

Letter	Comment #	Comment	Relation to Final EIR/EIS
City of Sacramento	1	The City of Sacramento (City) appreciates the opportunity to provide comments on the December 22, 2016 California WaterFix Final Environmental Impact Report and Environmental Impact Statement (FEIR/FEIS). The City previously submitted comments on the Bay Delta Conservation Plan (BDCP) and associated Draft Environmental Impact Report and Draft Environmental Impact Statement (DEIR/DEIS) as well as the Revised Recirculated Draft Environmental Impact Report and Supplemental Draft Environmental Impact Statement (RDEIR/SDEIS). In addition, the City incorporates evidence submitted to the State Water Resources Control Board in connection with the water right change petition filed by the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation). (See Attachment 1 for a list of evidence specifically referred to in this comment letter.)	No comment is made on the Final EIR/EIS. The comment includes incorporating by reference information submitted by the City of Sacramento to the SWRCB as part of hearing petition. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.
City of Sacramento	2	<p>The City provides a potable water supply primarily from surface waters tributary to the Delta that serves more than 136,000 customer accounts, and over 485,000 residents. The City's diversions of surface water are made pursuant to pre-1914 rights, five water right permits, and a permanent water right operating contract with Reclamation. In addition, the City provides the following critical services that benefit City residents and businesses as well as the Delta:</p> <ul style="list-style-type: none"> • Municipal separate storm sewer system (MS4) services that include a management program, compliance with the National Pollutant Discharge Elimination System permit (NPDES No. CAS082597, Order No. R5-2016-0040), and participation in the Sacramento Stormwater Quality Partnership (SSQP). The SSQP and the City stormwater programs provide education and outreach to reduce pollution and to standardize pollution best management practices for development projects across the region. The SSQP and City programs have supported water quality improvements in local creeks and rivers for more than 25 years. • A combined sewer system (NPDES No. CA0079111, Order No. R5-2016-0040) that treats wastewater and more than 99.5% of the stormwater drainage from an 11.3 square mile area in the City's Downtown, East Sacramento, and Land Park areas. 	No comment is made on the Final EIR/EIS. The comment provides background information on the water supply role played by the City of Sacramento. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.
City of Sacramento	3	The City values environmental resources and is committed to the protection of our waterways, biological species and habitat, and other environmental resources. Preservation of these environmental resources and maintenance of their quality is not only beneficial to current residents but is crucial to the sustainability and quality of life of future generations. The City has been a major participant in the Sacramento Area Water Forum in support of regional water supply reliability and protection of the Lower American River environmental values. The City supports the co-equal goals of restoring the ecological health of the Delta and creating a reliable water supply for all of California.	No comment is made on the Final EIR/EIS. The comment includes incorporating by reference comments submitted by North State Water Alliance and American River Water Agencies. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.
City of Sacramento	4	The City also participates in the North State Water Alliance (NSWA) and the American River Water Agencies (ARWA) commenting on the FEIR/FEIS. The comments by these two groups largely focus on the deficiencies in the FEIR/FEIS relative to water supply and hydrologic analysis. The City hereby incorporates those comment letters by reference into this comment letter, including without limitation those submitted by	No comment is made on the Final EIR/EIS. The comment includes incorporating by reference comments submitted by North State Water Alliance and American River Water Agencies. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.

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		NSWA and ARWA in response to the FEIR/FEIS.	
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City of Sacramento	6	<p>The following are key water quality issues of concern, which we submit in addition to our previous comments. Due to the limited time available for the review of the FEIR/FEIS, it was necessary to focus our review to identify new materials or information, although our previous comments might contain additional issues and technical comments that have not been addressed that we expressly incorporate into the current comments articulated in this letter.</p> <p>1. INSUFFICIENT EVALUATION OF WATER QUALITY IMPACTS</p> <p>The FEIR/FEIS evaluation of water quality impacts is insufficient and does not provide coverage for the duration of the proposed project. The responses to comments and FEIR/FEIS have addressed some of the comments made by the City and others, but generally fail to make substantive changes and do not address the critical and underlying water quality concerns in a meaningful and accountable way.</p> <p>Several of the key inadequacies in the FEIR/FEIS water quality assessments are described below. The inadequacies include failure to consider detailed quantitative impacts for all constituents of concern, failure to consider impacts at locations on the American River and the Sacramento River near to and upstream of the proposed CM1 North Delta intakes, and failure to adequately identify incremental changes relative to the no action alternative (NAA), which includes climate change.</p> <p>One primary insufficiency of the FEIR/FEIS is reflected by the suggestion many times through the document that the project proponents do not have to perform more extensive analysis of impacts in cases where the tools are not readily available: <i>To the extent that a constituent assessment could be conducted quantitatively, using models currently developed and validated for the Delta, those tools were utilized for the water quality assessment.</i> (FEIR/FEIS-Comments and Responses to Comments, page 1-118)</p> <p>Because the preferred alternative and proposed modification to the Delta hydraulics would have such a profound effect on Delta and exported water quality, the project proponents should develop tools to perform an adequate evaluation of impacts. Development of these tools is reasonable and necessary for an adequate evaluation of potential impacts required for CEQA and NEPA compliance. It is common for agencies</p>	<p>Assessment methodology and use of quantitative versus qualitative approaches is addressed in the Final EIR/EIS and in Master Response 14, Volume 2, Final EIR/EIS.</p> <p>DWR disclosed the adaptive management process within the Final EIR/EIS and supplemented this discussion with Final EIR/EIS, Volume 2, Master Response 33 Adaptive Management and Monitoring, which information on mechanisms that would be used to address scientific uncertainties.</p> <p>Impact determinations regarding EC and mercury (and all other constituents) were made relative to thresholds of significance provided in Section 8.3.2.3; increase in a constituent concentration does not necessarily translate to a significant impact, contrary to the comment.</p> <p>This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>regulated under NPDES permits to perform two- and three-dimensional modeling of discharge plume hydrodynamics and dispersion, and a similar effort should have been undertaken for the proposed intakes and their operations.</p> <p>The Mitigation Monitoring and Reporting Program (MMRP) fails to sufficiently identify benchmarks, indicators, and remedial actions that will be taken to address impacts, and the relationship of the MMRP to adaptive management. Improved analysis is required to identify and evaluate mitigation measures and adequate adaptive management.</p> <p>The City has previously identified multiple constituent-based water quality impacts of the proposed project. While the FEIR/FEIS confirms some of these, they are largely dismissed because of model error or qualitative conclusions of insignificance. The FEIR/FEIS documents the significant and unavoidable impacts to Delta salinity and proposes one aspirational mitigation measure. Figure 8-0a summarizes increases for the preferred alternative for salinity (16% of days exceeding standard) and an 8% increase in mercury fish tissue concentrations. These are both higher than the no action alternative, confirming that the preferred alternative worsens conditions beyond the current operating conditions and climate change. Harmful algal blooms, pesticides, and temperature are also of concern to the City.</p>	
City of Sacramento	7	<p>Salinity</p> <p>The FEIR/FEIS evaluation of the impact of the project and associated water management actions that will degrade salinity further is inadequate, and does not provide sufficient mitigation even when impacts are identified. Salt management is a key ongoing issue in the Central Valley. The need for salt management results from the use of groundwater rather than surface water, decreased surface water flows, and increased surface water concentrations. The FEIR/FEIS includes Mitigation Measure WQ-11, which is an operational consideration to perform real-time operations to "reduce or eliminate" water quality degradation in the western Delta at Emmaton. While we appreciate this approach to meet water quality objectives, the proposed mitigation measure still allows exceedances of water quality objectives, suggesting that there is little to no incentive to meet these regulatory obligations. The project proponents interpret modeled exceedances for the preferred alternative as "less than significant" and "not adverse". There is no modeling of the "real-time" operations that would demonstrate that this added operational control will not impact reservoir storage and stream flows. The mitigation measures must be more than aspirational goals and should be designed to meet water quality standards throughout the Delta. Because the stated commitment to meeting these water quality standards does not include any mechanism to assure actual mitigation, the listed impact "WQ-7: Effects on chloride, EC, and bromide concentrations resulting from facilities operations and maintenance (CM1)" as "less than significant" and "not adverse" for the preferred alternative, should be listed as "significant and unavoidable" and "adverse".</p> <p>Moreover, the analysis of salinity and water quality impacts does not adequately summarize or clearly state basic facts of salinity management. Does the project increase or decrease the salinity accumulation in the Central Valley? Does the</p>	<p>The commenter previously raised this issue in RECIRC 2562. As responded to within the Final EIR/EIS, the analysis concludes that both the No Action Alternative and the project alternatives would have a less than significant impact/no adverse effect on electrical conductivity upstream of the Delta. EC at Emmaton was identified as a significant impact which is why WQ-11e and 11f were developed. The mitigation (WQ-11e and 11f) includes performance standards, including meeting water quality objectives, thus, the basis for the statement in the mitigation measure allows exceedances of water quality objectives is unclear.</p> <p>The water quality addresses salinity changes in water through directly modeling the alternatives, because beneficial uses are directly affected by concentrations/levels of salinity-parameters and the modeling using DSM2 (on a 15-minute time-step) provides a proper analysis.</p> <p>This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>preferred alternative increase or decrease the mass flux of salinity leaving the Delta to the San Francisco Bay, or to export areas? The FEIR/FEIS states that there is no net effect (e.g., page 8-927, 8-937, etc.) on salinity, but does not provide analysis of salinity load management in the Central Valley.</p>	
City of Sacramento	8	<p>Harmful algal blooms (HAB)</p> <p>One of the critical potential water quality impacts to the City's municipal use arising from the California WaterFix Project is an increase in the presence and concentration of blue-green algae in the source water, caused by increased source water temperatures and residence times resulting from upstream reservoir operational changes. The FEIR/FEIS continues to state that there is no potential for <i>Microcystis</i> growth in the Sacramento and American Rivers upstream of the Delta, which is incorrect based on real data collected at the City's E.A. Fairbairn Water Treatment Plant (EAFWTP) and Sacramento River Water Treatment Plant (Sacramento River WTP). The responses to comments (related to water temperature, water residence time, and <i>Microcystis</i>) and the FEIR/FEIS insufficiently address the potential for <i>Microcystis</i> upstream of the Delta as described below. Additional discussion of temperature impacts is provided later in this comment letter.</p> <p>In Master Response 14, there is a brief discussion on adequacy of the assessment in the upstream of the Delta Region for <i>Microcystis</i>. The master response asserts that "...Microcystis bloom development is limited upstream of the Delta due to high water velocity and low residence times. Further, <i>Microcystis</i> blooms upstream of the Delta have only been documented in eutrophic lakes such as Clear Lake." (page 1-135, lines 23 through 25) The City disagrees with this assertion because in June 2015, when upstream storage had decreased significantly and water temperatures increased, the City's Sacramento River WTP developed algae in the grit basin; monitoring was conducted to determine the species, which included identification of <i>Anabaena</i> (a cyanobacterium). Additional monitoring was conducted by the City to verify the presence of cyanotoxins (Anatoxin, Microcystin, and Cylindrospermopsin). Due to increased source water algae levels through the summer and fall months, cyanotoxin monitoring was conducted at both the City's EAFWTP and Sacramento River WTP from August through November 2015 (see Attachment 1, Exhibit City Sac - 30). None were detected. Additional data was collected in 2016 (see Attachment 1, Exhibit City Sac - 30) when similar hydrologic and algae conditions occurred, and there were low level detects of anatoxin a in the Lower American River in July and August 2016, and low level detects of microcystin YR in the Lower American River and Sacramento River in August 2016. The presence of the cyanotoxins indicates the presence of blue-green algae in the waterbodies upstream of the Delta and therefore the FEIR/FEIS is flawed by omitting its evaluation.</p> <p>In addition, the master response states, "High water velocity and low residence times are not expected to change under the No Action Alternative (early long-term [ELT] and late long-term [LLT]) or the project alternatives." (page 1-135, lines 31 through 33) However, modeling analysis conducted and presented in the FEIR/FEIS contradicts this</p>	<p>The EIR/EIS <i>Microcystis</i> assessment is not flawed as claimed by the comment. Attachments to the comments support the EIR/EIS regarding <i>Microcystis</i>. CITYSAC-8 states: "Historically, there have been no constituents or characteristics consistently present in the raw water that necessitate additional or advanced treatment processes." [Exhibit CITYSAC-8, pg. 2, ln. 10–11] Exhibit CITYSAC-29, pg. 7,11, states that historical operations of the Sacramento River and American River system have maintained hydrodynamic conditions that prevent the formation of stagnant areas that are favorable to cyanobacteria blooms within the rivers. Furthermore, phosphorus levels are generally low, the river does not stratify, and temperatures remain cool except in slower moving eddies and backwater areas [Exhibit CITYSAC-29, pg.7,11]. Thus, conditions in the Sacramento River and American River are rarely conducive to formation of cyanobacteria [Exhibit CITYSAC-29, pg. 11-12]. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.</p> <p>The concern raised in this comment regarding the effects of the proposed project on flows is based on comparison to Existing Conditions. Such a comparison includes the effects of not only the alternative, but climate change. To isolate the effects of the alternative, the appropriate baseline for comparison is the No Action Alternative. This is explained in Section 8.3.2.2 and Table 8-63 in Chapter 8, Water Quality. The assessment of project effects was based on comparison to the No Action Alternative. While flows may vary under the project alternatives, the low flows are not expected to be outside of the range that occurs under Existing Conditions or would occur under the No Action Alternative. Thus, any modified reservoir operations under the project alternatives are not expected to promote <i>Microcystis</i> production upstream of the Delta, relative to Existing Conditions and the No Action Alternative (ELT and LLT).</p> <p>Regarding residence time, the comment is citing DSM2 modeled residence time results for the Delta. The City of Sacramento water intakes are located upstream, and outside of, the DS2M model domain, thus, the modeling results cited in the comment are not relevant.</p> <p>Commenter previously raised this issue in RECIRC 2562, comment 9, which was responded to within the Final EIR/FEIS. Also see Master Response 14 in Volume 2, Final EIR/EIS, regarding water quality effects.</p> <p>This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>statement for both river flows and residence time upstream of the Delta.</p> <p>The RDEIR/SDEIS provided selected updates for figures of downstream river long-term average flows in Chapter 4, for the new Alternative 4A. The main difference was the time period was identified as being the early long-term (ELT) rather than the late long-term (LLT) presented in the DEIR/DEIS, which significantly reduces the projected duration of impacts as well as the level of impacts. The modeled river flows were updated for selected downstream locations. The results for the American River at Nimbus (Figure 4.3.2-12), the Feather River at Thermalito Dam (Figure 4.3.2-14), and the Sacramento River at Freeport (Figure 4.3.2-4) all display similar trends as the original model results. These indicate higher winter flows (January and February) and lower summer and fall flows (June through November) near the EAFWTP and Sacramento River WTP intakes. Lower summer and fall river flows will likely result in lower water velocity and contribute to increased water temperature at the City's water treatment plant intakes, both of which can contribute to increased algae growth in the source water. The FEIR/FEIS presents the same information as the RDEIR/SDEIS, with expansion to water year types (Appendix 5F, Figures 5F 4-17 through 19, pages 5F-49 through 5F-51).</p> <p>Information about the proposed project's effects on mean residence time in the Delta was also presented in the RDEIR/SDEIS Section 8 in the context of the potential to increase the geographic extent and abundance of the hazardous cyanobacterium <i>Microcystis</i>. Residence time was modeled using the DSM2 particle tracking model. The results presented in Table 8- 60a (Section 8, page 8-83) represent the time it took for 50 percent of particles released from various starting points in the Delta (e.g., "North Delta", "South Delta") to exit the Project Area (i.e., through downstream movement past Martinez, or via entrainment in export facilities). The model results predict increases in mean residence time (as defined above) in the North Delta year-round, with significant increases in the fall. Table 8-60a reveals that Alternative 4 H3 (note that Alternative 4 H4 was not included in the table) was expected to increase residence time during the fall in the North Delta by 14 percent compared to the No Action Alternative (via an increase in residence time from 50 to 57 days) or by 16 percent compared to Existing Conditions (via an increase in residence time from 49 to 57 days). The Sacramento River WTP intake is immediately upstream from the North Delta boundary, and would likely be affected by this residence time increase. Significant increases in residence time in the North Delta increase the probability that <i>Microcystis</i> blooms may occur upstream in locations where resulting cyanobacteria, or their cyanotoxins, could enter the Sacramento River WTP and/or EAFWTP's intakes. The FEIR/FEIS presents the same information as the RDEIR/SDEIS (Chapter 8, Table 8-60a, page 8-198).</p> <p>Response to comment 2562-9 states, "The Sacramento River and American River are characterized by high water velocity and low residence times, providing inadequate conditions for the development of <i>Microcystis</i> blooms. While flows may vary under the project alternatives, the low flows are not expected to be outside of the range that occurs under Existing Conditions or would occur under the No Action Alternative. Thus, any modified reservoir operations under the project alternatives are not expected to promote <i>Microcystis</i> production upstream of the Delta, relative to Existing Conditions</p>	

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		<p>and the No Action Alternative (ELT and LLT)..." The operations of upstream reservoirs will be revised under California WaterFix and will result in changes to the flows of the Sacramento, Feather, and American rivers downstream of the CVP/SWP reservoirs, as shown in the FEIR/FEIS. The most significant reductions in river flows are projected to occur during the peak summer months of July, August, and September, when the greatest risk for Microcystis blooms occurs. The FEIR/FEIS has recognized this impact for the North Delta area, but not for the Sacramento River upstream of the Delta and the Lower American River. Mitigation Measure 32b Investigate and Implement Operational Measures to Manage Residence Time requires DWR and Reclamation to monitor Microcystis in the Delta and to implement operational measures to manage water residence time to reduce or prevent blooms. Mitigation Measure 32b needs to apply to Alternative 4A and be expanded to include areas upstream of the Delta, including near the City's Sacramento River WTP and EAFWTP intakes.</p> <p>The response to comment 2562-58 states, "Alternative 4A, the preferred alternative, would not be expected to substantially increase the frequency or geographic extent of Microcystis blooms in the Delta, relative to what would occur under the No Action Alternative, as discussed in Chapter 8, Water Quality. To ensure project operations do not create increased Microcystis blooms in the Delta, water flow through Delta channels would be managed through real-time operations, particularly the balancing of the north and south Delta diversions. By operating the south Delta pumps more frequently during periods conducive to increased Microcystis blooms, residence times could be substantially reduced when necessary. The potential effects of all the project alternatives on Microcystis bloom formation potential in the Delta, and impacts to human health, has been fully assessed in the EIR/S in Chapter 8, Water Quality, in Impacts WQ-32 and WQ-33 and in Chapter 25, Public Health, in Impacts PH-8 and PH-9. The assessments recognize the potential impacts to drinking water uses and human health. Hence Mitigation Measure WQ-32 is provided to address the significant impacts identified for Alternatives IA, IB, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9; Alternatives 4A, 2D, and SA would not have significant impacts to Microcystis. Please see Master Response 14 regarding water quality assessment methodology, water quality data sources, and water quality analyses." A similar statement is made in response to comment 2562-62.</p> <p>The only way to ensure that project operations do not create increased Microcystis blooms in the Delta and upstream of the Delta is to monitor their presence and then respond with real-time operations. Without the monitoring component of Mitigation Measure 32b upstream of the Delta, DWR and Reclamation will not be able to ascertain when periods of blooms may be occurring and then adjust operations as necessary.</p>	
City of Sacramento	9	<p>Temperature and THMs</p> <p>Another key potential water quality impact to the City's municipal use arising from the California WaterFix Project is an increase in the production of disinfection by-products in the treated water, caused by increased source water temperatures resulting from upstream reservoir operational changes. The FEIR/FEIS continues to state that there is no significant impact on water temperature levels, and thus</p>	<p>Regarding temperature changes, this comment incorrectly uses actual historical data to claim that the project would have an adverse effect on river temperature. The historical data do not represent a condition in which the project exists. The temperature modeling that was conducted reflects conditions with (and without) the project to identify impacts. Further, the comment is incorrect in saying the EIR/EIS assumes reservoir operations do not impact water temperature. Temperature modeling was conducted to simulate and evaluate potential effects.</p>

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		<p>disinfection by-product (DBP) levels, for municipal users upstream of the Delta, which is incorrect based on real data collected at the City's EAFWTP and Sacramento River WTP. The responses to comments (related to water temperature and DBP production) and the FEIR/FEIS insufficiently address the potential for temperature and DBP impacts upstream of the Delta as described below.</p> <p>In Master Response 14 there is a discussion on Temperature Effects on Drinking Water (page 1-131, line 37 through page 1-133, line 26). The response asserts that the most sensitive use to temperature changes would be aquatic life. However, there is no evaluation of this sensitivity or any relative comparison of the impacts on municipal and aquatic life uses presented in the FEIR/FEIS. Temperature increases in source water quality have two major concerns for the municipal beneficial use: increased potential for <i>Microcystis</i> blooms and the production of DBPs in the treated water. More evaluation of the potential temperature impacts on the municipal use should have been considered in the FEIR/FEIS.</p> <p>The FEIR/FEIS states that <i>Microcystis</i> blooms can occur when source water temperature exceeds 19 degrees Celsius, which is a specific threshold that can affect human health, yet no evaluation was conducted to see how frequently upstream reservoir operations and storage would affect temperatures of the downstream rivers related to this municipal threshold.</p> <p>The response to comment 2562-123 states, "Please refer to Master Response 14 regarding temperature effects on drinking water uses and potential for disinfection byproduct formation. Water temperature would not be affected to any appreciable degree by the alternatives, because the capacity of operations to change temperature is very limited and water temperatures largely reflect atmospheric conditions." Also, response to comment 1527-119 justifies the lack of quantitative analysis of temperature on the Lower Sacramento River between Knights Landing and Freeport this way: "The locations evaluated in this analysis were limited to the output locations provided in the best available tool at the time, the Sacramento River Water Quality Model. This model included multiple output locations from Keswick to Knights Landing only. This is because water temperatures below Knights Landing are largely in thermal equilibrium with atmospheric conditions and not strongly influenced by flow changes that would occur due to reservoir releases associated with implementation of the action alternatives."</p> <p>The assertion that operations have a limited impact on water temperature is unsupported by the FEIR/FEIS. There is no evaluation comparing the impact of operations and atmospheric conditions on water temperature presented in the FEIR/FEIS. The City has collected information from the California Data Exchange Center (CDEC) website and from the EAFWTP to compare upstream reservoir storage volume, air temperature, and water temperature during the summer and fall months in a qualitative analysis. The City collects daily water temperature data at EAFWTP. CDEC provided daily storage volume at Folsom Reservoir (which was converted into a percent storage based on 977,000 af maximum storage), as well as daily maximum air temperature at the DWR Thermalito Weather Station (TWS), which was the</p>	<p>Regarding temperature and THMs, the comment questions the use of a model presented in Master Response 14 to evaluate the potential for increased THMs. While the article cited in Master Response 14 does evaluate three water treatment plants in Paris, the model used in the response is not a site-specific model; it is a general model developed by USEPA (1997). Because prior City comments made claims about increased temperature and THMs, but did not provide a method by which to estimate what those effects would be, the scientific literature was relied upon to estimate the effects of temperature on THM production. Regarding a 4 degree "Celsius" temperature increase, Master Response presents a 4 degree "Fahrenheit" as a hypothetical; modeled increases were much lower as noted in Master Response 14. Finally, the response to comment does not question whether there is a relationship between temperature and THM production. But it also acknowledges that other factors contribute to final THM levels.</p> <p>This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>closest daily air temperature site for the period. For each year, the period of June 1 through October 31 was evaluated for a median value of water temperature at EAFWTP, air temperature at TWS, and percent storage volume of Folsom Reservoir.</p> <p>This period was selected because it has the potential for <i>Microcystis</i> growth and peak DBP production in the treated water. The results of the City's analysis are presented in Figure 1.</p> <p>Figure 1 shows that the median air temperatures for this period over seven years have very low variability. The figure shows that the median water temperatures of the period vary more significantly, with temperatures exceeding the 19 degree Celsius threshold for <i>Microcystis</i> growth. The figure shows that the median percent storage in Folsom Reservoir during the period varies most significantly over the seven years, with the greatest storage in 2011 and the least storage in 2015. From inspection of the graph, it is obvious that the water temperature is inversely related to the storage volume and has little relationship with the air temperature. The lowest median water temperature occurred in 2011, at 17.7 degrees Celsius, which had the greatest median storage percent of Folsom, at 90.6%. The highest median water temperature occurred in 2015, at 22.3 degrees Celsius, which had the lowest median storage percent of Folsom, at 23.5%. The increase in median water temperature between 2011 and 2015 was nearly 26%. Both years, 2011 and 2015, had the same median air temperature at 31.7 degrees Celsius. A similar relationship was found for the Sacramento River, as shown in Figure 2. The FEIR/FEIS is flawed by assuming that reservoir operations do not impact water temperature and not conducting a sufficient analysis of the temperature impacts related to the municipal use upstream of the Delta. (see figures in original comments)</p> <p>The text presented in Master Response 14 provides some additional information on DBP formation. While we see value in some of the response text, the FEIR/FEIS continues to misunderstand and misrepresent drinking water treatment and operations. The response states, "EPA also notes that water demands are often higher during summer months, resulting in lower water age within the distribution system, which helps to control DBP formation." (page 1-132, lines 13 through 15) This statement is a general description of national water quality and operations. California drinking water supply operations are highly specific, due to the unusual weather patterns and water availability. For the City, water demands fluctuate throughout the year, increasing significantly during the summer and typically are highest in July. Demands slowly taper off after July and steadily decrease in late summer and early fall. Water age in the distribution system is a complex and site-specific representation of water demand, water production, and water storage requirements (such as fire flows). This can be greatly influenced by conservation requirements, such as those required under California law during the drought from 2014 through 2016. The master response also presents generalized information on kinetics of disinfection and by-product formation in the text, with no consideration of local information and effects. The FEIR/FEIS concludes that, "higher temperatures in diverted surface waters do not necessarily translate to higher DBPs in the delivered water supply". (page 1-132, lines 18 through 19) This conclusion is based on a statement regarding degradation of haloacetic acids, which are</p>	

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		<p>only one type of DBP, and provides no consideration of trihalomethanes that are present at higher levels in the treated Sacramento River water. The master response presents information from an article in The Journal of the American Water Works Association to support its determination that projected temperature changes would not be significant to the municipal beneficial use. However, the article presents a case study of three water treatment plants in Paris that utilize non- conventional filtration (biofiltration, ozone, granular activated carbon filtration) on source water with high levels of bromide, and the empirical equation presented in the response to comment text to predict trihalomethanes includes site-specific coefficients for raw/untreated water. The use of this empirical model to evaluate the relevance of temperature changes on the Sacramento River to the municipal use is inappropriate since it is based on site-specific coefficients of highly variable source water and drinking water treatment from the case study. The time period associated with the empirical equation presented is unknown and likely does not reflect actual water age conditions in distribution systems. Using the empirical model, the response projects a 5-7% increase in trihalomethanes for a 4 degree Celsius increase in water temperature, which the City would consider a significant increase. Finally, the master response dismissed information submitted from the 2013 American River Watershed Sanitary Survey that presents a qualitative assessment of the relationship between temperature and DBP formation, since no formal correlation analysis was presented to determine significance. Because the relationship between temperature increases and THM formation is well established, visual inspection of the data in the watershed sanitary survey was sufficient to review temperature effects in the 2013 American River Watershed Sanitary Survey, and the information submitted from that report should be considered in the FEIR/FEIS. The significance of the study was to show that municipal users of surface water upstream of the Delta are significantly affected by source water temperature as related to DBP levels in treated water.</p> <p>The City commented on the DEIR/DEIS' failure to identify temperature as a constituent of concern for municipal use. The responses to comments 1527-24 and 1527-156 indicated, "Table 8-5 has been updated to reflect water temperature and municipal and domestic water supply beneficial uses. Please refer to Master Response 14 regarding temperature effects on the municipal and domestic water supply beneficial use (MUN). Please also see Chapter 8 of the Final EIR/EIS." Although temperature was acknowledged in the responses as a concern to the municipal use, no additional evaluation or consideration of the impact was included in the FEIR/FEIS.</p> <p>The City also commented on the BDCP regarding temperature impacts. The response to comment 1527-49 indicates, "...Staff from DWR and USBR monitor Delta water quality conditions and adjust operations of the SWP and CVP in real time as necessary to meet water quality objectives set by the State Water Resource Control Board protection of agricultural water supply, municipal and industrial drinking water supply, and fish and wildlife beneficial uses ...". However, as previously discussed above, there are no regulatory requirements or direct water quality objectives related to the municipal use upstream of the Delta that are included in those real time operational decisions. Minimizing impacts to municipal use upstream of the Delta should be included in the decisions, which will require upstream modeling and monitoring.</p>	

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		<p>The City provided more comments on the BDCP and DEIR/DEIS regarding the lack of quantitative water quality analysis upstream of the Delta, and limitations on the qualitative water quality analysis upstream of the Delta. The FEIR/FEIS continues to state, in response to comments 1527-50, 1527-52, and 1527-67, that the evaluations upstream of the Delta were sufficient. The City disagrees since no temperature evaluation was conducted for the municipal use.</p> <p>The FEIR/FEIS continues to mischaracterize the significance of DBP formation in the water bodies Upstream of the Delta. In Chapter 8, Section 8.1.3.11, the discussion on organic carbon and associated DBP formation only refers to concerns of drinking water treatment plants using Delta waters (page 8-82, lines 3 through 5). This is incorrect. As a user of the Lower American River and Sacramento River upstream of the Delta, the City is very concerned with DBP formation.</p>	
City of Sacramento	10	<p>Pesticides</p> <p>As commented previously on the REIR/SDEIS, Chapter 8 continues to insufficiently characterize current use pesticide concentrations in the Delta and tributary areas. Section 8.1.3.13 "Pesticides and Herbicides" presents data (Tables 8-23 through Table 8-26 and others) that are primarily from the time period before several pesticides were banned for all urban uses. Further, the FEIR/FEIS also states that "there is sufficient evidence that the OP insecticides diazinon and chlorpyrifos, and the herbicide diuron may be found in the affected environment at concentrations frequently toxic to aquatic life." (page 8-186), which is based on older datasets and inaccurately draws conclusions on data known to not reflect current conditions. There are multiple occurrences of the analysis in the FEIR/FEIS relying on older data sets, including toxicity summaries from 1997 (page 8-246). Readily available more recent data show significant declines in chlorpyrifos and diazinon, and there was such data available during preparation of the RDEIR/SDEIS and FEIR/FEIS. The FEIR/FEIS analysis inaccurately relies on outdated data to draw flawed conclusions. The FEIR/FEIS analysis performs little quantification of the wide range of urban and agricultural pesticides or even conceptual models on the sources or fate of the current use pesticides.</p> <p>The FEIR/FEIS should evaluate reasonably foreseeable pesticide use changes over the lifetime of the proposed project and provide mitigation measures. The FEIR/FEIS lacks a robust evaluation of programs to regulate allowable pesticide uses and how changes in loads and concentrations due to operation of the project will be mitigated to prevent further degradation as more high quality Sacramento River water is exported from the North Delta. The proposed project and its operation is one of the most significant statewide projects in history. It is therefore a reasonable expectation that the FEIR/FEIS would use appropriate tools to evaluate the effects of trace contamination from pesticides, including robust monitoring programs, assessment tools, and quantitative models. These tools could be applied Delta-wide or at specific key impact locations, and reflected in the FEIR/FEIS. The light qualitative and quasi-quantitative assessments in the FEIR/FEIS are insufficient. A more thorough analysis would look at trends across the Delta over time and be based on pesticide use data.</p>	<p>As explained in the "Pesticides" sub-section of the Section 8.3.1.7, 11 Constituent-Specific Considerations Used in the Assessment, a primary consideration in the pesticide analysis was the dynamic state of the pesticide market. It is unknown which pesticides and practices will be in predominant use over the lifetime of the proposed project. Using data regarding current application rates will not resolve this unknown. Therefore, the pesticide assessment applied a conceptual approach by evaluating the major mechanism of change that the project alternatives will affect and can be reasonably foreseen, which is changes in river flows and source water fractions in the Delta, along with current knowledge of which waters have predominantly higher concentrations of pesticides. Because of the uncertain future with pesticides, applying quantitative assessment tools would not provide any more meaningful information regarding potential for the project to result in adverse pesticide conditions. This comment does not raise any new environmental issues that have not been addressed in the Final EIR/EIS, particularly in, Volume 2, Master Response 14, Water Quality.</p>
City of Sacramento	11	Mercury	<p>This issue was raised by this commenter in Draft EIR/EIS 1527 which was responded to within the Final EIR/EIS. The basis for the mercury impact analysis findings are provided</p>

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		<p>The FEIR/FEIS identifies quantitative increases in mercury fish tissue concentrations in the Delta for the preferred alternative up to 8% and exceeding 60% when restoration area conservation measures are considered (see FEIR/FEIS Figure 8-0a, Comparison of Impacts on Water Quality). It further states that "Concentrations expected for Alternative 4A with Equation 1 show increases of 6% or less relative to Existing Conditions and the No Action Alternative (ELT) (Appendix 8I, Table I-20a)." (page 8-496).</p> <p>The Delta Methylmercury Total Maximum Daily Load (TMDL) Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) Amendment includes "open water allocations" for the Department of Water Resources and other state and federal agencies for the methylmercury load that fluxes to the water column from sediments in open- water habitats within channels and floodplains in the Delta and Yolo Bypass. Open water and wetlands account for most of the total methylmercury flux in the Delta (87% in the Central Delta, based on Table A of Attachment A, Resolution No. RS-2010-0043. The wasteload allocations specified for the Central Delta region are 0% increases, with significant decreases required in the Sacramento River (45%) and Yolo Bypass (78%) regions. Chapter 8 of the FEIR/FEIS does not adequately evaluate compliance with these Basin Plan requirements, and provides data demonstrating that the preferred alternatives will not comply with the wasteload allocations. The finding of a "less than significant" and "not adverse" for the preferred alternatives is not supported by the provided data or specifically proposed mitigation measures.</p> <p>The FEIR/FEIS includes a "commitment" to require methylmercury control plans and monitoring for all restoration areas that are reviewed by the Central Valley Regional Water Quality Control Board. However, there are no commitments to meet any of the TMDL Basin Plan wasteload allocations. Moreover, the preferred alternative appears to take "credit" for the mitigation in the results presented in Appendix 8I; however, the quantification assumptions for the environmental commitments are not clearly provided. The FEIR/FEIS should state the basis for the control measures used to reduce methylmercury concentrations and an evaluation of their effectiveness.</p> <p>While we appreciate the efforts to quantify water quality effects and find the information useful, we do not agree with the Page 8I-4 conclusion that "Considering the uncertainty, small (i.e., < 20-25%) increases or decreases in modeled fish tissue mercury concentrations at a low number of Delta locations (i.e., 2-3) should be interpreted to be within the uncertainty of the overall approach, and not predictive of actual adverse effects." The quantitative modeling approach used in the FEIR/FEIS is a "relative" rather than "absolute" modeling approach. The relative modeling approach should be less sensitive to model error as an indicator of the differences between the model scenarios and should not be rejected because the difference is less than an arbitrary threshold. Thus, any consistent change in quality between the Existing Condition or No Action Alternative and the preferred alternative should not be dismissed when differences are less than "20-25%". To ignore results less than this arbitrary threshold would omit significant increases, especially for bioaccumulating pollutants like methylmercury.</p> <p>Finally, while we appreciate the inclusion of Environmental Commitment 12 "Methylmercury Management" (MMRP, page 5-15) where "Reclamation and DWR will track and ensure compliance monitoring is conducted in accordance with provisions of</p>	<p>in Chapter 8, Water Quality, Final EIR/EIS, specifically, the thresholds of significance in Section 8.3.2.3, the individual Impact WQ-13 and Impact WQ-14, and Appendix 8I. Please also see Master Response 14 regarding methylmercury concerns.</p> <p>The environmental commitment is to address specifically new habitat to be created with the alternative.</p> <p>This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>all permits and authorizations provided to the California WaterFix", we are concerned that the proposed project will not provide sufficient mitigation to address impacts and to also adhere to the assigned Basin Plan wasteload allocations that require Delta region-specific loading decreases.</p>	
City of Sacramento	12	<p>2. INSUFFICIENT EVALUATION OF IMPACTS TO AREA UPSTREAM OF DELTA, AND INSUFFICIENT PLANS FOR MONITORING AND MITIGATION OF IMPACTS OF PROJECT</p> <p>General Water Quality Concerns The FEIR/FEIS does not substantially evaluate the effects of CM1 and CM2 in the "near-field" area where these projects are proposed, specifically the Lower Sacramento River between Veterans Bridge and Hood. The FEIR/FEIS concludes that the evaluated starting operations (ESO) water operations will have few to no effects on contaminants in the Delta (page 5.D-53). However, the evaluation should consider the area-specific impacts of removing higher quality Sacramento River water and the increased contribution from lower quality San Joaquin River water into the Delta, especially in the areas adjacent to the proposed North Delta intakes and diversions.</p> <p>The City provided comments on the DEIR/DEIS, including comments on the sufficiency of the water quality analysis. Responses to comments 1527-10 and 1527-12 attempt to clarify how the water quality assessment was conducted and why only those constituents were addressed that were determined to have the potential to be affected by implementation of the project alternatives. The City has reviewed Chapter 8, as well as supporting appendices in the FEIR/FEIS, and based on this review continues to believe that the water quality analysis is flawed with regard to evaluation of impacts on the municipal use upstream of the Delta. There are numerous water quality constituents of concern that had little or no data evaluated upstream of the Delta, including temperature. This process is fundamentally flawed as it was focused on evaluating only the data that was readily available at the few sites selected for ease of data acquisition, and lacks technical support and explanation of why constituents were excluded for analysis based on lack of data and professional judgement. Response to comment 1527-293 states, "Constituents not included in the screening analysis either do not have enough information available to assess, or are considered to have no potential for significant/adverse effects due to the project." Insufficient data should not be the basis for exclusion of analysis, and there is limited explanation in the FEIR/FEIS to support why constituents were not considered to have potential significant/adverse effects, despite the City's identification of potential significant effects in its comments. The City believes the process should have clearly identified water quality constituents of concern, based on the applicable beneficial uses, and then targeted data collection on those constituents to determine the water quality effects of the Proposed Project and its operation.</p> <p>The master response stated that "The Upstream of the Delta assessments address the reach from Veterans Bridge down to Freeport/Hood. This reach is outside the domain of DSM2, and thus was addressed qualitatively. The Delta Region assessment addresses effects downstream of Freeport/Hood to Emmaton." (Master Response 14, page 1-119)</p> <p>This suggests that modeling is not possible because the DSM2 model used for the FEIR/FEIS does not extend upstream to Veterans Bridge (upstream of the City of Sacramento and upstream of the confluence with the American River). The City has</p>	<p>This commenter previously raised concerns about the upstream analysis within this document in Draft EIR/EIS 1527 and RECIRC 2562 which were responded to within the Final EIR/EIS. DWR and Reclamation believe that the analysis of upstream water-resource based impacts, including water quality, are adequately addressed for making informed project-related decisions under both CEQA and NEPA. This includes information contained in the body of the Final EIR/EIS and in the responses to comments to the DEIR/S and RDEIR/SEIS. In addition, the Mitigation Monitoring and Reporting Plan provides adequate detail on how significant impacts would be addressed.</p> <p>The comment regarding Tables 8A-3 and SA-10 not being updated in the Final EIR/S is in fact correct. This will be corrected through errata.</p>

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		<p>requested these analyses because of the high number of municipal water intakes and potential to impact the City and multiple other water agencies. While DSM2 is a one-dimensional model ("longitudinal" elements), a two or three-dimensional model of the area around the proposed diversions up to Veterans Bridge on the Sacramento River and up to Nimbus Darn on the American River is necessary for several reasons:</p> <ol style="list-style-type: none"> 1. American River mixing into the Sacramento River can take dozens of river miles such that the proposed diversions will draw higher quality American River water rather than the "average" conditions of the mixed water assumed in the DSM2 modeling. 2. The proposed diversions are expected to lower river elevations on the order of feet, but are "mitigated" by climate change-influenced sea level rise. During the early part of operation these elevation drops combined with tidal cycles could pose operational and intake water quality problems to upstream intakes. 3. The FEIR/FEIS does not provide a detailed assessment of groundwater elevation impacts, which could lead to additional unaccounted for Sacramento River losses, further impacting river water intakes upstream of the project. <p>The FEIR/FEIS analysis in this reach of the Sacramento River from Veterans Bridge to Freeport/Hood is inadequate for all constituents; however, consideration of conditions that promote harmful algae blooms should be specifically evaluated with more detailed two-dimensional or three-dimensional modeling because of the high number of water intakes and recreational uses in the area. The higher occurrence under the preferred alternative of reverse flows, lower flows, and higher residence times, especially in late summer and fall periods poses harmful algae bloom risks that are not adequately evaluated. The City and others have provided evidence of such occurrences during extended drought periods. While several factors in addition to the proposed project (e.g., climate change) should be considered, the FEIR/FEIS inadequately evaluates these effects even though the modeling and investigative tools are available. Moreover, the FEIR/FEIS does not provide any mitigation or specific monitoring or investigative activities to address these concerns.</p> <p>In Master Response 14, there is discussion on the Water Quality Setting Data (page 1-120, lines 4 through 13). This presents the justification of the sufficiency of the data set used in the FEIR/FEIS, which was noted in the report as only available through 2009. Master Response 14 states, "Additional data would not contribute to an appreciably altered characterization of existing conditions." The City disagrees with this statement; since the additional data has not been collected, reviewed, or analyzed, it is not possible for the FEIR/FEIS authors to ascertain the value of the data. There are many gaps in the data set utilized in the FEIR/FEIS, so collecting additional data may have filled gaps and allowed for a more thorough evaluation.</p> <p>Also, the 2009 through 2016 period was filled with challenging hydrologic and operational years and would have presented data representing edges of the water quality spectrum for analysis. For many constituents, there were fewer than 10 data points upstream of the Delta used in the FEIR/FEIS analysis, which hardly seems sufficient to characterize a source water such as the Sacramento River that can have large variability on hydrology, operations, contributing sources, and water quality.</p>	

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		<p>Comments Regarding Potential Impacts to MUN Use Upstream of Delta</p> <p>In general, the responses to comments related to water quality concerns have been dismissive of concerns raised by the City and others regarding potential upstream of the Delta impacts on the municipal use. These concerns are based on qualitative statements on "expected" conditions, which are not supported in the FEIR/FEIS by detailed technical information (including real data and evaluations). The City's concerns are supported by our previous comments submitted on the BDCP, DEIR/DEIS, RDEIR/SDEIS, as well as testimony provided by City staff and technical experts on water quality impacts submitted to the State Water Resources Control Board in connection with the water right change petition filed by DWR and Reclamation. (See Attachment 1) There continue to be significant errors and omissions in the water quality data included, evaluations conducted, and analysis presented related to water quality conditions impacted by the proposed project and its operation.</p> <p>The City commented on the lack of water quality data evaluation in the vicinity of the City's municipal intakes in the Sacramento metropolitan area in the DEIR/DEIS and questioned the sufficiency of the Sacramento River data assessment at Hood. Response to comment 1527-161 states, "Although Hood is downstream of the I Street Bridge, both locations are virtually always made up of 100% Sacramento River water, and thus have similar water quality for most constituents. For more information on water quality please see Master Response 14 and Chapter 8 of the Final EIR/EIS." This statement is not accurate. I Street Bridge is located near River Mile 59.5, and Hood is located near River Mile 38. The I Street Bridge and Hood would be expected to have different water quality, because of the proximity of the American River and Sacramento River confluence to the I Street Bridge, different hydrology at these sites including tidal effects at Hood, there are various discharges into the Sacramento River between those locations, and other site specific considerations including in-river activities between and in proximity to both locations. Reverse flows can migrate to Hood and would only rarely reach I Street Bridge. To consider the water quality of these two locations similar, separated by nearly 22 river miles, is another significant technical flaw in the water quality analysis of the FEIR/FEIS.</p> <p>The City has commented on the assertions in the DEIR/DEIS that the fewest water quality changes of importance will occur upstream of the Delta. Response to comment 1527-206 states, "...Existing regulatory requirements are already in place to ensure SWP/CVP operations meet current water quality objectives intended to protect beneficial uses ..." There are no regulatory requirements in place that directly protect the municipal use upstream of the Delta, and the FEIR/FEIS does not include any analysis or implementation measures to assure protection of the municipal use upstream of the Delta with regards to water quality, as more specifically described above in Section I.c and supported in referenced exhibit(s) attached to this letter.</p> <p>In Master Response 14, there is discussion on the Qualitative Assessments in the upstream of the Delta Region (page 1-119, lines 3 through 17). The response concedes that, "The primary effects of the alternatives on the water bodies Upstream of the Delta are reservoir storage and releases, and thus river flows." The response indicates that a qualitative analysis is sufficient for the water quality assessment in this region, but the qualitative assessments presented in the FEIR/FEIS continue to lack technical</p>	

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		<p>information, contain data errors, dismiss the upstream impacts of reservoir storage on water quality, and are generally unclear and unsupported. The response to comment continues by indicating that the Sacramento River between Emmaton (at River Mile 7) and Veterans Bridge (at River Mile 70.5) is sufficiently assessed in the FEIR/FEIS, including upstream of the Delta evaluations at Veterans Bridge (River Mile 70.5) and Delta evaluations at Hood (River Mile 38). The City does not believe that the 32 mile gap between the two river monitoring locations, where the municipal water users in the Sacramento metropolitan area (near River Mile 60) divert, is sufficiently or adequately evaluated. The upstream of the Delta evaluations of water quality are only qualitative in nature, are not supported by significant data sources, and do not consider the municipal beneficial use for temperature impacts. For example, if the Delta evaluations are expected to cover this reach of river as indicated in the FEIR/FEIS, then the average residence time increases projected in the North Delta area should indicate that the potential for presence of Microcystis in this reach is significant and should have been considered and evaluated.</p> <p>A significant topic of concern regarding potential impacts to MUN upstream of the Delta is upstream reservoir effects. Master Response 25 responds to many of the City's comments on both the DEIR/DEIS and the RDEIR/SDEIS. There was not any new significant information presented in the master response, rather a compilation of references to parts of the FEIR/FEIS and additional justifications and explanatory text. With regards to the water quality evaluation and impact on the municipal use, there is little to no analysis. The master response states, "Most of the alternatives considered, including Alternative 4A, the preferred alternative, do not propose any changes to upstream operational criteria." (page 1-248, lines 34 through 36) The City would like to clarify that none of the existing operational criteria, including Decision 1641 and the Biological Opinions, include any direct water quality criteria associated with the municipal beneficial use upstream of the Delta. The response further states, "...the modeled differences shown for Alternative 4A do not reflect the ability to manage the upstream operations in real-time to address environmental variables and meet the applicable flow and temperature criteria." (page 1-248, lines 38 through 40) Real-time operations do not currently have flow or temperature criteria that directly address the municipal use upstream of the Delta, so it is not evident how those operations would prevent impacts to municipal use upstream of the Delta. In addition, the response states, "The existing processes used to manage upstream operations and meet the current applicable criteria (which are not proposed to change) will continue." (page 1-249, lines 8 through 9) The City is concerned that the FEIR/FEIS cites to its ability to manage upstream operations to meet applicable flow and temperature criteria without proposing any new operational response or criteria to address the identified water quality impacts to the municipal use upstream of the Delta. Finally, the response states, "The existing RTO decision-making process allows for flexible decision making that can be adjusted to address uncertainties such as the hydrologic conditions, ocean conditions, presence and distribution of the listed species, and other ecological conditions while taking into account public health, safety and water supply reliability." (Page 1-250, lines 25 through 28) The focus of this decision-making group is to meet environmental requirements and consider the contractual obligations for water deliveries. There are no reassurances or requirements of consideration of the municipal use upstream of the Delta.</p>	

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		<p>The City has identified two examples of responses to comments that reference changes not included in the FEIR/FEIS. Response to comment 1527-290 states, "The Chemical Constituents narrative objective has been added to Table 8A-3." Table 8A-3 in the FEIR/EIS does not include this. Also, response to comment 1527-316 states, "Table 5A-10 has been revised to include iron..." Table 5A-10 in the FEIR/FEIS does not include this. In addition, a review of Chapter 8, Sections 8.1.1.6, 8.2.1.5, and 8.2.2.11 shows that these sections continue to have technical errors in the text regarding the enforceable nature of secondary MCLs in California, and text regarding regulatory compliance in treated water for all MCLs. Given the extremely short public review period and the necessity of reviewing many topics, the City is not able to back-check and verify that all responses to comments were actually implemented in the FEIR/FEIS, but these examples are concerning and these and other technical errors must be verified and corrected.</p>	
City of Sacramento	13	<p>3. INAPPROPRIATE USE OF CONSERVATION MEASURE 19 (CM19) IN ENVIRONMENTAL IMPACT EVALUATIONS AND LACK OF USE OF BEST AVAILABLE SCIENCE</p> <p>Whether or not it is part of the preferred alternative or is a "voluntary" program, the City continues to be very concerned about the inclusion of CM19 in the FEIR/FEIS without correction of the many technical inaccuracies and programmatic issues identified in our previous comments. CM19 targets urban runoff rather than providing a solid technical approach that would consider all sources of specific contaminants and their relative contributions, the effects of the contaminants, and the most effective solutions. This leads to an imbalanced approach towards contaminant reduction, rather than a comprehensive, science-based approach. There continues to be no technical justification provided for focus on urban runoff sources.</p> <p>Conclusions that upstream stormwater runoff controls will be of high benefit to Delta smelt and other covered species should be supported with an evaluation of dilution, degradation, and site specific bioavailability.</p> <p>The imbalanced approach and inaccuracies in CM19 result in a flawed CEQA and NEPA evaluation of mitigation of other stressors for the BDCP and other HCP alternatives. The water quality evaluation in FEIR/FEIS Chapter 8 is inadequate and inappropriately assumes benefits from CM19 instead of providing scientifically supported mitigation. It is insufficient to state that CM19 did not need revisions because it was not used in the environmental impact evaluations for the preferred alternative. The alternative and mitigation analysis in the FEIR/FEIS should be based on best available science. Without providing sufficient environmental analysis that CM19 control measures could provide any measurable benefits to covered species, the FEIR/FEIS Chapter 8 water quality analysis of contaminant effect reductions is insufficient.</p> <p>The master response on this issue implies that a technical basis was not needed for focusing a conservation measure on urban stormwater. As stated in Master Response 5: BDCP (page 1-59) "Since CM19 would be purely voluntary and would be funded by the BDCP proponents, the decision to focus its work on urban runoff is legitimate; moreover, CM 19 has conservation value for covered species, as described in the BDCP. Accordingly, the BDCP proponents did not choose to alter the scope of CM19." The unsupported focus is not consistent with the use of Best Available Science, which is widely accepted in the scientific community and is further supported and described in</p>	<p>Conservation Measure 19 is not an element of the proposed project. For the BDCP alternatives, the effects of CM19 were addressed separately from the effects of facilities operations and maintenance. Hence, the potential benefits to water quality that may result from CM19 did not contribute to the impact determinations for the Upstream of Delta region associated with facilities operations and maintenance. There were no specific assumptions about level of effectiveness of CM19 made. Rather, the water quality chapter stated in various assessments that there would be expected to be some reduction in loading for certain constituents that could benefit to water quality. For the WaterFix alternatives, CM19 is not a component, thus, no assessment for this measure is provided. DWR and Reclamation believe the assessment of the impacts of impending CM 19 is adequate for purposes of comparison with other alternatives included the Proposed Project under CEQA and the Preferred Alternative under NEPA (Alternative 4A). This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>

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		<p>23 CCR Appendix 1A to the Delta Reform Act. The master response is a contrast to the scientific approach provided in the specific response to the City's comment #31 on the RDEIR/SDEIS, as follows:</p> <p>"Note that CM19 is no longer included in the Proposed Action (Alternative 4A). If Alternative 4A is selected, CM19 would not be implemented. However, if a different alternative is selected that includes BDCP or CM19, DWR and Reclamation will take into consideration the suggested comments to revise the analysis of potential benefits of this conservation measure, and the consideration of other potential pollutants into the Delta which could be reduced through similar means to benefit the covered fish. As proposed in the 2013 public draft BDCP, Conservation Measure 19 (CM19; Urban Stormwater Treatment) was a voluntary measure proposed by DWR and Reclamation to try and improve water quality conditions in the Delta for the covered fish. This measure was not required to mitigate for impacts to the covered species, so funding is also not required for the full 50-year permit term. The 2013 public draft of BDCP in Chapter 8 assumes that \$50 million of funding for CM19 would begin in Year 3 of Plan implementation and continue until Year 15. The expectation was that if the program was successful during the first 12 years of funding, DWR and Reclamation would either voluntarily fund the program for a longer period, or find external funding sources to continue to the program. If implemented, an assessment would be conducted to fund the most cost-effective and biologically effective measures with willing recipients.</p> <p>This comment refers to the need to perform comprehensive assessments and prioritization of the most beneficial means to reduce pollutant discharge to the Delta that would benefit covered fish. DWR and Reclamation agree with these recommendations but note that it is beyond the scope of any HCP/NCCP to perform such analyses. CM19 was proposed as one potential solution that, when combined with other existing programs, could improve water quality in the Delta and potentially benefit covered fish. If an HCP alternative is chosen, DWR and Reclamation will consider the studies and recommended analyses cited in this letter and will re-evaluate the potential benefits of CM19 relative to the costs." (emphasis added)</p> <p>We appreciate the agreement with the technical recommendations discussed above, and our opinion is that the FEIR/FEIS should include improved analyses regarding water quality effects and mitigation to provide a well-balanced, scientific approach to evaluate benefits to water quality and covered fish.</p> <p>The master response suggests that entities implementing urban runoff measures would be required to demonstrate water quality benefits: Other commenters thought that CM19 was not sufficiently quantified, and required hard numbers in terms of performance metrics and resulting effects on water quality. This, however, is not practicable; since CM19 would be a voluntary measure, it is not possible to say what jurisdictions would apply for funding under the program, or what performance measures they would specify in their funding applications. Grants awarded under CM19 would simply go to those jurisdictions that could best show an expectation of measurable water quality improvements." (emphasis added)</p> <p>A more comprehensive, coordinated, and scientifically defensible strategy should be included in CM19. The simple assumption used in the FEIR/FEIS of load reduction being</p>	

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		<p>equivalent to water quality benefits is not always justified in complex ecosystems and should not be the only quantitative basis for project selection. Before urban runoff is included as a conservation measure, there should be a clear means to measure actual benefits to the covered species. Moreover, making CM19 voluntary does not make analysis of these proposed actions "not practicable".</p> <p>We understand that there are uncertainties and unknowns that can provide technical challenges; however, this does not negate the need for sufficient and technically sound environmental evaluation of alternatives in the FEIR/FEIS. It is unclear if the master response was responding to a comment the City provided; if the response was to a City comment, we would like to clarify that although we understand that "hard numbers" may not be available, it would be reasonable to perform an appropriate level of assessment as well as correction of the technical inaccuracies, to provide information necessary for a sufficient CEQA and NEPA review. Such analyses are possible and feasible as was done with computational modeling as part of the Central Valley Drinking Water Policy, which used CALFED grant funding to develop watershed and Delta modeling, including source evaluations. More recently, the Central Valley Regional Water Quality Control Board is developing a Nutrient Science Plan, which is addressing modeling, monitoring, and research needs. Because of the significance of the proposed project, the project proponents should develop these tools or provide the funding commitments to do so.</p> <p>The master response states, "Other commenters took issue with the idea that urban stormwater contains constituents harmful to aquatic life. The literature to the contrary is vast, and examples are cited both in the Draft EIR/EIS and in the BDCP." The response on this topic is not sufficient, and misses the mark on the City's concerns. The response is insufficient as there is no indication that our comments were reviewed and addressed in a manner to ensure that the FEIR/FEIS is technically correct. While there are a number of laboratory and species effect studies on urban runoff, they do not identify population level effects when sources are remote. There are several constituents for which CM19 is used as mitigation for various alternatives, but urban stormwater is not a major source of these constituents and other sources are not considered. First flush and other watershed runoff results may result in higher concentrations of these constituents. A review of all potential sources should be conducted to have an appropriate best available science approach.</p> <p>CM19 is included in Alternative 1A (page 8-311, lines 34-38), and while it is not the preferred alternative, continued references to CM19 highlight the lack of technical justifications and correct environmental review of the alternatives. For example, the FEIR/FEIS states that "Because urban stormwater is a source of nitrate in the affected environment, CM19, Urban Stormwater Treatment, is expected to slightly reduce nitrate loading to the Delta, thus slightly decreasing nitrate-N concentrations relative to the No Action Alternative." There are several technical flaws to this unjustified conclusion: 1) urban runoff generally has low nitrate concentrations relative to the Delta and may often decrease nitrate concentrations, 2) the nitrogen cycle in surface water is much more complex than just nutrient concentrations, and effects such as algal blooms are dependent on other factors such as temperature and residence time, and 3) many effects of nutrient loading are during the dry season when urban runoff is not present. The same example is repeated for phosphorus (page 329, lines 8-12).</p>	

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		<p>Another example of the insufficient analysis for CM19 is that it is identified as the only conservation measure to reduce TSS in Alternative 1A. There are already NPDES and other regulatory programs in place that reduce TSS and sediment from urban runoff, wastewater treatment plants, and agricultural sources. Information on TSS and sediment control is readily available. For example, the 2013 CA Water Plan has a chapter dedicated to sediments, and includes a section discussing the relationship of this topic to other resource management strategies included in the CA Water Plan.</p>	
City of Sacramento	14	<p>4. INCONSISTENCY WITH FEDERAL AND STATE ANTIDEGRADATION POLICY</p> <p>The FEIR/FEIS does not address key assessment requirements previously identified by the City in the applicable guidance documents of the state and federal antidegradation policies. The master response states that "The State Water Board has interpreted the state antidegradation policy to incorporate the federal antidegradation policy in situations where the policy is applicable." The FEIR/FEIS analysis does not include elements of federal antidegradation policy without providing evidence that this is not covered under the federal requirements. The master response states that the State has discretion when considering non-point source pollution. While this is true, the federal antidegradation policy clearly intended federal actions impacting water quality be subject to the federal antidegradation requirements. Because the California WaterFix constitutes a federal action, the federal antidegradation policy applies in addition to the state antidegradation policy. Federal antidegradation guidance specifically includes "other actions" such as "Other 'major Federal actions' (pursuant to NEPA and the Endangered Species Act)" and "water quantity/water rights actions which affect water quality".</p> <p>The FEIR/FEIS demonstrates a number of water quality impacts to high quality waters as well as water bodies that will exceed or already exceed their assimilative capacity. If, in fact, the State Water Resources Control Board has made this finding of compliance with both state and federal antidegradation requirements or the non-applicability to the proposed project, this reference should be included in the FEIR/FEIS.</p> <p>The master response further states that "Water development and water conservation projects may be considered to be important social and economic developments that justify a lowering of water quality (see Water Code Section 13000)." While we agree that the state and federal antidegradation policies do permit degradation, the state and federal antidegradation policies also require the analysis to include "Consideration of feasible alternative control measures which might reduce, eliminate or compensate for negative impacts of the project." The FEIR/FEIS does not provide this assessment, and the analysis inadequately addresses these requirements.</p>	<p>DWR and Reclamation believe the Final EIR/EIS adequately describes federal and state antidegradation policies and the assessment is adequate and complete. Master Response 14, Water Quality, Volume 2, Final EIR/EIS, includes additional information on these three concerns and the reasons for the adequacy of the analysis. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS.</p>
City of Sacramento	15	<p>5. INSUFFICIENT CUMULATIVE EFFECTS IMPACT ANALYSIS</p> <p>The FEIR/FEIS provides inadequate cumulative impacts analysis, as potential or existing projects were not included in the evaluation. These projects or anticipated changes in operations are inherently intertwined because of their connectivity with the Central Valley Project (CVP) and State Water Project (SWP) water conveyance systems. For example, significant omissions exist for failure to identify or sufficiently evaluate the change in plans for operation for the potential new North Bay Aqueduct Intake, and the upcoming the DWR System Reoperation Program and Folsom Dam</p>	<p>The future North Bay Aqueduct Alternative Intake and the Folsom Dam Safety and Flood Damage Reduction Project are part of the Cumulative Impact Analysis in the EIR/EIS. The Cumulative Impact Analysis projects are only discussed in the chapters in which these projects could potentially affect the environmental resources discussed in that chapter. For example, the North Bay Aqueduct Alternative Intake is only discussed in some chapters, including Chapters 5, 11, and 17 and Appendix 3D (e.g., Tables 5-13, 11-23, 17-2, and 3DA-4. The Folsom Dam Safety and Flood Damage Reduction Project is discussed in several of the chapters with the North Bay Aqueduct Alternative Intake and several other chapters, including Chapters 6 and 17 and Appendix 3D (e.g., Tables 6-15,</p>

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		Safety and Flood Damage Reduction Project.	17-2, and 3DA-4). The DWR System Reoperation Program was not considered in the cumulative impact analysis because only the Phase 2 report has been published for this project, and that report describes the Plan of Study in the Phase 1 report and the results of the Strategy Formulation and Refinement. The subsequent phases, including Preliminary Assessments of Strategies and Reconnaissance Level Assessments of Strategies, have not been completed. Therefore, at this time it was determined that this program would be too speculative to be included in the Cumulative Impact Analysis. This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS. DWR and Reclamation believe that the cumulative impact assessment is complete for purposes of CEQA and NEPA.
City of Sacramento	16	6. POTENTIAL FOR CONTAMINATED SEDIMENTS NEAR CONSTRUCTION AREAS In at least two sections of Chapter 11, discussions of Alternative 1A (page 11-291) and Alternative 4A (page 11-3181) refer to sediments at the proposed project water intake locations being affected by "...historical and current urban discharges from the city. Metals (e.g., lead and copper), hydrocarbons, organochlorine pesticides, and PCBs are common urban contaminants with the greatest affinity for sediments; these contaminants could be present in sediments that would be disturbed during installation of the cofferdams and dredging." There is no documented history of the City of Sacramento discharging contaminating sediments that would accumulate in the areas of the proposed project water intakes. To specify urban sources and City of Sacramento individually is not justified and is misleading. Many of these constituents come from sources outside the jurisdiction of the City of Sacramento and it is not reasonable to expect that sediment concentrations are particularly elevated due to City of Sacramento sources. A more accurate statement would be that "Legacy contamination from anthropogenic and natural sources as well as water management activities may be present in the areas of the proposed water intakes. However, these sources are not in the immediate vicinity of the proposed intake locations."	This comment does not raise any substantive new environmental information or analysis that was not previously addressed in the Final EIR/EIS. DWR and Reclamation believe the assessment of contaminated sediments occurring near construction sites is correct. DWR and Reclamation agree that contaminants may have originated from a broad range of upstream sources. The text referenced by the commenter has been changed via Errata to say, "...historical and current contamination from anthropogenic and natural sources as well as water management activities may be present in the areas of the proposed water intakes. Metals (e.g., lead and copper), hydrocarbons, organochlorine pesticides, and PCBs are common contaminants with the greatest affinity for sediments; thus these contaminants could be present in sediments that would be disturbed during installation of the cofferdams and dredging."
City of Sacramento	17 ATT 1	City of Sacramento Comments on the BDCP DEIR/DEIS and the BDCP. July 22,2014	This attachment was received during a previous comment period and does not raise any substantive new environmental issues that were not previously addressed in Volume 2, response to comment letter 1527 of the Final EIR/S.
City of Sacramento	18 ATT 2	City of Sacramento Comments on the BDCP RDEIR/SDEIS. October 29,2015	This attachment was received during a previous comment period and does not raise any substantive new environmental issues that were not previously addressed in Volume 2, response to comment letter 2562 of the Final EIR/S.
City of Sacramento	19 ATT 3	Written Testimony of Pravani Vandeyar	This attachment is Exhibit Sac-6 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	20 ATT 4	Written Testimony of Bonny L. Starr	This attachment is Exhibit Sac-8 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control

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			Board hearing materials.
City of Sacramento	21 ATT 5	American River Watershed Sanitary Survey 2013 Update	This attachment is Exhibit Sac-25 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	22 ATT 6	Sacramento River Watershed Sanitary Survey 2015 Update	This attachment is Exhibit Sac-26 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. This attachment does not raise any substantive new information or analysis that was not previously addressed in the Final EIR/S.
City of Sacramento	23 ATT 7	City of Sacramento, Folsom Reservoir Storage and Raw Water Temperature at EAFWTP Chart, February 2016	This attachment is Exhibit Sac-27 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. This attachment does not raise any substantive new information or analysis that was not previously addressed in the Final EIR/S.
City of Sacramento	24 ATT 8	City of Sacramento, Major Reservoir Percent Storage and Raw Water Temperature at SRWTP Chart, February 2016	This attachment is Exhibit Sac-28 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	25 ATT 9	Cyanotoxins in the Sacramento River Watershed, October 2015	This attachment is Exhibit Sac-29 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	26 ATT 10	Summary of City of Sacramento 2015-2016 Cyanotoxin Monitoring	This attachment is Exhibit Sac-30 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	27 ATT 11	World Health Organization, Environmental Health Criteria 216, Chapter 2	This attachment is Exhibit Sac-31 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed Final Environmental Impact Report, for discussion on State Water Recourses Control Board hearing materials.
City of Sacramento	28 ATT 12	CDEC Reservoir Storage Volume Data, January 2016	This attachment is Exhibit Sac-32 presented for the hearing proceedings regarding petition filed by the Department of Water Resources and U.S. Bureau of Reclamation requesting change in point of diversion for the California WaterFix. See Section 4, State Water Board Change Petition Process, Developments after Publication of the Proposed

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			Final Environmental Impact Report, for discussion on State Water Resources Control Board hearing materials.