

Technical Memorandum

Task 4a: Evaluate Water Quality in Canyon Lake Under Pre-Development Conditions and TMDL-Prescribed External Load Reductions

Objective

The objective of this sub-task was to evaluate water quality conditions in Canyon Lake assuming no development in the watershed (i.e., under the pre-development scenario) and assuming external load reductions of 73% for total phosphorus and 31% for total nitrogen as prescribed in the TMDL (SARWQB, 2004).

Approach

The DYRESM-CAEDYM model developed and used in tasks 2 (Anderson, 2012a) and 3 (Anderson, 2012b) was utilized to predict water quality in Canyon Lake assuming (i) no development in the watershed and (ii) reductions of external loading of N and P as prescribed in the TMDL. As in the previous simulations, the 2002-2011 time period was evaluated, with the same meteorological and hydrological conditions, with the only difference being the nutrient concentrations in the San Jacinto River and Salt Creek runoff entering the lake. The pre-development scenario was simulated using the external nutrient loading predicted from the TetraTech watershed model for 2002-2009 (Table 1). Total N and total P loading for the equivalent 2010 and 2011 pre-development condition were extrapolated from the contemporary loading values reduced by the percentage reductions for 2003 owing to the similar hydrologic conditions present at that time.

Table 1. Total N and P loading to Canyon Lake under the 3 simulation scenarios: reference (existing conditions), TMDL-prescribed reductions in external loading, and the pre-development condition.						
Year	Total N (kg)			Total P (kg)		
	Ref	TMDL	Pre-Dev	Ref	TMDL	Pre-Dev
2002	2,635	1,818	1	965	261	0
2003	33,277	22,961	1,546	11,520	3,110	599
2004	8,470	5,844	152	2,835	765	60
2005	129,402	89,287	35,769	44,887	12,119	13,714
2006	9,002	6,211	296	2,933	792	117
2007	5,367	3,703	0	1,857	501	0
2008	17,028	11,749	130	5,616	1,516	52
2009	13,339	9,204	224	4,409	1,190	89
2010	33,982	23,448	1,087	11,462	3,095	430
2011	43,280	29,863	1,385	14,366	3,879	540

Results

Predicted concentrations from 6 depths were combined with volume-elevation data to generate volume-weighted daily concentrations and annual concentrations of total N, total P, and chlorophyll a in Canyon Lake over the 2002-2011 simulation period (Figs. 1-6).

As shown in earlier simulation results, the total N concentration varied over the course of a year and also varied inter-annually in response to differences in external loading (Fig. 1). Reductions in external loading of N to comply with TMDL-prescribed target reductions (reductions of 31%) were found to reduce the daily volume-weighted total N concentrations present in the lake by about 30-35% in the latter half of the simulation period to about 1 - 1.75 mg/L (Fig. 1). The concentrations remained well above the pre-development condition, however, where volume-weighted total N concentrations were generally an order of magnitude lower (Fig. 1).

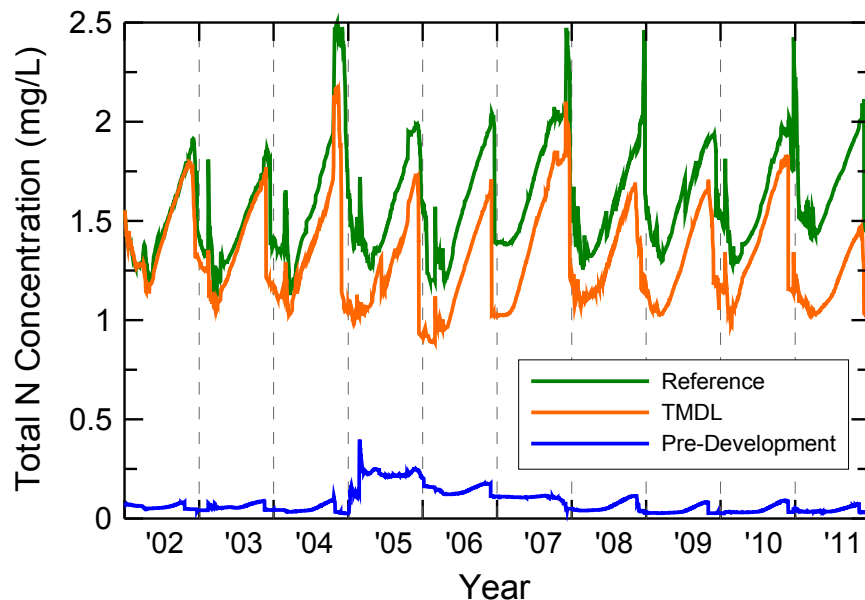


Fig. 1. Volume-weighted daily total N concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

The daily volume-weighted total N concentrations were then averaged over each calendar year to calculate annual average total N concentrations (Fig. 2). The solid horizontal line represents the 2020 TMDL annual average target of 0.75 mg/L. The annual average total N concentrations varied each year, but generally ranged from about 1.4 - 1.7 mg/L under the reference (existing) conditions, while implementation of BMPs in the watershed to reduce external N loading by 31% lowered the predicted annual average values to approximately 1.2 - 1.4 mg/L (Fig. 2). Thus, although reducing the annual average total N in the water column by a meaningful amount, the values remained above the TMDL target. Predictably, the pre-development (annual average)

concentrations were much lower, at all times below the TMDL target by a wide margin (Fig. 2).

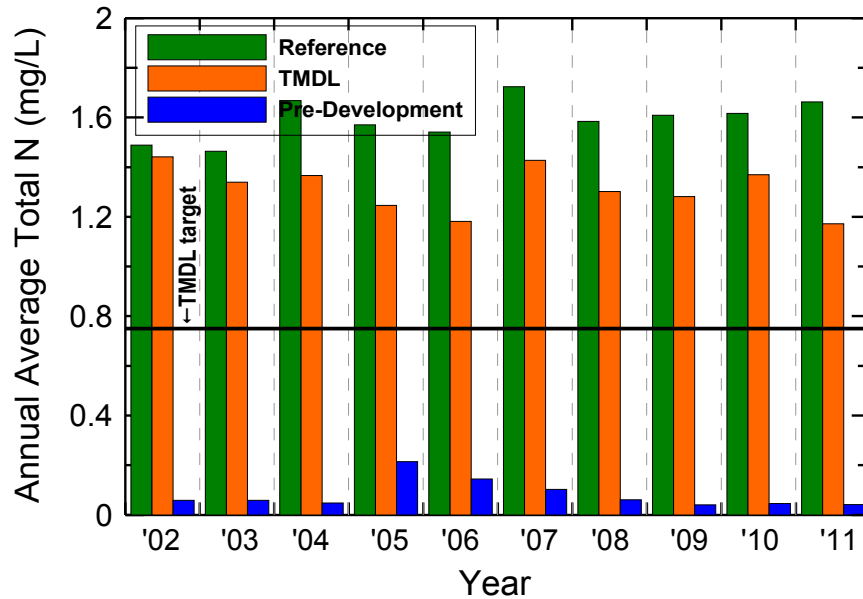


Fig. 2. Annual average total N concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

The volume-weighted daily total P concentrations in Canyon Lake also exhibited strong seasonal and interannual differences (Fig. 3). Large increases in total P were in fact seen under all 3 scenarios for at least short periods of time and associated with external loading and accumulation to high concentrations within the water column, as well as mixing events that lowered DO and stimulated release from bottom sediments. These events were quite short-lived for the pre-development case, however, as particulate P was rapidly settled out of the water column, resulting in quite low concentrations (<0.05 mg/L) for much of the year (Fig. 3). In contrast, higher volume-weighted total P concentrations (routinely 0.2 - 0.5 mg/L) were present through much of the year under the reference (existing) condition, with volume-weighted concentrations increasing each summer due to release and accumulation of $\text{PO}_4\text{-P}$ within the (anoxic) hypolimnion. Reduction in external loading by 73% due, e.g., from watershed BMPs, lowered total P levels quite substantially, with concentrations typically 0.1 - 0.4 mg/L.

Reduction in external loading per the TMDL had a marked improvement on annual average total P concentrations relative to the reference (existing) condition (Fig. 4). Depending upon the magnitude of external loading, duration of stratification and other factors, annual average total P concentrations were often reduced by 50% relative to the existing conditions. That a 73% reduction in external loading achieved up to only about a 50% reduction in total P reflects the importance of internal nutrient recycling in Canyon Lake.

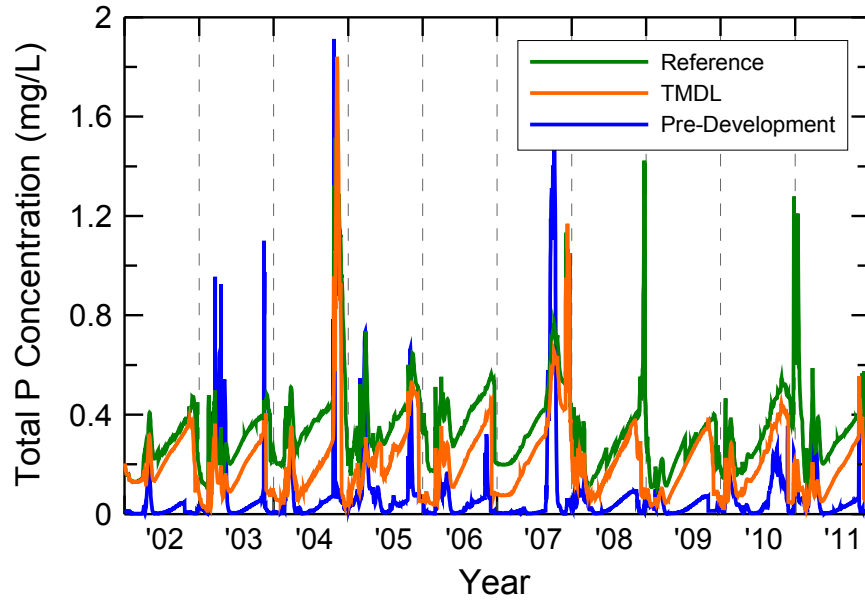


Fig. 3. Volume-weighted daily total P concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

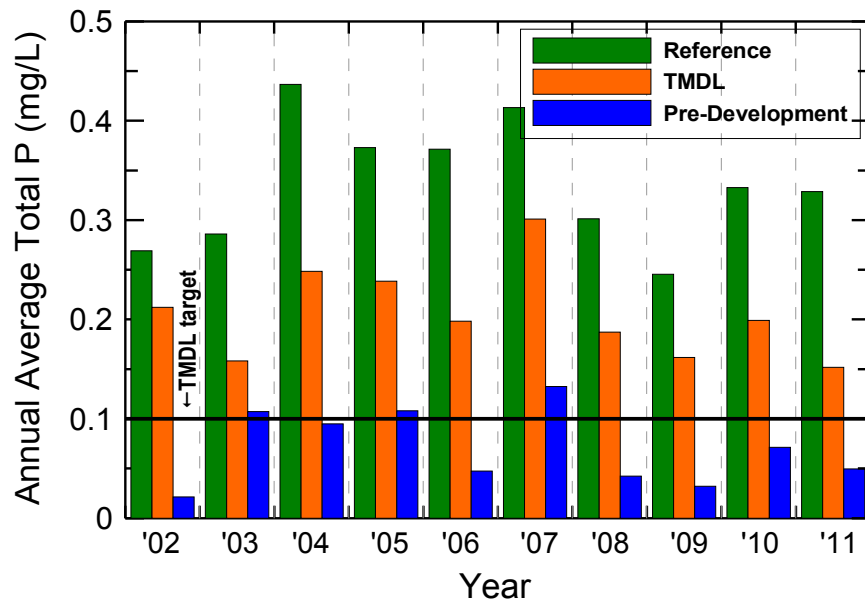


Fig. 4. Annual average total P concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

Volume-weighted chlorophyll a concentrations exhibited pronounced seasonal variations, with generally much higher concentrations in the fall after mixing and in the spring following external loading events (Fig. 5). Daily volume-weighted concentrations often approached 100 $\mu\text{g/L}$ during these periods under existing conditions, while volume-weighted summer concentrations were more commonly 15-20 $\mu\text{g/L}$. The process of volume-weighting lowered the chlorophyll levels that one would see within the

epilimnion, although this effect was relatively modest since much of the volume of Canyon Lake lies above the thermocline. External load reductions required in the TMDL yielded especially large reductions in chlorophyll levels in the winter and spring, although high concentrations of chlorophyll were generated in the fall, especially following mixing (Fig. 5). Very low concentrations of chlorophyll a were predicted at all times under the pre-development scenario, and only reached 10 $\mu\text{g/L}$ in 2005 following the very large external loading that year (Table 1).

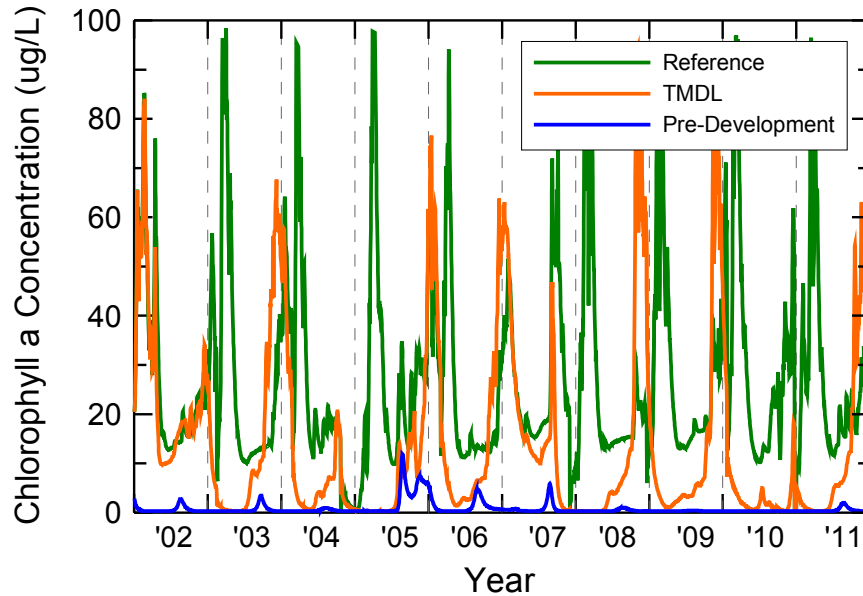


Fig. 5. Volume-weighted daily chlorophyll a concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

The annual average chlorophyll concentrations calculated from the data in Fig. 5 indicated that Canyon Lake is quite close to compliance with the 25 $\mu\text{g/L}$ TMDL target (Fig. 6). These annual values were calculated from volume-weighted values from the entire water column, as opposed to concentrations reported for the photic zone, as in previous reports, and so are somewhat lower. Irrespective, successful implementation of BMPs to meet the TMDL-prescribed external load reductions is predicted to lower quite dramatically the annual average chlorophyll a concentrations, and should meet the numeric target for chlorophyll a in all but the initial year of the simulation (Fig. 6) (this reflects the lag in water quality, since external load reductions were assumed to be in place beginning only in 2002).

The very low external loading of nutrients in the pre-development scenario (Table 1) was predicted to yield annual average chlorophyll a concentrations of just 1-3 $\mu\text{g/L}$, with the lingering effect of high external loading in 2005 seen clearly here as well (Fig. 6). This El Niño event was predicted to demonstrably impact water quality for about 3 years.

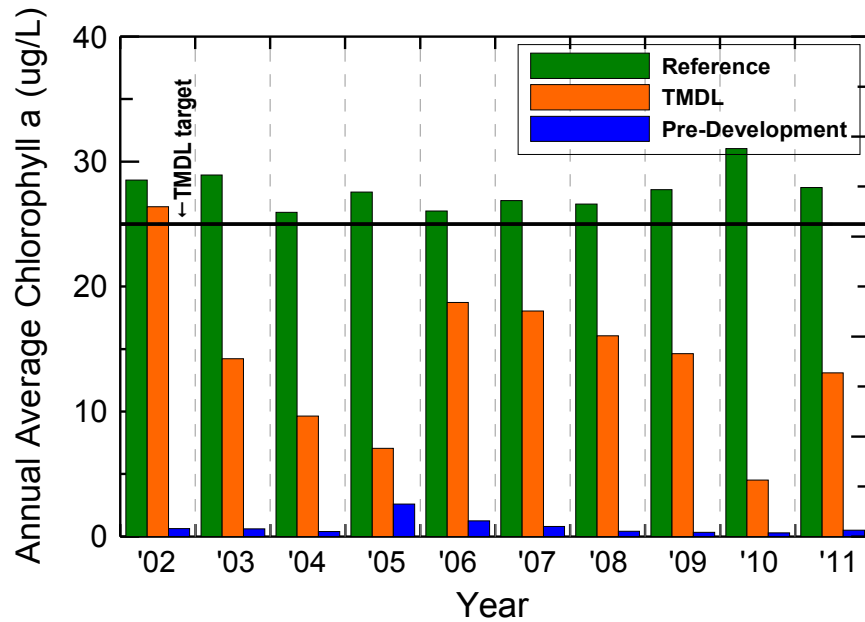


Fig. 6. Annual average chlorophyll a concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

Unlike nutrient and chlorophyll a concentrations, for which the TMDL specifies maximum annual average values, the DO numerical objective is a minimum daily average value for the hypolimnion (≥ 5 mg/L). Here daily volume-weighted dissolved oxygen (DO) concentrations were calculated for the lowermost 7 m of water column, up to the base of the metalimnion. The volume-weighted hypolimnetic DO concentrations were high during the winter but decreased below 5 mg/L for a considerable period of time each year under all 3 scenarios, including pre-development (Fig. 7). Concentrations were generally somewhat higher under the reference (existing) and TMDL scenarios relative to the pre-development scenario during the winter owing to greater overall productivity in the lake, but DO levels declined more rapidly in the late winter and early spring (Fig. 7). The model predicts a gradient in DO within the hypolimnion, with levels decreasing to almost 0 mg/L immediately above the sediments but several mg/L near the thermocline. Volume-weighting thus reflects more strongly the higher concentrations in the upper hypolimnion where the greatest volume is also found. As a result, the volume-weighted values were generally about 3 mg/L (Fig. 7), while concentrations close to the sediments (as shown in previous reports) were generally very close to 0 mg/L during summer thermal stratification.

The daily volume-weighted hypolimnetic concentrations in Fig. 7 were used to determine the number of days each year the hypolimnetic DO concentrations were below the 5 mg/L TMDL target (Fig. 8). The number of days each year varied from about 260 to 340 for the reference (existing) scenario (average duration of 294 days), while reduction in external loading per the TMDL lowered the number of days each year by approximately 20, to an average duration of 273 days or about 9 months (Fig. 8).

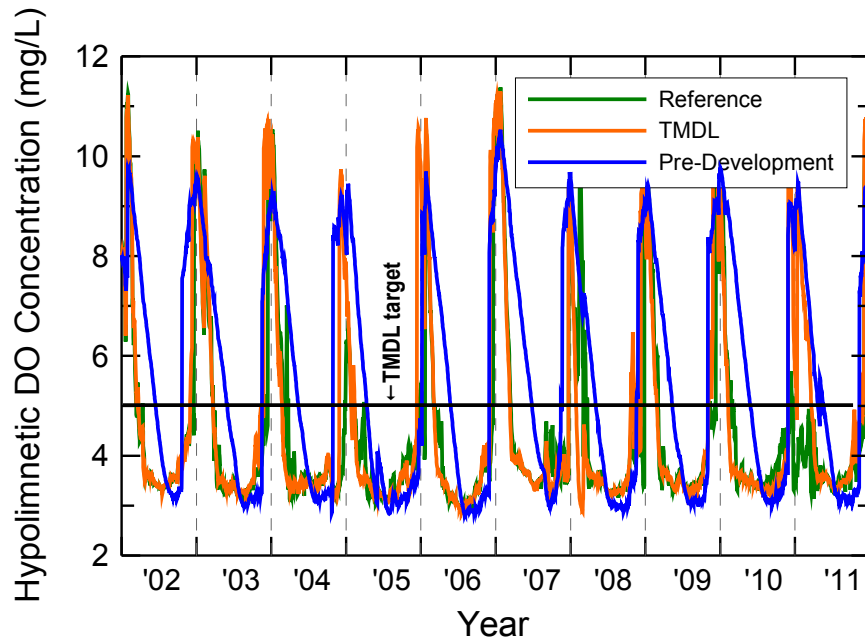


Fig. 7. Volume-weighted daily hypolimnetic DO concentrations under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

Importantly, even the pre-development scenario was predicted to yield hypolimnetic concentrations < 5 mg/L an average of 181 days or 50% of the year (Fig. 8)

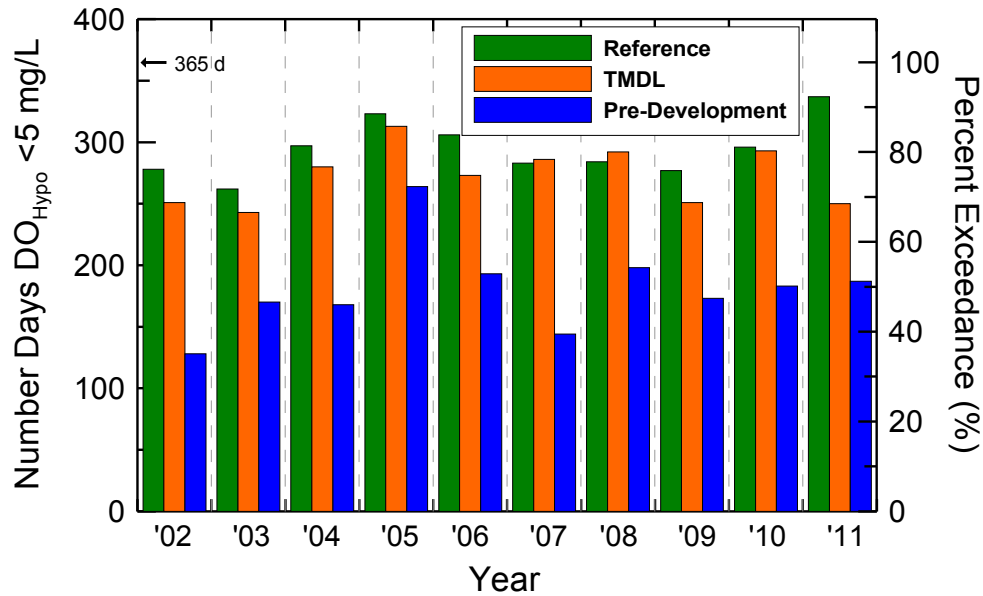


Fig. 8. Number of days each year when hypolimnetic DO concentrations were below the TMDL target of 5 mg/L under the reference (existing) condition, TMDL-prescribed reductions in external loading, and the pre-development scenario.

Conclusions

Results from these simulations indicate:

- (i) Reductions in external loading of N by 31% and total P by 73% resulted in moderate reductions in total N concentrations and more substantial reductions in total P concentrations in Canyon Lake, although annual average values remained above TMDL numerical targets.
- (ii) TMDL-prescribed external load reductions were predicted to achieve compliance with the 25 µg/L chlorophyll a target for the lake assuming volume-weighting within the entire water column.
- (iii) Low concentrations of total P and very low concentrations of total N and chlorophyll a were predicted under the pre-development scenario.
- (iv) Daily volume-weighted DO concentrations in the hypolimnion were below the DO TMDL target much of the year for all scenarios, including the pre-development scenario where DO in the hypolimnion was <5 mg/L approximately 50% of the year.

References

Anderson, M.A. 2012a. *Evaluation of Long-Term Reduction of Phosphorus Loads from Internal Recycling as a Result of Hypolimnetic Oxygenation in Canyon Lake*. Draft Technical Memorandum, Task 2, to LESJWA. 21 pp.

Anderson, M.A. 2012b. *Evaluation of Alum, Phoslock and Modified Zeolite to Sequester Nutrients in Inflow and Improve Water Quality in Canyon Lake*. Draft Technical Memorandum, Task 3, to LESJWA. 12 pp.

Santa Ana Regional Water Quality Control Board. 2004. *Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Nutrient Total Maximum Daily Loads (TMDLs) for Lake Elsinore and Canyon Lake*. Resolution R8-2004-0037. 4 pp + Attachment.

DRAFT 6/15/12

AGREEMENT TO FORM THE LAKE ELSINORE AND CANYON LAKE TMDL TASK FORCE

This Agreement to form the Lake Elsinore and Canyon Lake TMDL Task Force (hereinafter "AGREEMENT") is made and effective this ___th day of _____, 2012 by and among the following entities, which are hereinafter sometimes collectively referred to as "TASK FORCE AGENCIES" or individually as "TASK FORCE AGENCY":

-
- US Air Force (March Air Reserve Base)
- March Joint Powers Authority
- California Department of Transportation
- California Department of Fish and Game
- County of Riverside
- City of Beaumont
- City of Canyon Lake
- City of Hemet
- City of Lake Elsinore
- City of Moreno Valley
- City of Murrieta
- City of Perris
- City of Riverside
- City of San Jacinto
- City of Menifee
- City of Wildomar
- Elsinore Valley Municipal Water District
- Eastern Municipal Water District
- Western Riverside County Agriculture Coalition (on behalf of the participating Agricultural Operators in the San Jacinto River Basin)
- Western Riverside County Agriculture Coalition (on behalf of the participating Dairy Operators in the San Jacinto River Basin)
- Riverside County Flood Control and Water Conservation District

I. RECITALS

A. Whereas, in 1998, the Santa Ana Regional Water Quality Control Board (hereinafter "Regional Board") designated Lake Elsinore and Canyon Lake in the Lake Elsinore and San Jacinto Watersheds (Collectively the "Watersheds") as "impaired water bodies" pursuant to Section 303(d) of the federal Clean Water Act because of high levels of algae in both lakes and low dissolved oxygen in Lake Elsinore, attributed to excess phosphorus and nitrogen (Nutrients). As a result of said Section 303 designation, the Clean Water Act and California's Non-point Source Pollution Control Plan requires that total maximum daily loads (hereinafter "TMDLs") be established by the Regional Board for these waterbodies; and

B. Whereas, in response to the Section 303(d) designation, the Regional Board adopted a Resolution R8-2004-0037 on December 20, 2004 amending the Water Quality Control Plan for the Santa Ana River Basin (BASIN PLAN AMENDMENT) to incorporate nutrient TMDLs for Canyon Lake and Lake Elsinore. The Basin Plan Amendment specifies, among other things, an Implementation Plan, which holds specified stake holders (TASK FORCE AGENCIES) individually and/or jointly liable for complying with the TMDLs by means of specific tasks to be completed by specified dates under penalty of law. These tasks include development and implementation of a watershed-wide nutrient water quality monitoring program, development of an in-lake nutrient monitoring program for Canyon Lake and Lake Elsinore, development of a plan and schedule for in-lake sediment nutrient reduction for Lake Elsinore, development of a plan and schedule for evaluating in-lake sediment nutrient strategies for Canyon Lake, updating watershed and in-lake nutrient TMDL water quality models, developing a pollutant trading plan, and reviewing and revising the TMDL to reflect updated data and science; and

C. Whereas, the purpose of this AGREEMENT is to form a task force (hereinafter "TASK FORCE") to implement certain tasks identified in the TMDL Implementation Plan and to pursue TMDL related tasks agreed upon by TASK FORCE AGENCIES; and

D. Whereas, the TASK FORCE AGENCIES agree that the purpose of this TASK FORCE is to (1) review and develop recommendations to update the TMDL BASIN PLAN AMENDMENT based on the best available scientific information, and (2) implement TMDL Implementation Plan Tasks identified below and jointly assigned to TASK FORCE AGENCIES, and (3) propose appropriate revisions to the TMDL BASIN PLAN AMENDMENT to the Santa Ana RWQCB by June 30, 2010, and (4) allow watershed stakeholders to participate in efforts to meet appropriate water quality standards so that Canyon Lake and/or Lake Elsinore can be de-listed from the Clean Water Act 303(d) list of impaired water bodies; and

E. Whereas, hundreds of individual agricultural and dairy operators are subject to the Canyon Lake and Lake Elsinore TMDLs and its component TMDL Implementation Plan; and

F. Whereas, the Western Riverside County Agricultural Coalition(WRCAC) is a non-profit organization representing the interests of participating agricultural and dairy operators within the San Jacinto Watershed; and

G. Whereas, WRCAC's membership is open to any and all agricultural and dairy operators within the San Jacinto watershed; and

H. Whereas, March Air Reserve Base (MARB) is an installation of the United States Air Force is on federal lands. and as an agency of the federal government, is therefore subject to limitations in its ability to comply with every provision stated herein to the same extent that other non-federal TASK FORCE AGENCIES are able to comply. These limitations are based upon, but not limited to, those identified in the federal Clean Water Act, the federal Antideficiency Act, the principle of sovereign immunity and the holdings of the Supreme Court of the United States, and other binding federal court decisions, as they interpret those sources of federal law. The limitations so mentioned include, but are not limited to, the availability of federal funding to pay for participation in this program, and the ability of MARB to participate directly in sampling, research or data gathering activities which are not located on or near MARB lands or a point source of water discharge arising on MARB lands, or other activities not specifically authorized by the Federal Clean Water Act section 313. To the extent that the limitations described herein prevent MARB from fully participating in any aspect of this program, they reserve the right, in their sole discretion, to participate in the program as a matter of comity. By entering into this agreement, MARB does not authorize any of the TASK FORCE AGENCIES to exercise regulatory authority over them. MARB agrees that State and federal regulatory agencies that are or may become members of this TASK FORCE have regulatory authority over MARB only to the extent permitted by State or Federal Law; and

I. Whereas, the TASK FORCE AGENCIES acknowledge and agree that the effectiveness of the TASK FORCE may be improved by the inclusion of other agencies as additional TASK FORCE AGENCIES to the TASK FORCE; and

J. Whereas, the Riverside County Flood Control and Water Conservation District (RCFC&WCD) serves as the MS4 PRINCIPAL PERMITTEE for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit (MS4) for the Santa Ana Region of Riverside County; and

K. Whereas, the County of Riverside and Cities of Beaumont, Canyon Lake, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Perris, Riverside, San Jacinto, Menifee, Wildomar are MS4 CO-PERMITTEES for the NPDES MS4 Permit for the Santa Ana Region of Riverside County; and

L. Whereas, the MS4 PRINCIPAL PERMITTEE and MS4 CO-PERMITTEES collectively represent the MS4 PERMITTEES within the San Jacinto Watershed; and

M. Whereas, the NPDES MS4 Permit for the Santa Ana Region of Riverside County is regulated by the Regional Board and subject to the requirements of the nutrient TMDLs for Canyon Lake and Lake Elsinore; and

N. Whereas RCFC&WCD has agreed to provide services on behalf of itself as MS4 PRINCIPAL PERMITTEE and on behalf of the MS4 CO-PERMITTEES for the purposes of this AGREEMENT; and

P. Whereas, the TMDL assigned nutrient waste load allocations for Supplemental Water addition to Lake Elsinore to stabilize the Lake's elevation; and

Q. Whereas, the nutrient waste load allocation for Supplemental Water, which includes Island Well water, EVMWD treatment plant effluent, and other sources of non-stormwater, may reduce the TMDL waste load allocation and TMDL load allocation of other point and non-point sources because in-lake nutrient capacity was not adjusted to account for increased lake levels associated with the addition of Supplemental Water; and

R. Whereas, the assumptions regarding load allocations for Supplemental Water may not be consistent with the actual operation of Supplemental Water sources; and

S. Whereas, the City of Lake Elsinore and EVMWD previously entered into an agreement to equally share the cost of Supplemental Water addition to the Lake under the "Lake Elsinore Comprehensive Water Management Agreement", and

T. Whereas, for the purposes of this Agreement, the City of Lake Elsinore shall be acknowledged and recognized as a separate and equal contributor with EVMWD for the cost and voting rights accorded under this Agreement attributed to EVMWD for Supplemental Water addition; and

U. Whereas, the TASK FORCE AGENCIES agree that certain nutrient dischargers have been either inappropriately named or not named as responsible parties for various tasks in the BASIN PLAN AMENDMENT; and

V. Whereas, the TASK FORCE AGENCIES agree that agricultural and dairy lands are converting to urban and open space lands; and

W. Whereas, the TASK FORCE AGENCIES agree that an amendment to the TMDL to address, at minimum, the proper naming of responsible parties for various tasks in the TMDL Implementation Plan, to correct the load allocation and waste load allocations to properly address the impacts of Supplemental Water on Lake Elsinore, and to revise the load allocation and waste load allocations to address the ongoing conversion of agriculture and dairy lands to urban and/or open space should be addressed as part of a revision to the TMDL Implementation Plan; and

X. Whereas, MARB agrees to budget for and to participate in the TASK FORCE, provided that sufficient funds are appropriated by the Congress, in FY 06-07 and future years, and on the condition that funding requirements under this AGREEMENT do not violate the Anti-deficiency Act, and provided that the TASK FORCE AGENCIES agree to relocate the proposed monitoring station from Kitching Channel to the Heacock drainage channel, and use any fees provided by MARB, for participation in this program, to establish and monitor this station.

II. COVENANTS

NOW, THEREFORE, in consideration of the foregoing recitals and mutual covenants contained herein, the TASK FORCE AGENCIES agree as follows:

1. Creation of a Task Force. There is hereby created a "Lake Elsinore and Canyon Lake TMDL Task Force" ("TASK FORCE") consisting of the TASK FORCE AGENCIES and certain Non-Voting, Non-Funding Members as more specifically provided for in paragraph 2 below.
2. Representation on the Task Force.
 - a. Appointment. Concurrently with the execution of this Agreement, each TASK FORCE AGENCY shall, in accordance with such TASK FORCE AGENCY's own governing

provisions, appoint one primary representative to the TASK FORCE and one alternate representative to act in the absence of the primary representative (hereinafter collectively referred to as “REPRESENTATIVES” or individually as “REPRESENTATIVE”). The REPRESENTATIVES shall have the authority to act on behalf of its appointing TASK FORCE AGENCY. The REPRESENTATIVES shall serve at the pleasure of the appointing TASK FORCE AGENCY and may be removed at any time, with or without cause by such TASK FORCE AGENCY; provided, however, that the TASK FORCE AGENCIES acknowledge and agree the continuity of representation on the TASK FORCE is important to the overall effectiveness of the TASK FORCE, and the TASK FORCE AGENCIES further agree to ensure such continuity whenever possible.

- b. Additional Agencies. The TASK FORCE AGENCIES acknowledge and agree that the effectiveness of the TASK FORCE may be improved by the inclusion of other agencies as additional TASK FORCE AGENCIES to the TASK FORCE. Such agencies may join the TASK FORCE on such written terms and conditions as are acceptable to all then existing TASK FORCE AGENCIES of the TASK FORCE, including, but not limited to, agreed-upon cash contributions for past, present, and/or future work, of the TASK FORCE. The inclusion of such agencies as additional TASK FORCE AGENCIES to the TASK FORCE shall be effected by a written amendment to this AGREEMENT signed by all then existing TASK FORCE AGENCIES. Such additional TASK FORCE AGENCIES shall each appoint their TASK FORCE primary REPRESENTATIVE and alternate REPRESENTATIVE as provided in Section II.2.a above or in said written amendment. The following agencies will be considered for inclusion as additional TASK FORCE AGENCIES in future amendments to this Agreement within the meaning of this section:

Any other named stakeholder in any future amendments of the BASIN PLAN AMENDMENT.

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- c. Non-Voting, Non-Funding Members. The Regional Board, Lake Elsinore and San Jacinto Watersheds Authority and the San Jacinto River Watershed council are hereby appointed as Non-Voting, Non-Funding Members of the TASK FORCE. Additional Non-Voting, Non-Funding Members may be appointed by a majority vote of the TASK FORCE representatives. Non-Voting, Non-Funding Members appointed herein, and any appointed in the future are authorized only to make recommendations upon the functioning of this TASK FORCE and the development of this program. Federal, State and local regulatory agencies acting as Non-Voting, Non-Funding Members, now or in the future, retain authority to regulate TASK FORCE MEMBERS only to the extent that they are so authorized under State and Federal law.
 - d. Dairy and Agricultural Operators. The TASK FORCE AGENCIES acknowledge that the Western Riverside County Agriculture Coalition (WRCAC) shall represent the collective interest of both participating agricultural and dairy operators in the San Jacinto River Watershed in the TASK FORCE at this time. WRCAC shall appoint two primary TASK FORCE REPRESENTATIVES and two alternate REPRESENTATIVES as provided in Section II.2.a. One set of REPRESENTATIVES shall be designated for agricultural operator interests; the other set of REPRESENTATIVES shall be designated for dairy interests for the purposes of this TASK FORCE.
 - e. Committees. The TASK FORCE may establish subcommittees, consisting of REPRESENTATIVES and Non-Voting, Non-Funding Members who shall be selected by, and serve at the pleasure of, the TASK FORCE.

- f. Task Force Administrator. A TASK FORCE administrator (hereinafter “TASK FORCE ADMINISTRATOR”) shall be appointed by the TASK FORCE. The TASK FORCE ADMINISTRATOR shall have the following administrative responsibilities:
- (1) Organizing and facilitating TASK FORCE meetings;
 - (2) Secretarial, clerical, and administrative services;
 - (3) Managing TASK FORCE funds and preparing annual reports of TASK FORCE assets and expenditures;
 - (4) Retaining TASK FORCE-authorized consultants; and
 - (5) Seeking funding grants to assist with achieving the work of the TASK FORCE and other goals and objectives approved by TASK FORCE AGENCIES.
 - (6) Possible administrator of future pollutant trading (water quality trading) agreements.

The TASK FORCE AGENCIES hereby appoint the Lake Elsinore and San Jacinto Watersheds Authority as the initial TASK FORCE ADMINISTRATOR.

g. Meetings of the Task Force.

- (i) Frequency and Location. The TASK FORCE shall, by resolution or motion, agree upon the time and place for holding its regular meetings. Special meetings may be called at the request of the TASK FORCE ADMINISTRATOR or by a majority of the TASK FORCE REPRESENTATIVES.
- (ii) Task Force Chair. The TASK FORCE REPRESENTATIVES shall select a chair and a vice-chair. The term of the chair and vice-chair shall be one year and shall be rotated among the TASK FORCE REPRESENTATIVES interested in serving as chair.
- (iii) Quorum. One half or more of the REPRESENTATIVES of the TASK FORCE shall constitute a Quorum.
- (iv) Voting. Actions of the TASK FORCE shall be validly taken only when a Quorum is present and upon the affirmative vote of a MAJORITY of the TASK FORCE REPRESENTATIVES. A MAJORITY of the REPRESENTATIVES shall be determined as follows:

Each TASK FORCE AGENCY shall have one vote assigned for each \$1,000 increment of PRO RATA COST SHARE, as described in Paragraph II.5 below, contributed to the TASK FORCE Budget developed for a given fiscal year. A MAJORITY of the REPRESENTATIVES shall consist of greater than 50% of the total votes based on the Budget for the fiscal year during which the action is taken.

- (v) All meetings of the TASK FORCE or any of its committees shall be conducted as may be required by any applicable provisions of the Ralph M. Brown Act (California Government Code §§54950 et seq.). The provisions contained in the Ralph M. Brown Act shall prevail in the event of any conflict with provisions contained in this Agreement.

The TASK FORCE may adopt such additional rules and regulations as may be required for the conduct of its affairs so long as such rules and regulations do not conflict with this Agreement.

3. Work of the Task Force. The TASK FORCE shall perform the following tasks in accordance with guidelines established by the Regional Board:

- a. To retain consulting services to review scientific and other assumptions contained within the TMDL. Consultant(s) shall provide a report identifying preliminary TMDL opportunities such as site specific objectives, pollutant trading strategies, and integration strategies. The final scope of work shall be approved by the Task Force. The report shall specifically consider assumptions supporting the TMDL. The report should also provide preliminary analysis of the ability to achieve in-lake nutrient reductions and verify that load assignments are appropriate. Upon completion of the report, Consultant(s) shall also review work described herein, and make recommendations to ensure that work is specifically designed to resolve any deficiencies, where appropriate. Consultant(s) shall also coordinate development of BASIN PLAN AMENDMENT language, in coordination with the Regional Board, which can be used to revise the TMDLs as part of the Regional Board's Triennial Reviews at a minimum, or no later than by June 2010.
- b. TMDL IMPLEMENTATION PLAN Task 4 - Implement a Watershed-wide Nutrient Monitoring Program. This program shall obtain data necessary to update the Lake Elsinore and Canyon Lake Nutrient TMDL, and to determine compliance with interim and final nitrogen and phosphorus allocations, and compliance with the nitrogen and phosphorus TMDLs. Monitoring and management of monitoring data to update the Lake Elsinore and Canyon Lake Nutrient TMDL shall commence immediately upon approval of this Agreement. An annual report summarizing the data collected for the year shall be submitted to the Regional Board by August 15 of each year.
- c. TMDL IMPLEMENTATION PLAN Task 4 - Implement a Lake Elsinore and Canyon Lake Nutrient Monitoring Program. This program shall obtain data necessary to update the Lake Elsinore and Canyon Lake Nutrient TMDLs, and to determine compliance with interim and final nitrogen, phosphorus, chlorophyll A and dissolved oxygen numeric targets. In addition, the monitoring program shall determine the relationship between ammonia toxicity and the total nitrogen allocation to ensure that the total nitrogen allocation will prevent ammonia toxicity in Lake Elsinore and Canyon Lake. Lake monitoring and management of lake monitoring data shall be deferred based on agreement with the Regional Board until after the Canyon Lake Hypolimnetic Oxygenation System is constructed and will commence upon completion. Thereafter, an annual report summarizing the data collected for the year shall be submitted to the Regional Board by August 15 of each year.
- d. TMDL IMPLEMENTATION PLAN Tasks 9 and 10 - Implement a Plan to Reduce Nutrients from sediments in Lake Elsinore and Canyon Lake. The projects will be based on prepared plans shall evaluate the efficacy of various in-lake treatment technologies to prevent the release of Nutrients from lake sediments as a long-term strategy for control of Nutrients in the sediment. The program may also include a sediment nutrient monitoring program to evaluate the effectiveness of any technologies that may be implemented. Target Date for Completion Date: July 1, 2015 (Interim TMDL targets) July 1, 2020 (Final TMDL targets).
- e. TMDL IMPLEMENTATION PLAN Task 11 - Implement a Plan and Schedule for Updating the Existing Lake Elsinore/San Jacinto River Watershed Nutrient Model and the Canyon Lake and Lake Elsinore In-Lake Models. Develop and implement a plan and schedule to update and execute Watersheds and in-lake models to track the progress of TMDL efforts. In-lake models should be analyzed as soon as sufficient data becomes available. Target Date for Completion: December 31, 2018.
- f. TMDL IMPLEMENTATION PLAN Task 12 - Investigate, Develop and Implement a Pollutant (Water Quality) Trading Plan. Investigate the feasibility of pollutant trading in

the Watersheds, and develop a feasibility plan for Regional Board review and approval. Target Date for Completion: December 31, 2012.

- g. Investigate Long Term TMDL Implementation Structure, Cost Sharing Formula and Funding Sources. Investigate possible long term administrative structures, cost sharing formulas and funding sources that can be used to obtain compliance with the TMDL requirements. Target Date for Completion: December 31, 2012.
 - h. Other Tasks. The TASK FORCE may undertake such other plans, programs and studies as authorized by the TASK FORCE pursuant to II.2.g. of this Agreement.
 - i. Limitations on MARB. As described above in Section I.h., MARB is an agency of the federal government and is therefore unable to participate in each and every aspect of Section 3 to the same extent as other TASK FORCE MEMBERS. To the extent that it is unable to participate in any tasks under section 3, it reserves the right, in its sole discretion, to participate to the fullest extent that it is able, as a matter of comity.
4. Budgets. The total Annual Budget, adjusted to remove in-kind services, grant funding and funding credits associated with this Agreement shall not exceed \$800,000, except as authorized by the TASK FORCE via two-thirds approval via votes based on the Budget for the then current fiscal year pursuant to II.2.g. of this Agreement. The TASK FORCE ADMINISTRATOR shall prepare and submit a proposed Budget for each fiscal year of this Agreement to the TASK FORCE AGENCIES by November 30th. The proposed Budget shall include all anticipated costs for the scope(s) of work developed by the TASK FORCE for the next fiscal year. The TASK FORCE Representatives shall approve the Budget by December 31st. Each TASK FORCE AGENCY shall pay its PRO-RATA SHARE of the approved fiscal year's TASK FORCE Budget and arrears by August 31st of the following year. The Budget for the fiscal year 2012- 2013 and estimate for fiscal year 2013- 2014 is included as Attachment A to the Agreement. Approval of this Agreement shall constitute approval of the Budget for fiscal year 2012- 2013. Payment of the fiscal year 2012- 2013 Budget shall be by August 31, 2012, or within 30 days of the approval of this Agreement by each TASK FORCE AGENCY, whichever is sooner.

The TASK FORCE ADMINISTRATOR shall endeavor to minimize carry-over fund balances to those necessary to complete work of the TASK FORCE and to maintain contingencies limited to those necessary to ensure work of the TASK FORCE is not impeded. Excess not necessary to complete budgeted work of the TASK FORCE or maintain adequate reserves shall be credited back to the TASK FORCE AGENCIES in the Budget consistent with the PRO-RATA SHARE methodology described in Paragraph II.5 below. THE TASK FORCE AGENCIES shall agree to a reasonable reserve balance as part of each year's Budget.

After September 30 of each year, the TASK FORCE ADMINISTRATOR shall provide an accounting of all PRO RATA SHARES collected via cash or in-kind contributions. If PRO RATA SHARES collected are less than Budget, the TASK FORCE shall meet with Regional Board staff to determine appropriate priorities for scheduled TASK FORCE work and revise Budget based on available funds.

5. Pro-Rata Share Calculation. The annual PRO-RATA SHARE shall be calculated in the following manner:
- A. TMDL TASK FORCE costs identified within the Task Force Budget under Part A: Task Force Regulatory/Administrative Budget (see Exhibit "A") shall be shared equally by the TASK FORCE AGENCIES.

B. TMDL TASK FORCE costs identified within the Task Force Budget under Part B: TMDL Implementation Project Budget (see Exhibit "A") shall be shared by the TASK FORCE AGENCIES, based upon participation in the individual program or project. The PRO-RATA SHARE for each TASK FORCE AGENCIES under Part B shall be per an amount agreed upon and/or in kind services among the participating parties.

C. The PRO-RATA SHARE for additional TASK FORCE AGENCIES shall be per in-kind services and/or an amount agreed upon via written amendment of this AGREEMENT per Section II.2.b.

If the estimated funds collected under the PRO-RATA SHARE calculations exceed the BUDGET, the contributions of MS4 CO-PERMITTEES, EVMWD, City of Lake Elsinore, Agricultural Operators, Dairy and other TASK FORCE AGENCIES contributing in excess of the base amount shall be raised or reduced proportionately based on the percentage of their PRO-RATA SHARE, until the estimated total PRO-RATA SHARES equals the BUDGET.

RCFC&WCD shall provide the TASK FORCE ADMINSTRATOR with annual individual MS4 CO-PERMITTEE cost share distribution of the MS4 CO-PERMITTEES PRO-RATA SHARE for each Fiscal Year. The methodology used by RCFC&WCD to calculate the MS4 CO-PERMITTEE cost share distribution may be amended at the NPDES MS4 Management Steering Committee.

Pro rata cost shares assigned to TASK FORCE AGENCIES who are not PARTIES to this Agreement shall be considered unfunded portions of the BUDGET and are addressed in Section II.4, paragraph 3 of this Agreement.

6. In-Kind Credits. The TASK FORCE shall accept in-kind contributions or credits for TASK FORCE work defined under this AGREEMENT per Section II.3. as agreed to annually by the TASK FORCE. The PRO-RATA SHARE of a TASK FORCE AGENCY shall be reduced by the value of IN-KIND CREDITS provided toward agreed-upon budgeted tasks by, or on behalf, of the TASK FORCE AGENCY(S). Credits shall be applied to each budget period and adjusted at the end of each budget year based on actual verified costs unless deferred to a future budget year among the TASK FORCE AGENCIES with credits.
7. Modifications to the TASK FORCE PRO-RATA SHARE methodology. The methodology deriving the TASK FORCE PRO-RATA SHARE as provided in Section II.5 of this Agreement may be modified upon written approval of all then existing TASK FORCE AGENCIES who's PRO-RATA SHARE would be affected.
8. The TASK FORCE AGENCIES shall cooperate fully with one another to attain the purposes of this Agreement.
9. Nothing in this Agreement, nor the work set forth in this Agreement, nor any activity approved or carried out by the TASK FORCE AGENCIES hereunder, is intended to be nor shall be interpreted as a waiver by TASK FORCE AGENCIES of the "Maximum Extent Practicable" standard set forth in the Clean Water Act (33 U.S.C. Section 1251 *et seq.*).
10. Each TASK FORCE AGENCY shall indemnify, defend, and hold each of the other TASK FORCE AGENCIES, including their special districts, officials, agents, officers, and employees, harmless from and against any and all liability and expense arising from any act or omission of such TASK FORCE AGENCY, its officials, agents, officers, and employees, in connection with this Agreement, including but not limited to defense costs, legal fees, claims, actions, and causes of action for damages of any nature whatsoever, including but not limited to bodily injury, death, personal injury, or property damage; provided, however, that no TASK FORCE AGENCY shall

indemnify another TASK FORCE AGENCY for that TASK FORCE AGENCY's own negligence or willful misconduct.

MARB, as an agency of the federal government, is unable to indemnify or hold harmless any other TASK FORCE AGENCY for any liability arising under this agreement. MARB expressly does not indemnify or hold harmless any other TASK FORCE AGENCY for any injuries or liabilities, to itself, to any third party or to MARB, or its employees under this agreement or any activities carried out under authority of this agreement.

11. In light of the provisions of Section 895.2 of the Government Code of the State of California imposing certain tort liability jointly upon public entities solely by reason of such entities being parties to an agreement (as defined in Section 895 of said Code), each of the TASK FORCE AGENCIES hereto, pursuant to the authorization contained in Sections 895.4 and 895.6 of said Code, shall assume the full liability imposed upon it or any of its officers, agents, or employees by law for injury caused by any act or omission occurring in the performance of this Agreement to the same extent that such liability would be imposed in the absence of Section 895.2 of said Code. To achieve the above stated purpose, each of the TASK FORCE AGENCIES indemnifies, defends, and holds harmless each other TASK FORCE AGENCY for any liability, cost, or expense that may be imposed upon such other TASK FORCE AGENCY solely by virtue of said Section 895.2. The provisions of Section 2778 of the California Civil Code are made a part hereof as if incorporated herein.

MARB, as an agency of the federal government, is unable to indemnify or hold harmless any other TASK FORCE AGENCY for any liability arising under this agreement. MARB expressly does not indemnify or hold harmless any TASK FORCE AGENCY for any injuries or liabilities, to itself, to any third party or to MARB or their employees under this agreement or any activities carried out under authority of this agreement. Tort liability for federal employees, including employees of MARB, is expressly authorized and limited by the Federal Tort Claims Act, which will control liability of MARB and their employees under the terms of this agreement.

12. All obligations of CALTRANS under the terms of this Agreement are subject to the appropriation of the resources by the Legislature and the allocation of resources by the California Transportation Commission. This Agreement has been written before ascertaining the availability of Federal or State legislative appropriation of funds, for the mutual benefit of the TASK FORCE AGENCIES in order to avoid program and fiscal delays that would occur if the Agreement were executed after that determination was made. This Agreement is valid and enforceable as to each of the CALTRANS as if sufficient funds have been made available to CALTRANS by the United States Government or California State Legislature for the purposes set forth in this Agreement. If the United States Government or the California State Legislature does not appropriate sufficient funds for CALTRANS to participate in this Agreement, this Agreement may be amended in writing by the TASK FORCE AGENCIES to reflect any agreed-upon reduction in the percentage of funds contributed by CALTRANS to continue its participation in this Agreement. CALTRANS, however, has the option to withdraw from this Agreement in the event sufficient funds are not appropriated for CALTRANS. Should CALTRANS exercise its option to withdraw from this Agreement, CALTRANS shall remain responsible for its share of liability, if any, incurred while participating in this Agreement.
13. No TASK FORCE AGENCY shall have a financial obligation to any other TASK FORCE AGENCY under this Agreement, except as expressly provided herein.
14. Any notices, invoices, reports, correspondence, or other communication concerning this Agreement shall be directed to the TASK FORCE AGENCY REPRESENTATIVE on file with the TASK

FORCE ADMINISTRATOR, except that any TASK FORCE AGENCY may change its name or address by giving the other TASK FORCE AGENCIES at least ten days written notice of the new name or address.

15. The TASK FORCE AGENCIES are, and shall at all times remain as to each other, wholly independent entities. No TASK FORCE AGENCY to this Agreement shall have power to incur any debt, obligation, or liability on behalf of any other TASK FORCE AGENCY unless expressly provided to the contrary by this Agreement. No employee, agent, or officer of a TASK FORCE AGENCY shall be deemed for any purpose whatsoever to be an agent, employee or officer of another TASK FORCE AGENCY.
16. This Agreement shall be binding upon and shall inure to the benefit of the respective successors, heirs, and assigns of each TASK FORCE AGENCY.
17. This Agreement shall be governed by, interpreted under and construed and enforced in accordance with the laws of the State of California, except as to the March Air Reserve Base to whom federal law is applicable.
18. If any provision of this Agreement shall be determined by any court to be invalid, illegal or unenforceable to any extent, the remainder of this Agreement shall not be affected and this Agreement shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in this Agreement.
19. Each individual TASK FORCE AGENCY has been represented by its own separate counsel in the preparation and negotiation of this Agreement. Accordingly, this Agreement shall be construed according to its fair language and any ambiguities shall not be resolved against the drafting TASK FORCE AGENCY.
20. Each of the persons signing below on behalf of a TASK FORCE AGENCY represents and warrants that he or she is authorized to sign this Agreement on behalf of such TASK FORCE AGENCY.
21. Duration of Agreement. This Agreement shall terminate June 30, 2017(unless extended by mutual agreement of all TASK FORCE AGENCIES), provided that all debts and liabilities of the TASK FORCE are satisfied. Notwithstanding the foregoing, each TASK FORCE AGENCY reserves the right to withdraw from the TASK FORCE at any time, upon sixty (60) days' prior written notice to the TASK FORCE. TASK FORCE contingency, projects and studies underway at the time of withdrawal shall continue to be fully funded by the withdrawing TASK FORCE AGENCY until the end of the fiscal year in which the TASK FORCE AGENCY gave notice to withdraw.
22. Counterparts. This Agreement may be executed simultaneously or in counterparts, each of which shall be deemed an original and together shall constitute one and the same instrument.
23. Amendment. This Agreement may not be amended except in a writing signed by all the TASK FORCE AGENCIES.
24. Effective Date. This Agreement shall become effective when it has been executed by all of the TASK FORCE AGENCIES.

IN WITNESS WHEREOF, the TASK FORCE AGENCIES have executed this AGREEMENT on the date set forth below.

AGENCY

AGENCY

US AIR FORCE (MARCH AIR RESERVE BASE)

BY _____

DATE _____

**MARCH JOINT
POWERS AUTHORITY**

BY _____

DATE _____

**CALIFORNIA DEPARTMENT OF
TRANSPORTATION**

BY _____

DATE _____

**CALIFORNIA DEPARTMENT OF
FISH AND GAME**

BY _____

DATE _____

COUNTY OF RIVERSIDE

BY _____

DATE _____

**RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT**

BY _____

DATE _____

**ELSINORE VALLEY MUNICIPAL
WATER DISTRICT**

BY _____

Board Chair

DATE _____

EASTERN MUNICIPAL WATER DISTRICT

BY _____

Board Chair

DATE _____

**WESTERN RIVERSIDE COUNTY AGRICULTURE
COALITION**

BY _____

DATE _____

**LAKE ELSINORE & SAN JACINTO
WATERSHEDS AUTHORITY**

BY _____

Board Chair

DATE _____

CITY OF BEAUMONT

BY _____

Mayor

DATE _____

CITY OF CANYON LAKE

BY _____

Mayor

DATE _____

CITY OF HEMET

BY _____

Mayor

DATE _____

CITY OF LAKE ELSINORE

CITY OF MORENO VALLEY

BY _____
Mayor

DATE _____

CITY OF MURRIETA

BY _____
Mayor

DATE _____

CITY OF RIVERSIDE

BY _____
Mayor

DATE _____

CITY OF WILDOMAR

BY _____
Mayor

DATE _____

**SANTA ANA REGIONAL WATER QUALITY
CONTROL BOARD**

BY _____

DATE _____

BY _____
Mayor

DATE _____

CITY OF PERRIS

BY _____
Mayor

DATE _____

CITY OF SAN JACINTO

BY _____
Mayor

DATE _____

CITY OF MENIFEE

BY _____
Mayor

DATE _____

- 1) I was recommending that we delete 5A and just have the permittees agree to the individual shares. It may come up in today's meeting. If so, we'll change it back.
- 2) Alternative for your consideration regarding 6

In-Kind Credits. *The TASK FORCE shall accept in-kind contributions or credits for Task Force work defined under this AGREEMENT per Section II.3 as agreed to ~~annually~~ in advance as part of the annual budget development process, by the TASK FORCE.* The PRO-RATA SHARE of a TASK FORCE AGENCY shall be reduced by the value of IN-KIND CREDITS provided toward agreed-upon budgeted tasks by, or on behalf, of the TASK FORCE AGENCY(S). Credits shall be applied to each budget period and adjusted at the end of each budget year based on actual verified costs unless deferred to a future budget year among the TASK FORCE AGENCIES with credit.

**Approved FY 2012-13 Budget: Lake Elsinore & Canyon Lake TMDL Task Force
Summary Task Force Expenditures**

Budget
2012-13

Part A: Task Force Regulatory/Administrative Budget

1. Task Force Administration	\$ 50,000
Task Force Administrator (LESJWA)	
Annual Water Quality Reporting and Database Management	
Amend Task Force Agreement	
Grant Preparation	
2. TMDL Compliance Expert	\$ 50,000
Risk Sciences	
3. Pollutant Trading Program Development	\$ 60,000
TBD	
4. Contingency (approximately 10% of direct stakeholder expenses)	\$ 16,000
TMDL Task Force Regulatory/Administrative Budget	\$ 176,000

Part B: TMDL Implementation Project Budget

1. TMDL Compliance Monitoring	
Watershed-wide Nutrient Monitoring Program	\$ 85,000
Watershed-wide Nutrient Monitoring & Report Preparation (Weston Solutions)	\$ 70,000
Wet Year Watershed-wide Monitoring (weather dependant) (RCFC&WCD)	\$ -
Lab Analysis, Watershed-wide Monitoring (RCFC&WCD)	\$ 15,000
Stream gauge O&M (RCFC&WCD)	\$ -
Lake Elsinore Nutrient Monitoring Program	\$ -
Lake Elsinore Nutrient Monitoring & Lab Analysis (EVMWD)	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring & Lab Analysis (EVMWD)	\$ -
2. Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M (to be handled by separate agreement)	
O&M	\$ -
Pollutant Trading Administration (3% of O&M Costs)	\$ -
Fishery Management O&M	\$ -
Carp Removal Program	\$ -
Pollutant Trading Administration (3% of O&M Costs)	\$ -
3. Canyon Lake Project Alternatives	\$ 220,000
Permitting	\$ 30,000
O&M Agreement	\$ 20,000
Detailed Design	\$ 150,000
Construction	\$ -
O&M	\$ -
Project Administration (10% of budgeted expenses)	\$ 20,000
Pollutant Trading Administration (3% of O&M Costs)	\$ -
	\$ -
	\$ -
	\$ -
TMDL Task Force Implementation Budget	\$ 305,000

TMDL Task Force Budget : \$ 481,000

Task Force Agency Contributions Summary

**Budget
2012-13**

1. Task Force Agency Allocation	Administrative (Part A)	Project Implementation (Part B)	Total
MS4 Co-Permittees (Total)	\$ 105,600	\$ 249,988	\$ 355,588
Riverside County	\$ 18,981	\$ 44,935	\$ 63,916
City of Beaumont	\$ 2,249	\$ 5,324	\$ 7,574
City of Canyon Lake	\$ 1,958	\$ 4,636	\$ 6,595
City of Hemet	\$ 13,087	\$ 30,980	\$ 44,067
City of Lake Elsinore	\$ 6,955	\$ 16,466	\$ 23,421
City of Moreno Valley	\$ 30,284	\$ 71,691	\$ 101,974
City of Murrieta	\$ 375	\$ 888	\$ 1,263
City of Perris	\$ 9,560	\$ 22,632	\$ 32,192
City of Riverside	\$ 1,710	\$ 4,047	\$ 5,757
City of San Jacinto	\$ 6,420	\$ 15,197	\$ 21,617
City of Menifee	\$ 11,796	\$ 27,925	\$ 39,721
City of Wildomar	\$ 2,225	\$ 5,267	\$ 7,492
Elsinore Valley Municipal Water District (EVMWD)	\$ 8,800	\$ 4,250	\$ 13,050
San Jacinto Agricultural Operators	\$ 8,800	\$ 19,478	\$ 28,278
San Jacinto Dairy & CAFO Operators	\$ 8,800	\$ 10,034	\$ 18,834
CALTRANS - freeway	\$ 8,800	\$ 4,250	\$ 13,050
CA DF&G - San Jacinto Wetlands	\$ 8,800	\$ 4,250	\$ 13,050
Eastern Municipal Water District	\$ 8,800	\$ 4,250	\$ 13,050
March Air Reserve Base Joint Powers Authority	\$ 8,800	\$ 4,250	\$ 13,050
US Air Force (March Air Reserve Base)	\$ 8,800	\$ 4,250	\$ 13,050
Total Funding Required	\$ 176,000	\$ 305,000	\$ 481,000

Notes:

Task Force Administration

- Organize and facilitate TMDL TASK FORCE and TAC meetings,
- Perform secretarial, clerical and administrative services, including providing meeting summaries to TMDL TASK FORCE members,
- Manage TMDL TASK FORCE funds and prepare annual reports of TMDL TASK FORCE assets and expenditures,
- Serve as the contracting party, for the benefit of the TMDL TASK FORCE, for contracts with all consultants, contractors, vendors and other entities,
- Seek funding grants to assist with achieving goals and objectives of the TMDL TASK FORCE.
- Coordinate with other agencies and organizations as necessary to facilitate TMDL TASK FORCE work.
- Administer the preparation of quarterly and annual reports, as required by the TMDL Implementation Plan, and submit them as required by the TMDL Implementation Plan on behalf of the TMDL TASK FORCE.
- Possible administrator of future pollutant trading (water quality trading) agreements.

TMDL Compliance Expert

- Support Task Force Agency as a Regulatory Strategist and Compliance Expert .
- Develop implementation strategy to address TMDL compliance with nutrient targets
- Plan and prepare Basin Plan Amendment for TMDL
- Sub-contract out pollutant trading agreement preparation by consultant

Task Force Agency Contributions Detailed Tables**Part A: Task Force Regulatory/Administrative Budget****Task Force Regulatory/Administrative Expenses**

	Allocation
MS4 Co-Permittees	\$ 105,600
Riverside County	\$ 18,981
City of Beaumont	\$ 2,249
City of Canyon Lake	\$ 1,958
City of Hemet	\$ 13,087
City of Lake Elsinore	\$ 6,955
City of Moreno Valley	\$ 30,284
City of Murrieta	\$ 375
City of Perris	\$ 9,560
City of Riverside	\$ 1,710
City of San Jacinto	\$ 6,420
City of Menifee	\$ 11,796
City of Wildomar	\$ 2,225
Elsinore Valley Municipal Water District (EVMWD)	\$ 8,800
San Jacinto Agricultural Operators	\$ 8,800
San Jacinto Dairy & CAFO Operators	\$ 8,800
CALTRANS - freeway	\$ 8,800
CA DF&G - San Jacinto Wetlands	\$ 8,800
Eastern Municipal Water District	\$ 8,800
March Air Reserve Base Joint Powers Authority	\$ 8,800
US Air Force (March Air Reserve Base)	\$ 8,800
Funding Required	\$ 176,000

Part B: TMDL Implementation Project Budget**TMDL Compliance Monitoring Expenses****Watershed-wide Nutrient Monitoring Program**

	Allocation
MS4 Co-Permittees	\$ 51,000
Riverside County	\$ 9,167
City of Beaumont	\$ 1,086
City of Canyon Lake	\$ 946
City of Hemet	\$ 6,320
City of Lake Elsinore	\$ 3,359
City of Moreno Valley	\$ 14,626
City of Murrieta	\$ 181
City of Perris	\$ 4,617
City of Riverside	\$ 826
City of San Jacinto	\$ 3,100
City of Menifee	\$ 5,697
City of Wildomar	\$ 1,075
Elsinore Valley Municipal Water District (EVMWD)	\$ 4,250
San Jacinto Agricultural Operators	\$ 4,250
San Jacinto Dairy & CAFO Operators	\$ 4,250
CALTRANS - freeway	\$ 4,250
CA DF&G - San Jacinto Wetlands	\$ 4,250
Eastern Municipal Water District	\$ 4,250
March Air Reserve Base Joint Powers Authority	\$ 4,250
US Air Force (March Air Reserve Base)	\$ 4,250
Funding Required	\$ 85,000

Lake Elsinore Nutrient Monitoring Program

Allocation

MS4 Co-Permittees	\$ -
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 Perris	\$ -
City of Riverside	\$ -
City of San Jacinto	\$ -
City of Menifee	\$ -
City of Wildomar	\$ -
Elsinore Valley Municipal Water District (EVMWD)	\$ -
San Jacinto Agricultural Operators	\$ -
San Jacinto Dairy & CAFO Operators	\$ -
CALTRANS - freeway	\$ -
CA DF&G - San Jacinto Wetlands	\$ -
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	\$ -
US Air Force (March Air Reserve Base)	\$ -
Funding Required	\$ -

Canyon Lake Nutrient Monitoring Program

Allocation

MS4 Co-Permittees	\$ -
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 Perris	\$ -
City of Riverside	\$ -
City of San Jacinto	\$ -
City of Menifee	\$ -
City of Wildomar	\$ -
Elsinore Valley Municipal Water District (EVMWD)	\$ -
San Jacinto Agricultural Operators	\$ -
San Jacinto Dairy & CAFO Operators	\$ -
CALTRANS - freeway	\$ -
CA DF&G - San Jacinto Wetlands	\$ -
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	\$ -
US Air Force (March Air Reserve Base)	\$ -
Funding Required	\$ -

Lake Elsinore Project Alternatives

Aeration & Destratification System O&M

	Allocation
MS4 Co-Permittees	\$ -
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 Perris	\$ -
City of Riverside	\$ -
City of San Jacinto	\$ -
City of Menifee	\$ -
City of Wildomar	\$ -
Elsinore Valley Municipal Water District (EVMWD)	\$ -
San Jacinto Agricultural Operators	\$ -
San Jacinto Dairy & CAFO Operators	\$ -
CALTRANS - freeway	\$ -
CA DF&G - San Jacinto Wetlands	\$ -
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	\$ -
US Air Force (March Air Reserve Base)	\$ -
Funding Required	\$ -

Lake Elsinore Project Alternatives

Fishery Management O&M

	Allocation
MS4 Co-Permittees	\$ -
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 Perris	\$ -
City of Riverside	\$ -
City of San Jacinto	\$ -
City of Menifee	\$ -
City of Wildomar	\$ -
Elsinore Valley Municipal Water District (EVMWD)	\$ -
San Jacinto Agricultural Operators	\$ -
San Jacinto Dairy & CAFO Operators	\$ -
CALTRANS - freeway	\$ -
CA DF&G - San Jacinto Wetlands	\$ -
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	\$ -
US Air Force (March Air Reserve Base)	\$ -
Funding Required	\$ -

Canyon Lake Project Alternatives

	Allocation
MS4 Co-Permittees	\$ 198,988
Riverside County	\$ 35,767
City of Beaumont	\$ 4,238
City of Canyon Lake	\$ 3,690
City of Hemet	\$ 24,660
City of Lake Elsinore	\$ 13,106
City of Moreno Valley	\$ 57,065
City of Murrieta	\$ 707
City of Perris	\$ 18,015
City of Riverside	\$ 3,221
City of San Jacinto	\$ 12,097
City of Menifee	\$ 22,228
City of Wildomar	\$ 4,193
Elsinore Valley Municipal Water District (EVMWD)	\$ -
San Jacinto Agricultural Operators	\$ 15,228
San Jacinto Dairy & CAFO Operators	\$ 5,784
CALTRANS - freeway	
CA DF&G - San Jacinto Wetlands	
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	
US Air Force (March Air Reserve Base)	
	\$ 220,000

Cost formula: based upon the 1:1 ratio of TP to TN contributions from urban and agricultural runoff as projected in the respective Riverside County Comprehensive Nutrient Reduction Plan and San Jacinto Agricultural Nutrient Reduction Plan

Task Force Agency Contributions Detailed Tables

	Allocation
MS4 Co-Permittees (Total)	\$ 156,600
Task Force Regulatory/Administrative Expenses	\$ 105,600
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 51,000
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
Riverside County	\$ 28,148
Task Force Regulatory/Administrative Expenses	\$ 18,981
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 9,167
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
	\$ -
City of Beaumont	\$ 3,335
Task Force Regulatory/Administrative Expenses	\$ 2,249
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 1,086
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
	\$ -
City of Canyon Lake	\$ 2,904
Task Force Regulatory/Administrative Expenses	\$ 1,958
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 946
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	

City of Hemet	\$ 19,407
Task Force Regulatory/Administrative Expenses	\$ 13,087
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 6,320
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of Lake Elsinore	\$ 10,315
Task Force Regulatory/Administrative Expenses	\$ 6,955
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 3,359
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of Moreno Valley	\$ 44,909
Task Force Regulatory/Administrative Expenses	\$ 30,284
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 14,626
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of Murrieta	\$ 556
Task Force Regulatory/Administrative Expenses	\$ 375
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 181
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	

City of Perris	\$ 14,177
Task Force Regulatory/Administrative Expenses	\$ 9,560
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,617
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of Riverside	\$ 2,535
Task Force Regulatory/Administrative Expenses	\$ 1,710
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 826
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of San Jacinto	\$ 9,520
Task Force Regulatory/Administrative Expenses	\$ 6,420
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 3,100
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
City of Menifee	\$ 17,493
Task Force Regulatory/Administrative Expenses	\$ 11,796
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 5,697
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	

City of Wildomar	\$ 3,300
Task Force Regulatory/Administrative Expenses	\$ 2,225
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 1,075
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
Elsinore Valley Municipal Water District (EVMWD)	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
San Jacinto Agricultural Operators	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
San Jacinto Dairy & CAFO Operators	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	

CALTRANS - freeway	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
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CA DF&G - San Jacinto Wetlands	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
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Eastern Municipal Water District	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
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March Air Reserve Base Joint Powers Authority	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
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US Air Force (March Air Reserve Base)	\$ 13,050
Task Force Regulatory/Administrative Expenses	\$ 8,800
TMDL Compliance Monitoring Expenses	
Watershed-wide Nutrient Monitoring Program	\$ 4,250
Lake Elsinore Nutrient Monitoring Program	\$ -
Canyon Lake Nutrient Monitoring Program	\$ -
Lake Elsinore Project Alternatives	
Aeration & Destratification System O&M	\$ -
Fishery Management O&M	\$ -
Canyon Lake Project Alternatives	
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Total:	\$ 261,000

PROJECTED - Task Force Agency Contributions through FY 2010-11Cummulative
Credit / (Debit)

MS4 Co-Permittees (Total)	\$ 359,205
Riverside County	\$ 72,513
City of Beaumont	\$ 5,009
City of Canyon Lake	\$ 5,384
City of Hemet	\$ 33,909
City of Lake Elsinore	\$ 106,017
City of Moreno Valley	\$ 77,550
City of Murrieta	\$ 2,247
City of Perris	\$ 23,561
City of Riverside	\$ 3,642
City of San Jacinto	\$ 15,348
City of Menifee	\$ 11,798
City of Wildomar	\$ 2,225
Elsinore Valley Municipal Water District (EVMWD)	\$ 91,830
San Jacinto Agricultural Operators	\$ 28,985
San Jacinto Dairy & CAFO Operators	\$ 16,452
CALTRANS - freeway	\$ -
CA DF&G - San Jacinto Wetlands	\$ -
US Forest Service (USFS)	\$ -
Eastern Municipal Water District	\$ -
March Air Reserve Base Joint Powers Authority	\$ -
US Air Force (March Air Reserve Base)	\$ -
Total Credits	\$ 855,677