshold applicable to the CWAD). Watershed modeling involved application of the Loading Simulation Program C+ (LSPC) with calibration of nutrient washoff coefficients to a single monitoring station downstream of a predominantly agricultural subwatershed. Nutrient load estimates for agricultural land uses, included in the 2004 TMDL source assessment, were 4,474 kg/yr and 11,428 kg/yr for TP and TN, respectively.
- The proposed revision to the 2004 TMDL included an updated source assessment that included distinct categories of agricultural land uses including, irrigated cropland, nonirrigated cropland, pasture/hay, orchards/vineyards, and other livestock (LESJWA 2018). Agricultural land uses on parcels < 20 acres were also evaluated, but separately from lands that are subject to the CWAD.







Figure 2-7. Changes in Nutrient Load Estimates (TP and TN) from Agricultural Lands (greater than and less than 20 acres) in the San Jacinto River Watershed from mid-1990s to 2020 (see text for discussion of varying methods).

The watershed source assessment in the Draft TMDL Technical Report employs a simple method for hydrology and nutrient loading. Nutrient washoff concentrations from the watershed were estimated using data collected during a Conservation Innovation Grant funded study of soil health (mg/kg of nutrients in soils) from a representative sampling of agricultural fields in the San Jacinto River watershed (Keiser and Associates, 2017). Literature values were used to approximate soil loss to yield a mass of nutrients in washoff from agricultural fields (LESJWA 2018, see Section 4.1.4.3). The source assessment accounted for watershed position when conveying washoff from upstream areas to the downstream lakes. This same estimation method was applied for different land use mapping updates in 2014 and 2020.

Allocations of allowable load to both Canyon Lake and Lake Elsinore were included in the 2004 TMDL. Allocations in the 2004 TMDL were developed based on a much greater acreage of agricultural lands than exist in the San Jacinto River watershed today, as described above. Moreover, the 2004 LECL Nutrient TMDL allocation for agriculture did not differentiate between parcels above or below the 20-acre threshold for the CWAD.

For CAFOs, the Dairy Order contains numerous discharge prohibitions that are designed to prevent the discharge of dairy waste or process wastewater to surface waters. Stormwater discharges from CAFOs are also prohibited except in the case of extreme storm events (e.g., those only expected to occur no more than once every 25 years or so). CAFOs are also required to implement provisions of a Santa Ana Water Board approved Engineered Waste Management Plan and a Nutrient Management Plan. Compliance with the Dairy Order renders potential discharges of nutrients from dairies to be unlikely, or de minimus at most. In addition, nearly all of the dairies in the watershed are located in the area that flow into Mystic Lake, which means that these discharges rarely make it all the way down to Canyon Lake.

2.4.3 Controls to Reduce Impacts from Fire in the Watershed

Wildfires can potentially have a significant impact on water quality in any watershed. While there are many human causes of wildfire, many fires have natural origins. Wildfires of natural origin in southern California are a common occurrence. Moreover, regional fire activity can vary from year to year due to climatic variability and phasing of El Nino and La Nina cycles with the area burned increasing during La Nina periods (Stephens et al 2007).

Fires regularly occur in the San Jacinto River watershed and can have a significant impact on water quality in Canyon Lake and Lake Elsinore. When these occur, local agencies implement BMPs to minimize fire impacts on these and other waterbodies. The Holy Fire in the Lake Elsinore watershed provides an example of a fire event and how BMPs minimized downstream water quality impacts.

The Holy Fire began in the hills northwest of Lake Elsinore on August 6, 2018 and burned approximately 4.1 square miles (sq. mi.) of watersheds draining to the lake (**Figure 2-8)**. The following winter, the area received approximately 20 inches of rainfall from October 4, 2018 through February 14, 2019 causing mobilization of soils from the burn area. While the RCFCWCD

debris basins captured much of the coarser suspended sediment and bed load from the debris flows, removing an estimated 136,781 cubic meters (m³) of post-fire mobilized sediment (and approximately 7,530 tons of TN and 120 tons TP in the process), some concentrated fine sediments were able to make it through the spillways/slotted drains during the larger rain events. This material, along with sediment flows resulting from significant erosion that occurred below the debris basins, created a new delta at the north end of Lake Elsinore at the mouth of Leach Canyon Channel (**Figure 2-9**).



Figure 2-8.The Holy Fire in the Hills Above Lake Elsinore, August 9, 2018 (www.nbcsandiego.com)

Shortly after a large storm in December 2018 dropped two inches of rain in the burn area, a large fish die-off (primarily Common Carp and Threadfin Shad) was observed in Lake Elsinore which continued through January 2019. Based on multiple lines of evidence this die-off was attributed



Figure 2-9. Aerial View of Sediment Deposition into Lake Elsinore from the Leach Canyon Channel Following the Holy Fire and Subsequent Rainfall Events, January 8, 2019 (Courtesy of Alta Environmental).

to the golden algae, *Prymnesium parvum*, a species not previously observed at high densities in the lake. In response, the City of Lake Elsinore and Santa Ana Water Board embarked on an effort to characterize the sediment plume deposited in Lake Elsinore to determine if the runoff from the watershed might (a) pose a threat to public health; (b) have contributed to the fish die-off; and (c) might result in a setback in progress made towards compliance with the LECL Nutrient TMDL.

Sediment samples were collected on April 15-16, 2019 to first help define the lateral extent of the sediment plume. This effort was accomplished by collecting a series of sediment cores along transects

extending into the lake from the mouth of Leach Canyon Channel. Once the extent of the sediment delta was delineated, water and sediment samples were collected for chemical and toxicological analysis from: (a) three stations within the plume area (Plume 1, 2, 3 at increasing distances from the mouth of Leach Canyon Channel), (b) a public beach just east of the channel mouth (Beach), and (c) a station outside of the plume area (LE02).

In general, the depth of freshly deposited sediment associated with the area burned by the Holy Fire exhibited an inverse relationship to the distance from the mouth of the Leach Canyon Channel. The thickest layer of newly deposited sediment was observed at the channel mouth which was estimated to be at least 40-centimeters (cm) deep though decreasing in thickness rapidly away from the mouth. Measurable newly deposited sediment was estimated to extend out to a maximum of 550 m from the mouth of the channel. However, based on in-lake observations of runoff and turbidity during the larger storm events, it is likely that fine material was transported in the water column such that it influenced the entire lake to some degree.

Phytoplankton identification/enumeration, and water and sediment chemistry showed few notable spatial patterns. With the exception of TOC, TN, total Kjeldahl nitrogen (TKN) and ammonia, other analytes measured in the sediments did not follow a clear and consistent spatial pattern relative to distance from the Leach Canyon Channel. All of these constituents increased in concentration from the mouth of Leach Canyon Channel towards the center of the lake (**Figure 2-10**). This gradient is opposite of what might be expected if new sediment associated with the Holy Fire was a major contributor of these constituents. Lakes, particularly Lake Elsinore as a terminal lake, are typically traps for watershed inputs, naturally accumulating organic particles through settling. Thus, the background level of organic material in Lake Elsinore may be naturally elevated in deeper central portions of the lake relative to surrounding shallower margins, with the natural background concentrations overwhelming contributions in fresh sediment deposited after the Holy Fire. It is possible that some of the finer materials from the fire burn area held higher concentrations of nitrogen compounds and preferentially settled further out into the lake; however, cores collected from these locations indicated limited to no observable deposition.

In contrast to TOC and the nitrogen compounds, TP and total solids decreased with distance from Leach Canyon Channel. The highest concentration of TP (1000 milligrams/kilogram (mg/kg) was observed in the sediment closest to the mouth of the channel (Plume 1), with a noteworthy drop in concentration at stations further from the channel mouth (Figure 2-10). The elevated level of TP at the mouth (19% higher than background concentrations in Lake Elsinore as reported by Anderson (2010)) may be due to runoff and associated sediments containing a higher proportion of phosphorus-based flame retardants (i.e., Phos-Chek) used to fight the Holy Fire.

No exceedances of California Toxic Rule (CTR) water quality objectives for trace metals was observed. However, acute and chronic toxicity was observed in samples of the water column collected from Lake Elsinore. Significant acute toxicity of the water flea, *Ceriodaphnia dubia*, was observed with the greatest toxicity observed at stations nearest the mouth of Leach Canyon Channel. Impacts on survival of the Fathead Minnow, *Pimephales promelas*, were only observed at one station near the channel (Beach site); however; the sublethal growth endpoint of *P. promelas* was impacted at all but one sampling station. Survival of *Hyallela azteca* was not affected after a 10-day exposure to all site sediments, however slightly reduced growth was observed at a single station (Beach) near the mouth of the Leach Canyon Channel.



Figure 2-10: Summary of Sediment Total Phosphorus and Total Nitrogen Concentrations Relative to Distance from Leach Canyon Channel Mouth (Note: Dotted horizontal lines represent the mean of 28 Lake Elsinore sediment samples collected in May 2010 (Anderson 2010)

Water and sediment chemistry results showed no significant correlations to observed toxicity and the only cyanotoxin detected in water samples was microcystin at very low levels. Although minimal scientific literature is available, it is possible that the cyanotoxins measured were toxic to the sensitive life-stage of the organisms used in this study at levels below their analytical detection limits. In a study of golden algae toxicity, Hambright (2012) noted that while fish kills generally are observed at golden algae densities above 20,000 cells/mL, much lower densities could prove harmful to herbivorous zooplankton (such as *C. dubia*). It is possible that even with the lower densities of golden algae (relative to the January 2019 values) observed at the three stations (1,963 to 3,142 cells/mL), they were able to cause an adverse effect to *C. dubia*, *P. promelas*, and *H. azteca*. Although the golden algae *P. parvum* was only present as a small fraction of the total algal community at each station in samples collected in April 2019 for this study (<0.11%), their concentration, or residual toxins from the prior bloom, may have still been sufficient to cause the water column toxicity observed during this follow-up study.

The data collected, and the characterization of the sediment plume deposition reported herein, facilitated understanding of the potential impacts of the sediment runoff from the Leach Canyon Channel to Lake Elsinore following the Holy Fire. Several conclusions were made from the study:

• From the data collected, there is no indication of a potential impact to public health from sediments deposited into Lake Elsinore from the Holy Fire. Cyanotoxins were detected at very

low levels in all water samples, and the select monitored chemical analytes with the potential to impact ecological communities were generally very low relative to established water quality objectives for the protection of aquatic life.

- Analysis of water and sediment quality in areas directly influenced by runoff and sediment deposition related to the Holy Fire found no indication that select physical characteristics and conventional chemicals of potential concern were responsible for the fish die-off observed in Lake Elsinore between December 2018 and January 2019. However, it is highly coincidental that the fish die-off began shortly after large debris flows entered the lake from areas burned by the Holy Fire during two large storm events on November 29 (1.27 inches) and December 5, 2018 (1.95 inches). As a caveat it is important to point out that the water and sediment sampling for this sediment plume evaluation took place approximately four months after the fish die-off, and it is likely that changes in phytoplankton, chemical composition, and toxicity took place during this effort. Multiple independent lines of evidence attributed the fish die-off in Lake Elsinore to the golden algae, which occurred after the series of storms and associated runoff. Whether the golden algae bloom was specifically triggered by runoff and sediment deposition related to the Holy Fire is unknown.
- To determine if progress towards compliance with the current TMDL could be impacted by this fire event, water chemistry results from the one station outside of the sediment plume (co-located with TMDL monitoring Station LE02) collected during this special study were compared with pre-storm data collected from July to October 2018 at LE02 as part of routine TMDL monitoring and previous sediment core study (Anderson 2010). Findings include:
- TN during the special fire study was generally lower than pre-storm TMDL data, likely due to dilution of Lake Elsinore after the season of heavy rains. These observations are supported by post-storm TMDL monitoring results (December 2018 – June 2019), which also show similar decreased levels of TN.
- All other constituents measured in the water column as part of the effort to assess impacts related to the Holy Fire that are in common constituents measured with routine TMDL monitoring (ammonia as nitrogen, orthophosphate, TP, and sulfide) were all within the concentration ranges observed during pre-storm TMDL monitoring.
- Mean lake-wide sediment phosphorus concentrations measured in Lake Elsinore in May 2010 were similar to or greater than those collected at the four study stations elected to assess impacts from the Holy Fire (Anderson 2010). Thus, it is anticipated that there will be no substantial setbacks towards compliance with the LECL Nutrient TMDL for Lake Elsinore as a result of the Holy Fire runoff into the lake. However, the elevated TP in sediments at the mouth of the Leach Canyon Channel relative to sediments further out in the lake, may provide an added source of this nutrient which could have some uncertain impact on water quality should its mobilization from the sediments occur.

Section 3

Compliance Assessment

Compliance with the collective allocations of all watershed sources has been used to demonstrate that implementation of the LE/CL TMDL Implementation Plan through permittee and LECL Task Force efforts are working in tandem to meet the load allocations required by the 2004 TMDL for both lakes. The following sections provide the necessary quantification of measured watershed loads and in-lake offsets to clearly demonstrate that allocations in the 2004 LE/CL Nutrient TMDL have been achieved prior to the December 31, 2020 final compliance date. Despite achieving nutrient load reductions for all external sources, in some instances water quality data collected from Canyon Lake and Lake Elsinore indicate that not all TMDL numeric targets have been met. In 2015, the LECL Task Force previously recognized that problems existed with the linkage between external nutrient load allocations and the in-lake targets and decided to proceed with adaptive management to determine load reductions that would be sufficient to meet water quality objectives within the lakes through a TMDL revision. The Draft Technical TMDL Report provides the technical foundation for proposed revisions to the TMDLs, which includes alternatives analyses and economic considerations for supplemental project implementation.

As discussed previously, land use in the watershed is highly dynamic; more than half of all agricultural lands evaluated in 2004 TMDL source assessment have been converted to open space or urban land uses. Given these changes, it is not practical to associate current estimates of watershed nutrient load from different sources as assigned in the 2004 TMDL. Instead, compliance with the 2020 allocations is evaluated collectively, i.e., total load from all watershed sources is compared with the total allocated watershed load in the 2004 TMDL. This approach is appropriate given that the LECL Task Force members have worked collectively on compliance for almost two decades, which has focused limited resources on joint monitoring and project implementation. This compliance assessment only applies to LECL Task Force members. Other entities in the watershed with responsibilities to meet TMDL allocations are not included this compliance analysis.

3.1 Canyon Lake (2011-2020)

This section provides the compliance analysis for Canyon Lake. Section 3.1.1 evaluates compliance with the applicable WLAs and LAs. Section 3.1.2 provides a summary of water quality observations from 2011 to 2020.

3.1.1 Wasteload and Load Allocations

Mass emission monitoring in the San Jacinto River watershed measures nutrient loads from the majority of the watershed (> 90 percent) to Canyon Lake at two stations: San Jacinto River at Goetz Road (USGS #11070365) and Salt Creek at Murrieta Road (USGS # 11070465) (Wood [2020] provides a detailed summary of the current Canyon Lake monitoring requirements). **Figure 3-1** summarizes the event mean concentrations (EMCs), computed as flow-weighted composites from multiple samples over the hydrograph, from 2011-2020 watershed monitoring activities at Goetz Road (n=22) and Salt Creek at Murrieta Road (n=25). Detailed descriptions of each monitored storm events, including distribution of samples across the hydrograph prior to compositing, are included in the annual monitoring program reports (see

https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#monitoringprogram for annual reports).



Bars represent the median and range of values for all stormwater events sampled within each calendar year.

* No samples collected at Canyon Lake Spillway for 2012-2016, 2018 due to no flows over dam.



Bars represent the median and range of values for all stormwater events sampled within each calendar year.

* No samples collected at Canyon Lake Spiliway for 2012-2016, 2018 due to no flows over dam.

Figure 3-1. Event Mean Concentrations (EMC) from Watershed Monitoring Program (2011-2020). Bar Shows Median of up to Three Sampled Events per Year; range in Black Shows Minimum and Maximum EMC of Sampled Events. (In 2011, 2013, 2014, and 2017 two storms were sampled and in 2015, one storm was sampled.)

For the three wet weather events that are sampled each year, nutrient loads into Canyon Lake are computed as the product of the respective flow-weighted composite EMCs and USGS measured

runoff volume at the San Jacinto River at Goetz Road and Salt Creek at Murrieta Road stations. Nutrient loads from unmonitored storm events are estimated as the product of the annual average of EMCs (n~3) and runoff volume not associated with the monitored storms. The portion of annual runoff that is sampled with the watershed monitoring program represents ~25 percent in wet years and up to ~90 percent in dry years. **Figure 3-2** below illustrates the annual nutrient loads from the watershed to Canyon Lake during the reporting period.



Bars represent the total load of phosphorus for all stormwater events sampled, plus estimated loads of unsampled storms during a monitoring year (June to July).

* No samples collected at Canyon Lake Spillway for 2012-2016, 2018 due to no flows over dam.



* No samples collected at Canyon Lake Spillway for 2012-2016, 2018 due to no flows over dam.

Figure 3-2. Annual Nutrient Loads from watershed runoff to Canyon Lake Main Basin (from San Jacinto River at Goetz Rd), Canyon Lake East Bay (from Salt Creek at Murrieta Rd), and Lake Elsinore (from Canyon Lake spillway).

The 2011-2020 average nutrient load from both the San Jacinto River and Salt Creek into Canyon Lake based is estimated to be 5,835 kg/yr TP and 15,625 kg/yr TN. These measured loads are compared with allocations for watershed runoff and reductions within the lake achieved with alum additions (see Section 2.2) to demonstrate that the final watershed allocation compliance milestones applicable to Canyon Lake TMDL have been achieved (**Table 3-1**).

Nutrient Load (kg/yr)	Measured External Load ¹	Internal Load Offset with Alum	Total Net Load	Allocation to Watershed in TMDL ²	Addl. Load Reduction Required ³
Total Phosphorus	5,835	2,079	3,756	3,845	-89
Total Nitrogen	15,625	0	15,625	22,268	-6643

Table 3-1 Com	nliance with Final Can	von Lake WIA/IAs	for all Watershed	Sources
	phance with rinal can	YUII LAKE VVLAJ LAS	s ioi all watersheu	Juices

¹ Measured load as of December 1, 2020. When data become available, this value will be updated in January 2021 as needed to reflect wet weather through December 31, 2020 to demonstrate compliance with full 10-year period.

² TMDL minus allocations for internal sediment and atmospheric deposition

³ If < or = to zero, compliance with final allocations in TMDL for all watershed sources is effectively demonstrated

3.1.2 Numeric Targets

As shown in section 3.1.1. above, watershed load allocations for TP and TN for Canyon Lake are achieved as required by the LE/CL Nutrient TMDL, and as incorporated into permits and orders. Although the various permits and orders do not require compliance with WLAs and LAs as well as with the LE/CL Nutrient TMDL Numeric Targets, an overview of data and results as compared to the numeric targets is provided here for Canyon Lake.

Overview of Data

Table 1-1 summarized the in lake numeric water quality targets for the Main Basin and East Bay of Canyon Lake for TP, TN, total ammonia, chlorophyll-*a* and DO. The data for each of these lake segments have been separated for the compliance assessment given the distinctly different physical features of each: East Bay is shallow and narrow with many small inlets; Main Basin is much deeper than the East Bay and less constrained. **Tables 3-2 to 3-5** provide a compliance summary for each of these parameters for the Main Basin of Canyon Lake, i.e., the annual mean values for each parameter compared to the numeric targets and the calculated frequency of exceedance of the numeric targets. **Tables 3-6 to 3-9** provide the same information for the East Bay of Canyon Lake. **Attachment A** provides illustrations of the water quality results for each of the parameters from samples collected over the past 10 years (2011 – 2020).

Summary of Results

Over the past 10 years, improvements have been noted for several numerical targets in Canyon Lake, in particular TP, TN, and chlorophyll-*a*. A combination of upstream nutrient source controls and in-lake application of alum appear to be having a successful positive influence on the water quality and beneficial use attainment in Canyon Lake. Plots showing the relationship between alum application dates and TP show a relatively consistent trend with TP concentrations decreasing after application of the alum (see Figures A-B to A C). Spikes in concentrations of TP tended to occur in Canyon Lake during the winter or spring months when lake monitoring was conducted within a 1-2 week period after a large rain event. The differences were most notable in the shallow East Basin of Canyon Lake receiving input from Salt Creek at its eastern end, which also frequently has greater turbidity relative to the Main Basin based on both Secchi depth readings and satellite images.

Parameter	TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets
		2011	15	0.859		
		2012	8	0.290		
		2013	2	0.361		
		2014	14	0.202		
Total	≤ 0.1 mg/L	2015	7	0.065	0.244	700/
Phosphorus	(Annual Average)	2016	7	0.076	0.244	70%
	Average	2017	6	0.274		
		2018	6	0.029		
		2019	6	0.139		
		2020	5	0.145		
		2011	15	1.44		
		2012	8	2.37		
		2013	5	1.53		
		2014	12	2.75		
Total	≤ 0.75 mg/L	2015	5	1.42		4.000/
Nitrogen	(Annual Average)	2016	7	1.43	1.67	100%
	, ((6,0,5,0)	2017	6	1.37		
		2018	6	1.44		
		2019	6	1.44		
		2020	5	1.47		

Table 3-2. Canyon Lake Main Basin - 2020 TMDL Summary for Total Phosphorus and Total Nitrogen, January 2011 – October 2020^{a,b}. Bold values indicate an exceedance of a 2020 TMDL target.

^{a -} The data presented herein for all compliance summary tables for both lakes goes through October 2020. Bi-monthly sampling for Canyon Lake will occur next in December of 2020 after submittal of this report. The December 2020 data will be incorporated into updated tables for the full 10-yr period in a future addendum.

^b The number of samples collected and analyzed are included in annual average calculations for the corresponding parameter within each calendar year. Monitoring for certain constituents was temporarily suspended and/or considered unusable (i.e., analysis not performed by a state-accredited laboratory) from June 2012- July 2015; this absence of data is presented as "NA", not applicable.

Table 3-3. Canyon Lake Main Basin - 2020 TMDL Summary for Total Ammonia, January 2011 – October 2020^a. CCC- Criterion Continuous Concentration or acute criteria; CMC- Criterion Maximum Concentration or chronic criteria (see text); bold values indicate an exceedance of a 2020 TMDL target of 2004 ammonia criteria (2013 USEPA criteria provided for comparison purposes)

	TMDL Target ^b (mg/L)	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Target
•	2004 - CMC: 0.58-5.73; CCC: 0.11-1.79 2013 - CMC: 0.17-5.37; CCC: 0.05-0.99	2011 ^b	14	0.765		
•	2004 - CMC: 1.12-11.10; CCC: 0.19-2.99 2013 - CMC: 0.31-9.41; CCC: 0.09-1.52	2012 ^c	8	0.251		
	NA	2013	0	NA		
	NA	2014	0	NA		
•	2004 - CMC: 13.1-28.7; CCC: 1.93-5.31 2013 - CMC: 4.89-22.2; CCC: 0.879-2.52	2015	3	0.820		2004: CMC: 12.5% CCC: 25% 2013: CMC: 12.5% ;
•	2004 - CMC: 9.03-21.2; CCC: 1.86-3.17 2013 - CMC: 4.44-11.3; CCC: 0.845-1.74	2016	7	0.414	0.569	
•	2004 - CMC: 5.99-17.6; CCC: 1.12-3.69 2013 - CMC: 2.41-11.5; CCC: 0.507-1.68	2017	6	0.422		CCC: 37.5%
•	2004 - CMC: 10.1-23.8; CCC: 1.96-3.33 2013 - CMC: 4.84-10.9; CCC: 0.891-1.56	2018	6	0.536	-	
•	2004 - CMC: 9.61-29.5; CCC: 1.95-5.39 2013 - CMC: 4.87-25.8; CCC: 0.888-2.81	2019	6	0.544		
•	2004 - CMC: 4.68-14.3; CCC: 1.03-3.49 2013 - CMC: 2.11-10.25; CCC: 0.467-1.59	2020	5	0.797		

^a – See footnote a on Table 3.2.

^b - CCC and CMC criteria calculated using both 2004 TMDL and 2013 USEPA updated formulas. The 2013 CMC calculation assumes the absence of *Oncorhynchus spp*.

^c - CCC and CMC values from 2011-2012 represent the entire lake, with the most conservative criteria applied.

TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (µg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets
	2011	15	40.1		
	2012	8	55.4		
	2013	2	14.5		2020: 50%
	2014	15	36.3		
2020: <u><</u> 25 μg/L	2015	3	67.8	22.6	
(Annual Average)	2016	7	29.1	52.0	
	2017	6	22.9		
	2018	6	21.1		
	2019	6	17.5		
	2020	5	21.7		

Table 3-4. Canyon Lake Main Basin - 2020 TMDL Summary for Depth-Integrated Chlorophyll-*a*, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target.

^a See footnote a on Table 3.2.

Table 3-5. Canyon Lake Main Basin - 2020 TMDL Summary for Dissolved Oxygen, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target (Compliance with 2015 epilimnion TMDL target provided for comparative purposes).

Parameter	TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)⁵	Ten Year Average	Percent of Annual Means > TMDL Targets
		2011	11	7.3		
		2012	6	8.6		
		2013	0	NA		
		2014	0	NA		
Dissolved	2015: ≥ 5 mg/L	2015	3	7.6	0.2	2015.00/
(Enilimnion)	Epilimnion	2016	7	8.7	8.2	2015: 0%
(Epilimnion)		2017	4	7.7		
		2018	5	9.7	-	
		2019	4	7.1		
		2020	3	9.3		
		2011	11	0.2		
		2012	6	0.8		
		2013	0	NA		
	2020 5 4	2014	0	NA		
Dissolved	2020: <u>></u> 5 mg/L	2015	3	2.6	0.6	2020. 100%
(Hypolimnion)	(Daily Average)	2016	7	0.5	0.0	2020. 100%
(hypolininon)	(Bally Werdge)	2017	4	0.2		
		2018	5	0.4		
		2019	5	0.4		
		2020	3	0.0		

^a See footnote a on Table 3.2.

^b- Average epilimnion and hypolimnion calculations can only be performed when the lake is stratified. Years with-out data points are those in which epilimnion and/or hypolimnion values were not reported, hence this value does not necessarily correspond to the number of sampling events performed

Table 3-6. Canyon Lake East Bay - 2020 TMDL Summary for Total Phosphorus and Total Nitrogen, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target.

Parameter	TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets
		2011	15	0.83		
		2012	8	0.40		
		2013	2	0.17		
		2014	14	0.31		
Total	< 0.1 mg/L	2015	7	0.10	0.247	0.00/
Phosphorus	(Annual Average)	2016	7	0.10	0.247	90%
	Average)	2017	6	0.20		
		2018	6	0.047		
		2019	6	0.15		
		2020	5	0.15		
		2011	15	1.84		
		2012	8	2.50		
		2013	5	1.64		
		2014	12	2.48		
Total	< 0.75 mg/L	2015	5	1.26	1 70	1000/
Nitrogen	(Annuai Average)	2016	7	1.51	1.70	100%
	, ((61086)	2017	6	1.22		
		2018	6	1.31		
		2019	6	1.56		
		2020	5	1.72		

^a See footnote a on Table 3.2.

Table 3-7. Canyon Lake East Bay - 2020 TMDL Summary for Total Ammonia, January 2011 – October 2020^a. CCC- Criterion Continuous Concentration or acute criteria; CMC- Criterion Maximum Concentration or chronic criteria (see text); bold values indicate an exceedance of a 2020 TMDL target of 2004 ammonia criteria (2013 USEPA criteria provided for comparison purposes)

	TMDL Target ^a (mg/L)	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Target
•	2004- CMC: 0.58-5.73; CCC: 0.11-1.79 2013- CMC: 0.17-5.37; CCC: 0.05-0.99	2011 ^b	14	0.579		
•	2004- CMC: 1.12-11.10; CCC: 0.19-2.99 2013- CMC: 0.31-9.41; CCC: 0.09-1.52	2012 ^b	8	0.084		
	NA	2013	0	NA		
	NA	2014	0	NA		
•	2004- CMC: 2.97-8.25; CCC: 0.718-1.02 2013- CMC: 1.35-2.63; CCC: 0.326-0.537	2015	3	0.090	0.317	2004: CMC: 0% CCC: 25% 2013: CMC: 25% ; CCC: 37.5%
•	2004- CMC: 1.98-17.2; CCC: 0.486-3.46 2013- CMC: 0.897-12.4; CCC: 0.221-1.85	2016	7	0.057		
•	2004- CMC: 3.13-23.4; CCC: 0.515-3.50 2013- CMC: 0.930-11.5; CCC: 0.234-1.59	2017	6	0.171		
•	2004- CMC: 4.06-13.6; CCC: 1.24-2.16 2013- CMC: 2.74-5.57; CCC: 0.562-0.982	2018	6	0.156		
•	2004- CMC: 3.56-24.1; CCC: 0.680-4.86 2013- CMC: 1.31-23.1; CCC: 0.309-2.73	2019	6	0.398		
•	2004- CMC: 1.44-10.2; CCC: 0.254-2.79 2013- CMC: 0.414-7.62; CCC: 0.115-1.30	2020	5	0.997		

^a – See footnote a on Table 3.2.

^b-CCC and CMC criteria calculated using both 2004 TMDL and 2013 USEPA updated formulas. The 2013 CMC calculation assumes the absence of *Oncorhynchus spp.*

^c - CCC and CMC values from 2011-2012 represent the entire lake, with the most conservative criteria applied.

 Table 3-8. Canyon Lake East Bay - 2020 TMDL Summary for Depth-Integrated Chlorophyll-a, January

 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target.

TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (μg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets	
	2011	15	78.1			
	2012	8	97.3		2020: 100%	
	2013	2	105			
	2014	15	76.5			
2020: <u><</u> 25 μg/L	2015	3	52.5	EC 1		
(Annual Average)	2016	7	30.2	50.1		
	2017	6	35.9			
	2018	6	34.7]		
	2019	6	25.7			
	2020	5	25.6			

^a See footnote a on Table 3.2.

Table 3-9. Canyon Lake East Bay - 2020 TMDL Summary for Dissolved Oxygen, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target (Compliance with 2015 epilimnion TMDL target provided for comparative purposes).

Parameter	TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L) ^b	Ten Year Average	Percent of Annual Means > TMDL Targets
		2011	14	9.1		2015: 0%
		2012	9	9.5		
		2013	0	NA		
		2014	0	NA		
Dissolved	2015: ≥ 5 mg/L	2015	3	9.0		
(Enilimnion)	Epilimnion	2016	6	9.9	9.2	
		2017	4	7.9	-	
		2018	2	10.4		
		2019	2	8.6		
		2020	3	9.1		
Dissolved Oxygen (Hypolimnion)	2020: <u>></u> 5 mg/L Hypolimnion (Daily Average)	2011	6	0.2	1.3	2020: 100%
		2012	0	NA		
		2013	0	NA		
		2014	0	NA		
		2015	3	5.4		
		2016	6	2.3		
		2017	4	0.5		
		2018	4	0.2		
		2019	4	0.2		
		2020	3	0.0		

^a See footnote a on Table 3.2.

^bAverage epilimnion and hypolimnion calculations can only be performed when the lake is stratified. Years with-out data points are those in which epilimnion and/or hypolimnion values were not reported, hence this value does not necessarily correspond to the number of sampling events performed.

Despite the improvements in the above parameters over time, exceedances of the various 2004 TMDL targets continue to occur. For example, TP has exceeded the TMDL target of 0.1 mg/L 70-90% of the time over the past 10 years (based on annual averages for the Main Basin and East Bay), and TN has exceeded the 0.75 mg/L target 100% of the time in both basins. Total ammonia occasionally exceeds the acute 2013 CMC (12.5% to 25% of the time), and chronic CCC (25 to 37.5% of the time) in the Main Basin and East Bay, respectively based on annual averages. Despite these exceedances, the measured concentrations of total ammonia (and calculated unionized ammonia) are well below levels found to be toxic to largemouth bass which is the most sensitive fish species known to inhabit the lake with a species mean acute value of 86 mg/L total ammonia as nitrogen (USEPA 2013).

Dissolved oxygen shows a strong relationship with depth much of the year in Canyon Lake, with much lower concentrations in the deeper hypolimnion below the thermocline than above. This is a natural phenomenon in temperate eutrophic lakes where thermal stratification prevents mixing of the upper and lower waters during late spring, summer, and early fall months with decomposition at the sediment surface depleting oxygen (Dodds et al. 2010; Sadchikov et al. 2019;Su et al. 2019; Sánchez-España et al. 2017; Sahoo et al., 2010). During thermal destratification in the fall (October-November) when the surface waters cool, the surface and deep waters have the opportunity to mix throughout the water column. Annual mean concentrations of DO in the epilimnion above the thermocline (8.2 to 9.2 mg/L) met the 2015 TMDL target of 5.0 mg/L 100% of the time.

The TMDL has a 2020 target of \geq 5.0 mg/L in the hypolimnion which was not achieved in any year as would be expected for a natural deep temperate lake at this latitude. Immediately following lake mixing after destratification, low DO conditions throughout the water column may occur and cause stress for fish. However, during periods when thermal stratification was not present in Canyon Lake, DO was above 5.0 mg/L most of the time in the upper water column, and thus it met the target. From a biological standpoint, it is important that fish and aquatic life have sufficient access to waters with a concentration of DO greater than 5.0 mg/L in portions of key habitat areas of the lake volume to find refuge during periods of depressed DO levels.

The Basin Plan water quality objective for DO specifically limits the responsibility of dischargers to "controllable water quality factors" (Santa Ana Water Board 2016). The Basin Plan further does not identify the depth over which compliance with this objective is to be achieved, nor does it reflect seasonal differences that may result in DO variations associated with stratification in the lakes. Based on the natural conditions of Canyon Lake, the proposed revision to the TMDL sets a threshold volume of water based on historic pre-development conditions that exceeds the 5.0 mg/L Basin Plan water quality objective (LESJWA 2018).

Despite the noted exceedances, the primary goals to maintain fishable, swimmable waters has consistently been achieved in Canyon Lake. No major fish kills have been reported in Canyon Lake over the past 10 years, indicating DO and ammonia have been at acceptable levels to support fish populations, and few significant algae blooms have been reported. Assessment of direct beneficial use impairment of recreational use due to algae is conducted through a measure of chlorophyll-*a*, a primary pigment in green algae use for photosynthesis (Carter 1996). In Canyon Lake mean

depth-integrated annual chlorophyll-*a* concentrations of 32.2 μ g/L and 56.1 μ g/L were observed in the Main Basin and East Bay, respectively, over the past 10 years.

The Main Basin of Canyon Lake met the 2020 target of 25 μ g/L for chlorophyll-*a* in 5 of last 10 years, with all of the last four years (2017-2020) meeting the target. The much shallower and physically constrained East Bay of Canyon Lake failed to meet the 2020 chlorophyll-*a* target of 25 μ g/L during the past 10 years based on the average value, however, during the last five years chlorophyll-*a* had an average maximum of just 35.9 μ g/L, and was less than 26 μ g/L during the past two years. It is important to note that algae concentrations have declined and remained relatively stable since 2015 despite a prolonged drought between 2011 and 2018 during which natural evaporation would tend to increase the average phosphorus concentration in Canyon Lake. However, as described above, it is believed that levels of TP have been reduced and have held relatively steady over the past eight years due to watershed best management practices and application of alum.

3.1.3 Permit Compliance

As shown above, permitted dischargers of nutrients that are subject to the 2004 TMDL for Canyon Lake may comply with the TMDL in different fashions, depending on the language in the applicable permit. Some like the Phase I MS4s and WRCAC members subject to the CWAD meet the 2004 TMDL through implementation of the CNRP and AgNMP (once approved), respectively. CAFOs comply by meeting permit provisions, which allow for meeting the provisions in cooperation with others. Dairy operators in the San Jacinto River Basin that are members of WRCAC meet specific provisions as identified in Table X-X in cooperation with others through LECL Task Force participation through WRCAC. . Each year, WRCAC provides the Santa Ana Water Board with a letter that documents dairy operator participation in WRCAC, and thus by extension the LECL Task Force. March AFB must show compliance by meeting TMDL WLAs and LAs either individually or jointly with other watershed sources.

Accordingly, LECL Task Force members may show compliance by implementing programs and BMPs, which includes LECL Task Force participation in monitoring and offsets, as applicable. Regardless, all LECL Task Force members are able to collectively demonstrate compliance with the 2004 Canyon Lake TMDLs as expressed in Table 5-9q and the December 31, 2020, 10-year running average requirement when assigned loads for all sources (minus internal sediment and atmospheric deposition) are taken together. Compliance with WLAs and LAs has been obtained through individual and collective efforts associated with CNRP, CWAD compliance, Dairy Order implementation, alum offsets, and LECL Task Force participation.

Accordingly, no further action is necessary at this time for permitted dischargers that are also LECL Task Force members to show compliance with the 2004 Canyon Lake TMDL. With respect to the final TMDL Targets, many are not met in Canyon Lake at this time. However, as indicated previously, TMDLs are not self-executing and TMDL requirements must be incorporated into permits to be enforceable. Several permits as summarized above allow compliance with Numeric Targets as one option for demonstrating compliance (e.g., Phase I MS4, CWAD). However, these permits also allow compliance to be demonstrated through BMP implementation or by meeting the TMDL WLAs and LAs. Since both of these other options for compliance can be demonstrated,

Canyon Lake's non-compliance with final Numeric Targets does not equate to permit noncompliance.

Further, the LECL Task Force and its members have taken an adaptive approach to address the issue with respect to numeric targets not being met even though watershed allocations are achieved. The adaptive approach includes supporting the extensive technical analyses that were conducted for revising the 2004 TMDL to improve the linkage analysis between allocated loads and predicted in-lake response targets. Reductions to WLAs and LAs relative to the 2004 TMDL are currently proposed in the Draft Technical TMDL Report, and if adopted, would be used to update implementation plans and adapt implementation as needed.

3.2 Lake Elsinore (2011-2020)

This section provides the compliance analysis for Lake Elsinore. Section 3.2.1 evaluates compliance with the applicable WLAs and LAs. Section 3.2.2 provides a summary of water quality observations from 2011 to 2020.

3.2.1 Wasteload and Load Allocations

Mass emission monitoring in the San Jacinto River downstream of the Canyon Lake spillway measures nutrient loads from the majority (> 90 percent by drainage area) of the watershed, which is delivered as overflows from Canyon Lake to Lake Elsinore. Water quality samples are collected at the spillway during overflow events. Flow-weighted composite samples were used to estimate EMCs from 10 overflow events that occurred during the 2011-2020 monitoring period (see Figure 3-1). Detailed descriptions of each monitored storm events, including distribution of samples across the hydrograph prior to compositing, are included in the annual monitoring program reports (see <u>https://sawpa.org/task-forces/lake-elsinore-and-canyon-lake-tmdl-task-force/#monitoring-program</u>).

For monitored overflow events, nutrient loads are computed as product of the respective flowweighted composite EMC and from the USGS gauge on the San Jacinto River at the inflow to Lake Elsinore (USGS#11070500), located ~2 miles downstream of the spillway. The average annual overflow nutrient load from Canyon Lake to Lake Elsinore was computed to be 1,775 kg/yr TP and 9,083 kg/yr TN. Nutrient loads from the ungauged watershed around Lake Elsinore (subwatershed zone 1) were also accounted for in this compliance demonstration. EPA's Pollutant Loading Estimator tool (PLOAD) (EPA 2001) was employed to estimate nutrient loads as a function of average annual runoff and land use based nutrient washoff concentrations used in the source assessment for the proposed TMDL revision (see Section 4.1.4.3, LESJWA [2018]). The model estimated nutrient load from subwatershed Zone 1 under existing conditions to be 921 kg/yr TP and 4,469 kg/yr TN (see LESJWA [2018] for description of subwatershed zones). Offset credits from participation in the operations of LEAMS are then subtracted from these loads to assess whether nutrient loads from watershed runoff meet the allocations in the 2004 TMDL. **Table 3-10** shows that compliance with the allocations for Lake Elsinore have been achieved even without applying any of the offset credits earned from participation in LEAMS operation.

Nutrient Load (kg/yr)	2011-2020 Average External Load			LEAMS	Total	Addl. Load
	Canyon Lake Overflow	Modeled Local Runoff ¹	Supplemental Water ²	Offset ³	Allocation ⁴	Required ⁵
Total Phosphorus	1,775	921	2,496	7,030	6,922	-8,760
Total Nitrogen	9,083	4,469	19,091	44,000	29,953	-41,310

¹ Local Lake Elsinore watershed average annual runoff nutrient load estimate from PLOAD model for the proposed TMDL revision (see Table 4-9 in LESJWA [2018])

² Estimated from EVMWD inflows in Table 2-2 above and average concentrations in effluent of 0.37 mg/L TP and 2.83 mg/L TN

³ TP reduction credit from LEAMS operation was assumed to be 11,606 kg/yr TP in the TMDL. A portion of this credit (4,576 kg/yr TP) is not available to offset other sources as it was needed to create any assimilative capacity under the TMDL. Thus, operation of LEAMS has created 7,030 kg/yr of net TP offset credit (Risk Sciences, 2019).

⁴ TMDL minus allocations for internal sediment, atmospheric deposition

⁵ If < or = to zero, compliance with final allocations in TMDL for all watershed sources is effectively demonstrated

Climatic variability extending over multiple decades was one of the many factors that motivated the LECL Task Force to collaborate with the Santa Ana Water Board on a TMDL revision approach for Lake Elsinore that employed a dynamic long-term linkage analysis. The 2011-2020 period was dry relative to the 100-year period of record, with average runoff in the San Jacinto River about 50 percent lower, which could partially explain the substantial credit accrual shown in Table 3-10. However, even if the region were to experience runoff volumes from Canyon Lake to Lake Elsinore at three times the 100-year average during the upcoming 10-year period, this compliance demonstration would still show that allocations would be achieved when considering the currently licensed LEAMS offset credit basis at current participation levels by watershed stakeholders in the LECL Task Force.

3.2.2 Numeric Targets

As shown in section 3.2.1. above, watershed load allocations for TP and TN for Lake Elsinore are achieved as required by the LE/CL Nutrient TMDL, and as incorporated into permits and orders. Although the various permits and orders do not require compliance with WLAs and LAs as well as with the LE/CL Nutrient TMDL Numeric Targets, an overview of data and results as compared to the numeric targets is provided here for Lake Elsinore.

Overview of Data

Table 1-1 summarized the in lake numeric water quality targets for Lake Elsinore for TP, TN, total ammonia, chlorophyll-*a* and DO. **Tables 3-11 to 3-14** provide a compliance summary for each of these parameters. Specifically, these tables provide the annual mean values for each parameter compared to the numeric targets and the calculated frequency of exceedance of each of the numeric targets. **Attachment B, Figures B-1 through B-7**, provide illustrations of the water quality results for each of the parameters from samples collected over the past 10 years (2011 – 2020).

Parameter	TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L) ^b	Ten Year Average	Percent of Annual Means > TMDL Targets
	< 0.1 mg/L (Annual Average)	2011	14	0.294	0.246	100%
		2012	9	0.162		
		2013	0	NA		
		2014	0	NA		
Total		2015	3	0.383		
Phosphorus		2016	8	0.416		
		2017	8	0.181		
		2018	8	0.162		
		2019	8	0.154		
		2020	7	0.211		
	< 0.75 mg/L (Annual Average)	2011	14	3.88	4.91	100%
		2012	9	3.32		
		2013	0	NA		
		2014	0	NA		
Total Nitrogen		2015	3	6.10		
		2016	8	7.28		
		2017	8	4.68		
		2018	8	5.56		
		2019	8	4.50		
		2020	7	3.97		

 Table 3-11. Lake Elsinore - 2020 TMDL Summary for Total Phosphorus and Total Nitrogen, January

 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target.

^a The data presented herein for all compliance summary tables for both lakes goes through October 2020. Samples were collected in November for the monthly sampling in Lake Elsinore but these data were not available at the time of this report. Both Lake Elsinore and Canyon Lake will be monitored in December of 2020 after submittal of this report and this data will be incorporated into updated tables for the full 10-yr period in a future addendum.

^b The number of samples collected and analyzed are included in annual average calculations for the corresponding parameter within each calendar year. Monitoring for certain constituents was temporarily suspended and/or considered unusable (i.e., analysis not performed by a state-accredited laboratory) from June 2012- July 2015; this absence of data is presented as "NA", not applicable

Table 3-12. Lake Elsinore - 2020 TMDL Summary for Total Ammonia, January 2011 – October 2020^a. CCC- Criterion Continuous Concentration or acute criteria; CMC- Criterion Maximum Concentration or chronic criteria (see text); bold values indicate an exceedance of a 2020 TMDL target of 2004 ammonia criteria (2013 USEPA criteria provided for comparison purposes)

	TMDL Target ^b (mg/L)	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Target
•	2004 - CMC: 0.447-2.45; CCC: 0.112-0.856 2013 - CMC: 0.181-2.18; CCC: 0.051-0.453	2011	15	0.049		2004 - CMC: 0% CCC: 25% 2013 - CMC: 0%; CCC: 50%
•	2004 - CMC: 0.749-2.52; CCC: 0.192-0.880 2013 - CMC: 0.312-2.23; CCC: 0.087-0.463	2012	9	0.096		
	NA	2013	0	NA		
	NA	2014	0	NA		
•	2004 - CMC: 1.28-1.69; CCC: 0.273-0.473 2013 - CMC: 0.440-1.18; CCC: 0.124-0.256	2015	3	0.077	0.137	
•	2004 - CMC: 0.671-1.91; CCC: 0.150-0.683 2013 - CMC: 0.233-1.71; CCC: 0.683-0.363	2016	8	0.088		
•	2004 - CMC: 0.832-2.65; CCC: 0.186-0.450 2013 - CMC: 0.309-1.01; CCC: 0.085-0.220	2017	8	0.124		
•	2004 - CMC: 1.14-2.20; CCC: 0.283-0.524 2013 - CMC: 0.453-1.14; CCC: 0.129-0.254	2018	8	0.097		
•	2004 - CMC: 0.940-5.10; CCC: 0.201-1.63 2013 - CMC: 0.316-4.63; CCC: 0.092-0.876	2019	8	0.300		
•	2004- CMC: 0.916-2.65; CCC: 0.173-0.524 2013 - CMC: 0.271-1.26; CCC: 0.078-0.275	2020	7	0.269		

^a – See footnote a on Table 3-11.

^b - CCC and CMC criteria calculated using both 2004 TMDL and 2013 USEPA updated formulas. The 2013 CMC calculation assumes the absence of *Oncorhynchus spp*.
TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (μg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets
2020: <u><</u> 25 μg/L (Summer Only)	2011	8	169		2020: 100%
	2012	2	200		
	2013	0	NA		
	2014	0	NA		
	2015	1	326	ГС 1	
	2016	4	258	50.1	
	2017	4	148		
	2018	4	87		
	2019	4	89		
	2020	3	198		

Table 3-13. Lake Elsinore - 2020 TMDL Summary for Depth-Integrated Chlorophyll-*a*, Summer Only, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target.

^a – See footnote a on Table 3-11.

Table 3-14. Lake Elsinore - 2020 TMDL Summary for Dissolved Oxygen, January 2011 – October 2020^a. Bold values indicate an exceedance of a 2020 TMDL target (Compliance with 2015 TMDL target provided for comparative purposes).

TMDL Target	Monitoring Year	No. of Samples Collected	Annual Average (mg/L)	Ten Year Average	Percent of Annual Means > TMDL Targets
	2011	15	5.8	9.2	10%
	2012	8	7.1		
	2013	0	NA		
	2014	0	NA		
2015: ≥ 5 mg/L - Water	2015	3	4.3		
Column Mean	2016	8	5.3		
	2017	8	7.2		
	2018	8	6.2		
	2019	8	5.0		
	2020	7	4.7		
	2011	15	3.4	1.3	100%
	2012	8	4.8		
	2013	0	NA		
	2014	0	NA		
2020: ≥ 5 mg/L - 1-m from	2015	3	2.9		
lake bottom	2016	8	4.2		
	2017	8	4.9		
	2018	8	3.2		
	2019	8	3.3		
	2020	7	2.5		

^a – See footnote a on Table 3-11.

Summary of Results

Over the past 10 years clear trends in numerical target concentrations for Lake Elsinore over time are not as apparent as that observed in Canyon Lake. Watershed inputs are limited to localized runoff from the surrounding watershed, and from Canyon Lake only occasionally during wet years with large storm events when the dam overflows. The primary continued source of nutrients is internal recycling from the lake sediments followed by steady recycled water inputs from EVMWD to maintain lake levels. Significant recent efforts to reduce TP loading have included the installation of LEAMS which began operating in 2010 (see Section 2.3.2), and removal of Common Carp between 2003 and 2008 which root around in the sediments releasing nutrients to the water column (see Section 2.3.3). These efforts occurred prior to the 10-year period that this report summarizes. Key water quality observations include:

- During the past 10 years both TN and TP continue to be at elevated levels in Lake Elsinore representative of a hypereutrophic lake (Carlson 1977), exceeding the TMDL targets 100% of the time based on an annual average. A few samples have occasionally had concentrations of TP below the water quality targets, but none for TN. Data over the 10-year period suggest some reduction in water column TP and TN over time, but not quite sufficient to bring nutrients down to causal targets.
- DO measured as a water column mean has met the 2015 target of > 5.0 mg/L 100% of the time based on annual means, averaging 5.7 mg/L over the 10-yr period. The 2020 DO target of > 5.0 mg/L 1-m from the bottom of the lake has not been met in any of the past 10 years, however the 10-year average of 3.6 mg/L is greater than that historically reported (Horne 2020).
- Total ammonia over the past 10 years has not exceeded the acute water quality target based on annual averages but has occasionally exceeded chronic criterion during five of the last 10 years based on the 2013 criterion calculations.
- The chlorophyll-*a* response targets are both regularly exceeded (2015 annual average target of < 40 µg/L during the summer months (June September); < 25 µg/L summer average in 2020). Annual summer averages have ranged from 87 to 327 µg/L over the past 10 years. Concentrations of chlorophyll-*a* based on annual averages are similar, ranging from 91 to 264 µg/L over the past 10 years. Within year variability is often substantial for chlorophyll-*a*, frequently spanning more than 2-3x depending on the day of sampling.

In general, algae blooms in Lake Elsinore appear to increase as the lake level decreases, total dissolved solids increase and temperatures increase with enhanced stratification. Algal blooms in Lake Elsinore are predominantly comprised of cyanobacteria which at times can produce toxins that can affect humans and pets that are exposed, termed harmful algal blooms (HABs). Nutrients, based on their consistently elevated concentrations, do not currently appear to be a limiting factor for algae growth in Lake Elsinore although reduced nutrient availability may still be able to reduce the magnitude of the blooms. In addition to climatic conditions, the variability in measured chlorophyll-*a* is in part is likely due to the patchy and transient nature of algae blooms, changing vertically during the day and accumulating in patches due to wind and current patterns.

3.2.3 Permit Compliance

Like with Canyon Lake, permitted dischargers of nutrients that are subject to the 2004 TMDL for Lake Elsinore may comply with the TMDL in different fashions, depending on the language in the applicable permit. Some like the Phase I MS4s and WRCAC members subject to the CWAD meet the 2004 TMDL through implementation of the CNRP and AgNMP (once approved), respectively. CAFOs are not subject to WLAs for TP or TN for Lake Elsinore.¹⁹. March AFB must show compliance by meeting TMDL WLAs and LAs either individually or jointly with other watershed sources. EVMWD has permit limits that apply unless EVMWD demonstrates that loads associated with recycled water into the lake has been offset.

Accordingly, LECL Task Force members may show compliance by implementing programs and BMPs or offsets, which includes LECL Task Force participation in monitoring and offsets, as applicable. Regardless, all LECL Task Force members are able to collectively demonstrate compliance with the 2004 Lake Elsinore TMDLs as expressed in Table 5-9r and the December 31, 2020, 10-year running average requirement when assigned loads for all sources (minus internal sediment and atmospheric deposition) are taken together. Compliance with WLAs and LAs has been obtained through individual and collective efforts associated with CNRP and CWAD implementation, LEAMS operations, and LECL Task Force participation.

Accordingly, no further action is necessary at this time for permitted dischargers that are also LECL Task Force members to show compliance with the 2004 Lake Elsinore TMDL. With respect to the final TMDL Targets, many are not met in Lake Elsinore at this time. However, as indicated previously, TMDLs are not self-executing and TMDL requirements must be incorporated into permits to be enforceable. Several permits as summarized above allow compliance with Numeric Targets as one option for demonstrating compliance (e.g., Phase I MS4, CWAD). However, these permits also allow compliance to be demonstrated through CNRP and AgNMP implementation or by meeting the TMDL WLAs and LAs. Since both of these other options for compliance can be demonstrated, Lake Elsinore's non-compliance with final Numeric Targets does not equate to permit non-compliance.

Further, like with Canyon Lake, the LECL Task Force and its members have taken an adaptive approach to address the issue with respect to numeric targets not being met even though watershed allocations are achieved. The adaptive approach includes supporting the extensive technical analyses that were conducted for revising the 2004 TMDL to improve the linkage analysis between allocated loads and predicted in-lake response targets. Reductions to WLAs and LAs relative to the 2004 TMDL are currently proposed in the Draft Technical TMDL Report, and if adopted, would be used to update implementation plans and adapt implementation as needed.

¹⁹ See Dairy Order, Provision IV.J.3.e, page 34.

Section 4

Conclusion

In the 15 years since the LE/CL Nutrient TMDL was first enacted, considerable progress has been made to improve water quality in Lake Elsinore and Canyon Lake. While the LE/CL Nutrient TMDL provided the initial impetus, the collaborate stakeholder process that has occurred through LESJWA and the LECL Task Force should be credited for much of the success. By coordinating implementation efforts, which include watershed and in-lake monitoring, fisheries management efforts, modeling updates, Alum offsets to Canyon Lake, LEAMS operations in Lake Elsinore, special studies, and other significant efforts, the stakeholder process is achieving success in meeting WLAs and LAs as adopted in 2004.

Since 2004, internal and external nutrient loads to the two lakes has been reduced significantly. As a result, water clarity has increased dramatically in Canyon Lake, and overall water quality in Lake Elsinore is substantially improved due largely to the addition of nearly 2 billion gallons of tertiary treated water to the lake each year. Without this supplemental water, recent severe drought conditions would have resulted in Lake Elsinore drying up in mid-2014.

In addition to investing millions of dollars to implement projects and monitoring improvements in water quality, the LECL Task Force has also continued to conduct new scientific studies in both lakes. These studies were designed to better understand how hydrology and biology interact to affect the aquatic ecosystem. This information has been used to develop more effective implementation programs, and to provide a sound basis for updating the 2004 TMDL.

When the 2004 TMDL was adopted, it was anticipated that it would be updated as better information and analytical tools become available. In late 2015, as part of the Triennial Review Process, the Santa Ana Water Board determine that the time had come to revisit and revise the 2004 TMDL. The LECL Task Force began working on the project shortly thereafter.

On December 1, 2018, the LESJWA, in collaboration with the LECL Task Force, submitted the Draft TMDL Technical Report, which represents a culmination of a three-year collaboration between the LECL Task Force and Santa Ana Water Board staff to assemble and analyze the vast amount of data collected over the period of time since adoption of the 2004 TMDL. The Draft TMDL Technical Report and draft amendments to the Basin Plan were circulated for public comment on December 1, 2018, and were subject to a public workshop before the Santa Ana Water Board on May 3, 2019. Santa Ana Water Board staff are currently reviewing peer review comments received on the Draft TMDL Technical Report, as well as responses to peer review comments prepared by the LECL Task Force consultants. The LECL Task Force and the Santa Ana Water Board continue to work through peer reviewer comments and comments from others to determine if additional data and information needs to be developed prior to Santa Ana Water Board consideration for adoption of a revised TMDL. In the meantime, the 2004 TMDL remains in effect.

Section 5

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Attachment A – Canyon Lake Water Quality Figures

This attachment provides illustrations of water quality conditions in Canyon Lake, Main Basin and East Bay, for the period January 2011 through October 2020. The following figures are provided for comparison: (1) boxplots (showing median annual values, quartiles (boxes), and the range (whiskers); and (2) line graph(s) plotting individual measurements for all monitoring events over time. Where applicable, the figures include a plotted horizontal dashed line to show the applicable numeric targets for 2015 and 2020 for comparison to the observed data. Parameters illustrated include:

- Total Phosphorus: Figures A-1 to A-2
- Total Nitrogen: Figures A-3 to A-4
- Total Ammonia: Figures A-5 to A-6
- Chlorophyll-*a*: Figures A-7 to A-8
- Dissolved Oxygen: Figures A-9 to A-14



Figure A-1. Total Phosphorus Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means (n=?) from 2011 to 2020; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from June 2012 through September 2013). TMDL TP Target (dashed line) = 0.1 mg/L as an annual average to be attained by 2020.



Figure A-2. Total Phosphorus Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020) *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means (n=?) from 2011 to 2020; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from June 2012 through September 2013). TMDL TP Target (dashed line) = 0.1 mg/L as an annual average to be attained by 2020.



Figure A-3. Total Nitrogen Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020) *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015).TMDL TN Target (dashed line) = 0.75 mg/L as an annual average to be attained by 2020.



Figure A-4. Total Nitrogen Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL TN Target (dashed line) = 0.75 mg/L as an annual average to be attained by 2020.



Figure A-5. Total Ammonia Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). *Upper Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Upper Right and Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Ammonia Targets: CMC – Criterion Maximum Concentration (acute, upper right) and CCC – Criterion Continuous Concentration (chronic, right) values are calculated using equations from the 2004 TMDL and the 2013 EPA update. CCC and CMC values from 2011-2012 represent the entire lake, with the most conservative criteria applied.





Figure A-6. Total Ammonia Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020). Upper Left: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; Upper Right and Right: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Ammonia Targets: CMC – Criterion Maximum Concentration (acute, upper right) and CCC – Criterion Continuous Concentration (chronic, right) values are calculated using equations from the 2004 TMDL and the 2013 EPA update. CCC and CMC values from 2011-2012 represent the entire lake, with the most conservative criteria applied.





Figure A-7. Chlorophyll-*a* Depth-Integrated Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from June 2012 through September 2013). TMDL Chlorophyll-*a* Target (purple dashed line) = 25 µg/L as an annual average to be attained by 2020.



Figure A-8. Chlorophyll-*a* Depth-Integrated Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from June 2012 through September 2013). TMDL Chlorophyll-*a* Target (purple dashed line) = 25 µg/L as an annual average to be attained by 2020.



Figure A-9. Dissolved Oxygen Epilimnion Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and \geq 5 mg/L in the hypolimnion in 2020.



Figure A-10. Dissolved Oxygen <u>Full Water Column</u> Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (Data represent the full water column mean; no data available from July 2012 through June 2015). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and \geq 5 mg/L in the hypolimnion in 2020.



Figure A-11. Dissolved Oxygen <u>Hypolimnion</u> Concentrations in Canyon Lake, <u>Main Basin</u> (Sites CL07 and CL08, January 2011 through October 2020). Left: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015; Data gaps represent monitoring events where the lake was not stratified). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and ≥ 5 mg/L in the hypolimnion in 2020.



Figure A-12. Dissolved Oxygen <u>Epilimnion</u> Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and \geq 5 mg/L in the hypolimnion in 2020.



Figure A-13. Dissolved Oxygen <u>Full Water Column</u> Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10 January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (Data represent the full water column mean; no data available from July 2012 through June 2015). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and \geq 5 mg/L in the hypolimnion in 2020.



Figure A-14. Dissolved Oxygen <u>Hypolimnion</u> Concentrations in Canyon Lake, <u>East Bay</u> (Sites CL09 and CL10, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015; Data gaps represent monitoring events where the lake was not stratified - there was no stratification observed in the Canyon Lake East Bay between August 2011 – June 2012). TMDL Dissolved Oxygen Target (dashed line) is > 5 mg/L in the epilimnion in 2015 and \geq 5 mg/L in the hypolimnion in 2020.

Attachment B – Lake Elsinore Water Quality Figures

This attachment provides illustrations of water quality conditions in Lake Elsinore for the period January 2011 through October 2020. The following figures are provided for comparison: (1) boxplots (showing median annual values, quartiles (boxes), and the range (whiskers); and (2) line graph(s) plotting individual measurements for all monitoring events over time. Where applicable, the figures include a plotted horizontal dashed line to show the applicable numeric targets for 2015 and 2020 for comparison to the observed data. Parameters illustrated include:

- Total Phosphorus: Figure B-1
- Total Nitrogen: Figure B-2
- Total Ammonia: Figures B-3 and B-4
- Chlorophyll-*a*: Figure B-5
- Dissolved Oxygen: Figures B-6 and B-7



Figure B-1. Total Phosphorus Concentrations in Lake Elsinore (January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL TP Target (dashed line) = 0.1 mg/L as an annual average to be attained by 2020.



Figure B-2. Total Nitrogen Concentrations in Lake Elsinore (January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015).TMDL TN Target (dashed line) = 0.75 mg/L as an annual average to be attained by 2020.



Figure B-3. Total Unionized Ammonia in Lake Elsinore (January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). Water quality criteria for total unionized ammonia is dependent on pH and temperature. TMDL targets: CMC – Criterion Maximum Concentration (acute) and CCC – Criterion Continuous Concentration (chronic) values are calculated using equations from the 2004 TMDL.



Figure B-4. Total Ammonia Concentrations in Lake Elsinore (Site LE02), January 2011 through October 2020). *Upper Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Upper Right and Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Ammonia Targets: CMC – Criterion Maximum Concentration (acute, upper right) and CCC – Criterion Continuous Concentration (chronic, right) values are calculated using equations from the 2004 TMDL and the 2013 EPA update (USEPA 2013).







Figure B-5. Total Chlorophyll-*a* Depth-Integrated Concentrations in Lake Elsinore (January 2011 through October 2020). *Upper Left*: Annual average concentrations observed during sample events from 2011 to 2020; *Left*: Summer average concentrations observed during sample events from 2011 to 2020 (Note: Annual and summer average concentrations illustrated using box plots showing the median, 25^{th} percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014); *Upper Right*: Summer average concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015; laboratory unable to process samples from August and September 2020). TMDL targets (dashed lines), 40 µg/L (2015) and 25 µg/L (2020), are for summer months (June – September).



Figure B-6. Dissolved Oxygen <u>Water Column Average</u> Concentrations in Lake Elsinore (Site LE02, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Dissolved Oxygen target (2015, dashed line) is 5 mg/L as a depth average.



Figure B-7. Dissolved Oxygen <u>1-meter from Bottom</u> Concentrations in Lake Elsinore (Site LE02, January 2011 through October 2020). *Left*: Concentrations illustrated using box plots showing the median, 25th percent quartiles, and range of values reported within each calendar year and the ten-year mean (**) derived from the annual means from 2011 to 2020, excluding 2013 and 2014; *Right*: Concentrations observed during sample events from 2011 to 2020 (No data available from July 2012 through June 2015). TMDL Dissolved Oxygen target (2020, dashed line) is > 5 mg/L at 1meter from bottom.