Comment Summary and Responses
Comment Deadline: January 28, 2013
Amendment to the Water Quality Control Plan for the Los Angeles Region to Incorporate a TMDL for Algae, Eutrophic Conditions, and Nutrients in Ventura River, including the Estuary, and its Tributaries

List of Commenters:

Comment Reference	Organization	Representative
1	County of Ventura, Ventura County Watershed Protect District, City of Ventura, and City of Ojai	Gerhardt Hubner
2	Resource Conservation District	Sonya Webb
3	Diamond W Cattle Company	Mike Williams

Response to Comments:

No.	Author	Comment	Response
1.1	Gerhardt Hubner	As stakeholders in the Ventura River Watershed, we have worked closely with Los Angeles Regional Water Board staff on the Ventura River Algae TMDL to develop a TMDL that will result in a mechanism for reducing nutrient discharges and also maintain the ability of the stakeholders in the watershed to coordinate and effectively implement the TMDLs. We feel that the TMDL that was adopted by the Los Angeles Regional Water Board achieves that goal.	Comment noted.
1.2	Gerhardt Hubner	We would like to express our support for the Ventura River Algae TMDL and request that the State Water Resources Control Board (SWRCB) approve the TMDL as proposed. As this is a consent decree TMDL with a deadline of March 24, 2013, we appreciate the SWRCB's rapid consideration of this TMDL. We feel it is important to get this TMDL effective as soon as possible to avoid conflicts with EPA promulgated TMDLs to address the same listings that will become effective in March 2013.	Comment noted.

2.1	Sonya Webb	The Resource Conservation District (RCD) in Ventura County is an independent legal subdivision of the State of California organized under Division 9 of the Public Resources Code. The District's purview includes unincorporated areas of Ventura County and its Board of Directors includes representatives from the Ojai, Santa Clara Valley, and South Ventura County areas. The RCD's mission is to collaborate with landowners, government agencies, and other willing partners to facilitate the conservation and restoration of Ventura County's natural resources. The RCD has been working closely with the Horse & Livestock Watershed Alliance in the Ventura River Watershed to facilitate understanding of and participation in the development of this TMDL. The Regional Board Staff has been exceptional in their outreach efforts on this TMDL and in making modifications to the draft TMDL that will result in greater benefits to water quality and an increased likelihood of implementation of Best Management Practices (BMPs). We wanted to express our support for this TMDL and to thank the Regional Board Staff for their efforts.	Comment noted.
2.2	Sonya Webb	The only discrepancy we noticed in the TMDL as presented before the State Board in comparison to what was adopted at the Regional Board hearing, is that in "Attachment A" page 8, there seems to be a typographical error using "horse intensive livestock," instead of "horse and intensive livestock."	There is no discrepancy. The version of the TMDL before the State Water Board is the same as the version adopted by the Los Angeles Water Board. Page 8 of the Basin Plan amendment reads, "Ten years from the effective date of the TMDL, horse intensive livestock, and grazing activities shall participate in the implementation of the watershed-

			wide monitoring plan or submit their own plan." While it appears that a comma or the word "and" is missing between the words "horse" and "intensive", this is the language adopted by the Los Angeles Water Board. The adopted language is clear that each category of activities must submit a plan.
3.1	Mike Williams	I appreciate the opportunity to comment on the Ventura River Algae and Nutrient TMDL. I am writing on behalf of myself, and as a member of the board of directors of the Ventura County Cattlemen's Association (VCCA). VCCA is an organization whose primary goal is to support the cattle industry and its members who rely on that industry for their livelihood. We have approximately 125 active members of which approximately half are also active members of California Cattlemen's Association. I am a cattle rancher, currently leasing land and managing cattle in the Ventura River Watershed. I have ranched in this area for nearly 5 years and in Ventura County for over 14 years. I I'm also the treasurer of the Horse and Livestock Watershed Alliance.	Comment noted.
3.2	Mike Williams	As this is my first sojourn into the matter of water regulation let me first say that my experience with the LARWQCB staff has been surprisingly positive. I have been impressed with their availability, cordiality, and professionalism as well as the spirit of cooperation they impart.	Comment noted.
3.3	Mike Williams	Since the submission of my comment letter to the LARWQCB I have obtained information of a scientific and statistical nature which could affect the manner of cattle grazing activities inclusion in this TMDL. VCCA referenced this information during the LARWQCB hearing in December,	On July 20, 2012, the Los Angeles Water Board issued a Notice of Hearing and Opportunity to Comment (Notice) on the TMDL, including the resolution, proposed Basin Plan amendment, staff report, and other supporting documents. The deadline for persons

		resulting in some positive changes in the language of the TMDL, allowing flexibility in its implementation. However we believe the time constraints imposed by the EPA consent decree prevented an adequate review of this information by the LARWQCB prior to the adoption of this TMDL. As such I would like to take this opportunity to present this information for review by the State Water Quality Control Board so that decisions can be made with up to date cattle stocking information, and the best available science.	to submit written comments and evidence for the Los Angeles Water Board to consider was September 4, 2012. While the commenter did submit written comments for the Los Angeles Water Board to consider, the informational sources identified by the commenter here were not submitted to the Los Angeles Water Board by the September 4, 2012 deadline. These informational sources were first mentioned by the commenter during the Los Angeles Water Board's hearing on December 6, 2012. The Los Angeles Water Board adopted the TMDL based on the most robust information available, including data collected by federal and state agencies such as the United States Department of Agriculture's (USDA) National Agricultural Statistics Service (most recent agricultural census data) and Agricultural Research Service (database of 55 peer-reviewed studies of nitrogen and phosphorous loading from agricultural runoff, updated in 2008) and the California Department of Conservation (most recent data from Farmland Mapping and Monitoring Program, updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance). This information was corroborated by the Ventura County Resource Conservation District and local cattle ranchers in discussions with Los Angeles Water Board staff. This information was identified in the publicly noticed staff report supporting the TMDL and was subject to public review and comment.

			In addition, the TMDL includes a scheduled reconsideration to consider new information and studies and make revisions to the TMDL, as appropriate, prior to the compliance deadline for the load allocations assigned to grazing activities.
3.4	Mike Williams	**1. Cattle Numbers and Acres Grazed:** Data provided in the Algae TMDL staff report greatly overestimated the number of cattle, as well as acres grazed in the Ventura River Watershed. Section 4.2.2 of the Algae TMDL estimates 1940 cattle are grazing in this watershed, according to a 2007 Census Survey (LARWQCB 2012). The staff report estimated acres grazed at 34,000, using "*California Department of Conservation's Farmland Mapping Program… Spatial data of the area in Ventura County suitable for grazing was clipped to the Ventura River watershed using GIS. The grazing data were then overlain with SCAG data to exclude areas that were obviously not used for grazing, such as oil and gas exploration and areas slated for development*." (LARWQCB 2012). Ventura County Cattlemen's Association Conducted a survey in November 2012 there were 613 cows, belonging to 12 producers grazing in the watershed. According to the VCCA survey 20,919 of the 34,000 acres cited in the staff report were actually being grazed. This equals a stocking rate of one cow per 34.12 acres. This is a 68% reduction in the number of grazing cattle within the watershed in five years.	This comment was previously made to the Los Angeles Water Board (Comment 6.2) and the Board responded as follows: "The TMDL is based on the best information available, in this case the USDA 2007 census data, to evaluate the number of cattle in the watershed. Those numbers were confirmed by the Ventura County Resource Conservation District and local cattle ranchers. The number of cattle were not used to estimate loading from cattle ranching operations. The dry-weather loading from cattle operations was not quantified and the wet-weather loading from cattle operations was based on area suitable for grazing, not number of cattle." Thus, the number of cattle in the watershed has no impact on the calculation of the allocations assigned to grazing activities in the TMDL. The Los Angeles Water Board further responded: "Similarly, because no specific information is available regarding the location of grazing pastures in use, staff used map overlays of land suitable for

		The Ventura River watershed consists of 220 square miles or 140,800 acres. Of that, less than 21,000 acres are being grazed by less than 1000 cows scattered throughout the open spaces. The impact, if any, grazing activities are having in this watershed is minimal.	grazing identified by the California Department of Conservation's Farmland Mapping Program as the best estimate available. It should be noted that while this approach was used to develop the wet-weather source assessment, the wet-weather load allocations are not based on the source assessment, but rather water quality objectives and existing conditions." Thus, the exact number of acres grazed in the watershed also has no impact on the calculation of the allocations assigned to grazing activities in the TMDL.
3.5	Mike Williams	**2. The best available science overwhelming demonstrates grazing activities do not contribute to eutrophication of streams in California range lands.** The algae TMDL provides weak data concerning wet weather loading from grazing activities, and they admittedly had no data on dry weather loading from grazing activities. (LARWQCB 2012) Dr. Ken Tate, Rangeland Hydrology Specialist and Chair of the Plant Sciences Department at UC Davis when commenting on the Algae TMDL (LARWQCB 2012) states "It's unfortunate that the wealth of literature was not discovered or included (as far as I can tell) as part of the best available science. The weight of evidence is that free range cattle are not a major (or even minor)	The State Water Board disagrees. Grazing activities are a commonly acknowledged source of nonpoint source pollution. In fact, grazing management is one of seven minimum management measures[1] (MMs) for agriculture identified in the State's Plan for California's Nonpoint Source (NPS) Pollution Control Program 1998-2013 (Program Plan), Volume II (January 2000) developed by the State Water Board and the California Coastal Commission. The California NPS Program Plan follows USEPA's *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* that was developed pursuant to section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA).

[1] Management Measures are defined under section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) as economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint source control practices, technologies, processes, siting criteria, operating methods, or other alternatives (USEPA, 2003, National Management Measures to Control Nonpoint Source Pollution from Agriculture, EPA 841-B-03-004, p. 2-28).

		source of nitrogen and phosphorus on CA rangelands" (K. W. Tate 2012). He went on to say "Bottom-line is they did not really find the best available science on these topics. It's readily available on line or from scientists at UC working on this topic". (K. W. Tate 2012)	The TMDL provides robust data concerning wet weather loading from grazing activities. Specifically, nutrient concentrations in wet-weather runoff from cattle grazing were obtained from the USDA Measured Annual Nutrient loads from Agricultural Environments (MANAGE) v3 database (May 2007). This comment is similar to one previously made to the Los Angeles Water Board (Comment 6.2) and the Board responded as follows: "The MANAGE database compiles nutrient load and concentration data and site characteristics from 55 peer-reviewed studies on agricultural land uses (cultivated and pasture/range) in the USA. In answer to this comment, we re-assessed the studies used for this calculation, and included a wider range of land uses. The new numbers are lower than the ones previously obtained, at 3.80 mg/L total nitrogen and 0.56 mg/L total phosphorus. In any case, these numbers are wet-weather runoff estimates, which in general are found to have little impact on the water quality of the Ventura River and its tributaries. Wet weather allocations are set to 5-10 mg/L in the watershed, above the estimated loads from livestock." The comments of Dr. Ken Tate, included here, were not mentioned until the day of the Los Angeles Water Board hearing on December 6, 2012. As described above, the Los Angeles Water Board relied on the

			most robust data regarding grazing in the Ventura River watershed and pollutant loads from grazing activities, including 55 peer-reviewed studies. One of the 55 studies included a 1999 study by Dr. Tate, which found a maximum concentration of NO3-N equal to 4mg/L during a storm event (Tate, K.W., R.A. Dahlgren, M.J. Singer, B. Allen-Diaz, and E.R. Atwill, Timing, Frequency of Sampling Affect Accuracy of Water-Quality Monitoring. California Agric. 53(6): 44-48). This is similar to the NO3-N value used for the TMDL wet-weather source estimate of grazing activities (4.85 mg/L). The Los Angeles Water Board also relied on an extensive review of local land use information and U.S. EPA guidance documents. It should be noted that the Los Angeles Water Board, in the TMDL staff report, came to a similar conclusion, which is that grazing activities in the Ventura River watershed are a minor source of pollutant loads in wet weather (below load allocations) and their pollutant contributions during dry weather are variable, depending on site-specific conditions such as vegetation cover, grazing density, proximity to the stream, and period of use.
3.6	Mike Williams	There is an overwhelming amount of data that suggests that cattle grazing activities do not contribute to elevated nitrogen and phosphorus in-stream concentrations in California. Oak woodlands and annual grass-dominated rangelands similar to that which exist in the Ventura River watershed have been studied extensively throughout California. Some of the sources are as follows:	See responses to comments 3.3 to 3.5 above. This information was not provided to the Los Angeles Water Board in a timely manner for them to be reviewed and considered prior to Board adoption of the TMDL. The commenter's letter to the Los Angeles Water Board also cited several studies and stated that cattle grazing activities have a minimal impact on nutrient

		i. UC Hopland Research and Extension Center found "Preliminary data from a new series of studies…indicate that livestock grazing does not significantly increase nutrient and sediment levels in stream water". (Dahlgren, et al. 2001). ii. In another study, researchers found "Under the grazing levels and climatic conditions realized during the 20 years of data collection the watershed actually served as a sink for mineral N deposited as dry and wet atmospheric deposition. While there was certainly export of NO3-N from the watershed on a daily and annual basis, these data raise the possibility that annual rangeland watersheds sequester more N than they generate." (Lewis, et al. 2006). iii. A study concerning breeding habitat of the Yosemite Toad found "an unexpected and important finding of this study was that, for this system, concentrations of water quality constituents generally of ecological concern were uniformly low in 2006 when all meadows had been grazed for at least a decade, and remained low throughout the study regardless of treatment". (Roche, et al. 2012). This study went on to say "The expected trend following cattle exclusion treatments was for nutrient concentrations and temperature to decrease in comparison to standard grazing. The year to year variation observed among treatment does not support this hypothesis" (Roche, et al. 2012). iv. A new study on public lands by UC Davis found	levels and can even lower the levels (Comment 6.3). The Los Angeles Water Board reviewed those studies and responded as follows: "As stated in this comment, even though some studies may show little significant damage due to grazing, many other studies have documented these effects. In fact, in their review, Platts et al. (1982) conclude that 'when the findings of all studies are considered together, there is evidence indicating that past livestock grazing has degraded riparian stream habitats and decreased fish populations'. Similarly, Agouradis et al. (2008) acknowledged alterations of riparian habitats by grazing, and evaluated the efficiency of various BMPs to curtail these effects. Given the weight of evidence, the likely impact of grazing on dry-weather nutrient loading in the Ventura watershed cannot be ignored. The staff report acknowledges that the 'the impacts will vary considerably depending on site-specific conditions such as vegetation cover, grazing density, proximity to the stream and period of use (USEPA, 2003).'" The informational sources cited by the commenter may potentially have an impact on the estimation of existing wet- and dry-weather loading of nutrients from grazing. However, the TMDL already accounts for the variability in nutrient loading from grazing. First, the wet-weather

		"Nutrient concentrations observed across this extensively grazed landscape were at least one order of magnitude below levels of ecological concern, and were similar to USEPA estimates for background conditions in the region" (Kromschroeder, et al. 2012). v. In a study by UC Berkeley researchers found that nitrate levels actually increased when grazing was removed from these wetlands. The study states "removal of livestock grazing resulted in increased levels of nitrate in wetland waters and thus higher levels of nitrate pollution compared to grazed springs". (Allen-Diaz, et al. 2004) The study declares some of the reasons for the difference is "Grazing removal allowed dead plant material to accumulate, thereby inhibiting plant production (hence, plant nitrogen demand), resulting in stream-water nitrate concentrations that far exceeded the U.S. Environmental Protection Agency's surface-water standard". (Allen-Diaz, et al. 2004) vi. Another study looked closer at the relationship of grazing and nitrogen uptake. They confirmed the findings of the previous study. It asserts "Aboveground biomass trends provided compelling evidence that harvesting of plant material by grazing livestock maintained greater plant productivity, hence, N demand, resulting in reduced NO3- in soils of grazed wetlands". (Jackson, et al. 2006). The study goes on to say that "dead biomass that had accumulated on ungrazed plots likely depressed primary productivity,	allocations are equal to the water quality objectives for the river. Thus, cattle grazing operations must meet these numbers regardless of the existing loading estimates in the source assessment section of the TMDL. The TMDL source assessment and the sources cited by the commenter also show that the wet-weather allocations are attainable. Second, the dry-weather loading is not quantified, and the dry-weather allocations will be set based on an assessment of existing loading from grazing activities and then implemented through best management practices (BMPs). The Basin Plan amendment provides that acceptable data or studies may be utilized to determine baseline dry-weather pollutant load, subject to Executive Officer approval (BPA, p. 14). The comment from Dr. Tate states, "It is clear to us ***that with appropriate management*** [emphasis added] – range livestock production, clean water, and plentiful high quality riparian habitats are completely compatible outcomes." This statement is in agreement with the TMDL. The TMDL implementation plan makes it clear that the allocations assigned to grazing activities can be attained by implementing appropriate management activities. The TMDL merely requires grazing activities to develop management plans and implement the management measures identified in management plans to attain their allocations. The Los Angeles Water Board did not extrapolate data from other regions' confined feeding operations, or cite

		and therefor N demand or that grazing stimulated plant growth and N uptake". (Jackson, et al. 2006). They conclude "The grazing-plant uptake mechanism affords the added benefit of N conservation to the watershed-cattle will redistribute harvested nutrients across the landscape". (Jackson, et al. 2006) vii. While these studies were not conducted in the Ventura River watershed, a study which compared various regions across the state of California showed our region to be very similar to those in which these studies were conducted. (Hogan, et al. n.d.) viii. In another E-Mail correspondence with Dr. Tate he wrote "Our research team has been examining water quality and riparian health across California's rangeland watersheds for over 25 years. Based on the collective evidence of over 100 research papers and thousands of stream water samples collected across the state, we consistently find relatively high water quality conditions. In particular, we consistently find N and P concentrations to be 1 to 2 orders of magnitude below levels of ecological concern (e.g., eutrophication) or human health risk. We commonly find the majority (90+ %) of samples to be below US EPA estimated background concentrations for N and P for these regions. These results are not surprising, nor at odds with research findings from intensive animal agriculture systems. Livestock production on rangelands is extensive (e.g., 1 animal for every 10 to 15 acres) – based upon the forage that is grown in	this type of data as evidence of "grazing" and "livestock" being major sources of nitrogen and phosphorous. The Los Angeles Water Board's staff report analyzes grazing activities and "intensive livestock operations" separately and the TMDL assigns separate allocations for grazing activities and intensive livestock operations. Again, the TMDL requirements are in agreement with this comment; the TMDL merely requires implementation of proper rangeland management practices.

		place and not on the importation of significant feed stuffs (bringing N and P to the watershed). Our research, and a recent comprehensive review by USDA of the literature on livestock grazing and riparian health demonstrates that adaptive, site-specific implementation of best management grazing practices will offset any detrimental impacts of unmanaged grazing on water and riparian resources. It is clear to us that with appropriate management – range livestock production, clean water, and plentiful high quality riparian habitats are completely compatible outcomes." (K. W. Tate 2013) A common source of confusion when discussing data on cattle's contribution to nutrient loading can be differentiating between Extensive-grazing systems, and confined- animal feeding operations (CFOs), examples of which would be diaries and feedlots. Staff and other interested parties without a clear understanding of cattle operations sometimes extrapolate data from other regions confined feeding operations, and cite this as evidence of "grazing" and "livestock" being major sources of N and P. CFOs can be a source of N and P and require a higher level of management. These types of operations are rare in the Ventura River Watershed and would be categorized with the horse/intensive livestock section. The science is clear and overwhelming, extensive grazing activities, with proper rangeland management practices are not a source of nutrient loading and eutrophication.	

3.7	Mike Williams	**3. Water monitoring requirements are costly and burdensome to produce with little or no ecological benefits.** The number of cattle grazing in the water shed coupled with the best available science, on the contribution grazing activities have on nutrient loading, clearly demonstrates that any impact cattle are having on algae in this watershed is minimal to non-existent. A 10% reduction in nutrient levels, as required by this TMDL, from the minimal to non-existent contribution from grazing activities would be insignificant. However the potential water monitoring costs to producers could be extremely significant, and could make some operations unviable with no ecological benefit.	This comment was previously made to the Los Angeles Water Board (Comment 6.6) and the Board responded as follows: "The proposed TMDL is written to provide cattle ranching operations flexibility in monitoring and complying. Ranchers will conduct baseline monitoring to determine what reductions are needed to meet allocations, and then propose their own management plans to attain allocations. Cattle ranches will have 10 years to comply with allocations. The TMDL calls for a 10% reduction in nutrient loading from grazing activities and provides a cost estimate based on reasonably foreseeable means of compliance. Once the baseline monitoring is conducted and management plans are developed, the exact cost to comply with the allocations can be determined. It is expected that a waiver program similar to the Agriculture Waiver will be adopted for ranching operations. Such a program will allow ranchers to conduct group monitoring in order to keep costs low." In addition, in response to comments, the TMDL was modified at the Los Angeles Water Board meeting to allow grazing operations to either conduct baseline monitoring *or utilize other acceptable data or studies as approved by the Executive Officer to determine baseline dry-weather pollutant loading*. In addition, the TMDL was modified in response to comments to allow compliance monitoring to consist of documentation of

			no discharge due to BMP implementation, and may include water quality monitoring during conditions under which discharge may occur, including wet weather. Thus, the monitoring requirements were modified in response to concerns from cattle ranchers and the resulting monitoring costs are not extremely significant nor would they make operations unviable.
3.8	Mike Williams	**Recommendations:** **1.** Due to the insignificant number of cattle in the Ventura river water shed, the overwhelming amount of data that show they do not contribute to nutrient loading, and eutrophication and the potential harm to the producers, and the community by the cost associated with this TMDLs implementation, I recommend that cattle grazing be exempted from this TMDL. **2.** In the event Grazing Activities remain in this TMDL, I recommend the water monitoring requirement (including base line monitoring) for grazing activities be removed and replaced with acceptable water management plans and evidence of BMPs.	The State Water Board cannot make changes to the TMDL. It can only approve or disapprove the TMDL as adopted. The State Water Board does not agree that cattle grazing should be exempted from the TMDL. The TMDL and supporting documentation adequately demonstrates that grazing activities are a source of nutrients, which are variable and uncertain, and the TMDL accounts for this variability and uncertainty through flexible allocations, reasonable implementation measures, low-cost monitoring requirements and an opportunity to revise the TMDL to adjust the source assessment and allocation scenario when the TMDL is reconsidered in year 5, which is five years before the compliance deadline for the load allocations assigned to grazing activities.