Response to Public Comment
TMDL for Dissolved Oxygen in Salado Creek
October 9, 2001

Tracking Number	Date Recd.	Affiliation of Commenter	Summary or Request or Comment	Summary of Action or Explanation
01	8/23/01	Landowner	The commenter stated that the Farmer's Well that was closed in 1991 provided needed baseflow into Salado Creek. Since the well has been closed, flow in the creek has been slow and stagnant. In March of 2001, the San Antonio Water System (SAWS) began discharging reuse water into Salado Creek and that has helped water quality in the creek. The commenter concluded by stating that it would be good if there could be another source of fresh water which could be discharged into the creek to help get the creek back in to its condition prior to the closing of the Farmer's Well.	State law specifies that water quality standards be met when flows in streams are above a certain minimum level. The minimum flows specified for Salado Creek are 0.1 cubic feet per second at the USGS gage at NE Loop 410 and 9.4 cubic feet per second at the USGS gage at Loop 13. Closing the Farmer's Well probably has resulted in the flow in Salado Creek falling below this minimum level more frequently. However, the TNRCC has no evidence to suggest that closing the well has resulted in lower dissolved oxygen levels in Salado Creek when flows in the creek are above the minimum level. No changes have been made to the TMDL based upon this comment.

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02	8/23/01	Southeast Side Community Organization	The commenter expressed concern about water quality in a particular area of Salado Creek. The commenter stated that the water in Salado Creek was "contaminated" in the area around Brooksdale and Rice Roads. He indicated that debris had collected in the area since the flood in 1998, it is the site of frequent illegal dumping, and transformers and drums stored in the area were causing radioactive water to run into the creek. The commenter stated that they would like to have the area cleaned up.	TNRCC and San Antonio River Authority (SARA) staff are familiar with the area of Salado Creek addressed by the comments. Dumping in the area is certainly a valid concern. However, water quality data from Salado Creek does not indicate that the materials in the area are affecting dissolved oxygen levels in the creek (that is, the dissolved oxygen levels are the same downstream of the area of concern as they are upstream). This TMDL is limited to addressing dissolved oxygen levels in the creek, therefore no changes have been made to the TMDL based upon this comment. These comments are being forwarded to officials with the City of San Antonio for further evaluation.
03	8/23/01	Pecan Valley Neighborhood Association	The commenter stated that closing the Farmer's Well reduced flow in Salado Creek and had a serious impact on water quality in the creek resulting in frequent fish kills.	The TNRCC has no evidence that closing the Farmer's Well has contributed to a violation of state water quality standards and no changes have been made to the TMDL based upon this comment.
			The commenter stated that augmentation of flow in Salado Creek with recycled water from the SAWS has greatly benefitted water quality in the creek. He stated that they felt Salado Creek could assimilate the recycled water without violating water quality standards and that they would oppose placing additional limits on SAWS that would reduce the discharge of the recycled water.	The impact of the SAWS discharge of recycled water into Salado Creek was not evaluated in the draft TMDL. This analysis has now been completed and will be included in the final TMDL. The SAWS discharge increases the loading of the constituents of concern (Biochemical Oxygen Demand and Ammonia-Nitrogen) to the creek, but the additional flow also serves to increase the assimilative capacity of the stream. The conclusions of the report remain the same, the assimilative capacity of Salado Creek for oxygen demanding materials is greater than the existing loadings of these materials.

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			The commenter stated that his organization recommends accepting the TMDL findings and supports the current discharge limits on the SAWS discharge of recycled water.	The TNRCC acknowledges the statement of support for the TMDL findings.
04	8/23/01	Salado Creek Foundation	Problem Definition - The commenter requested additional information on the elevated bacteria levels in Salado Creek.	Salado Creek is listed on the state's Federal Clean Water Act §303(d) list for both low dissolved oxygen levels and elevated bacteria levels. This TMDL addressed only the low dissolved oxygen in Salado Creek. A TMDL for the elevated bacteria levels in Salado Creek is due to be initiated in 2002. The commenter is encouraged to get involved in the public participation elements of the project addressing bacteria levels. More information on the TMDL for bacteria in Salado Creek can be obtained from the TNRCC and the SARA. No changes have been made to the TMDL based upon this comment.

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			Problem Definition - The commenter requested more information on the conditions which existed when grab samples were collected since DO conclusions were based upon grab samples.	Conclusions about dissolved oxygen levels in Salado Creek stated in the TMDL were not based solely upon grab samples. The conclusions of the TMDL were based upon an analysis of historical data which includes both 24-hour average dissolved oxygen concentrations and grab sample data, limited new monitoring data which included both 24-hour average dissolved oxygen concentrations and grab sample data, and mathematical modeling of the creek attributes and its capacity to assimilate materials. Specific information about conditions which existed when individual samples were collected or measurements were made are too lengthy to include in the TMDL report. However, this information can be made available upon request from SARA or the TNRCC. To obtain additional information about the sampling conducted for the TMDL, the commenter should contact Mr. Mike Gonzales of SARA at 210/227-1373 or Mr. Arthur Talley of the TNRCC at 512/239-4546. No changes have been made to the TMDL based upon this comment.
			Problem Definition - The commenter stated that since data were collected for the TMDL project, SAWS has begun discharging recycled water into Salado Creek. Since flow is a factor in dissolved oxygen levels, this discharge should be considered.	The impact of the SAWS discharge of recycled water into Salado Creek was not evaluated in the draft TMDL. This analysis has now been completed and will be included in the final TMDL. The conclusions of the report remain the same, the assimilative capacity of Salado Creek for oxygen demanding materials is greater than the existing loadings of these materials.

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			Endpoint Identification - The commenter stated her hope that the SAWS discharge of recycled water will help achieve the targeted dissolved oxygen concentration of 5 mg/l.	Analysis of the SAWS discharge does not change the conclusions of the TMDL which state that the assimilative capacity of Salado Creek for oxygen demanding materials is greater than the existing loadings of these materials. No changes have been made to the TMDL based upon this comment.
			Linkage Between Sources and Receiving Waters - The commenter stated her belief that the SAWS discharge of recycled water will improve conditions in the creek under both steady state and non-steady state conditions.	Analysis of the SAWS discharge does not change the conclusions of the TMDL which state that the assimilative capacity of Salado Creek for oxygen demanding materials is greater than the existing loadings of these materials. The TNRCC agrees that additional flow in the creek, particularly under low flow, steady-state conditions, will likely have a positive impact on dissolved oxygen levels in the creek. No changes have been made to the TMDL based upon this comment.
			Source Analysis - The commenter stated her belief that the entities that hold the NPDES Storm Water Permit have an obligation to devote significant resources to public education about the importance of good housekeeping practices for individuals. She expressed appreciation for recent efforts by the Public Works Department to make the disposal of household hazardous wastes more convenient. She demanded that both the City of San Antonio and SAWS be exemplary stewards in their own maintenance activities in the sensitive riparian zones of the creek.	The commenter is encouraged to forward her comments to the appropriate local entities. No changes have been made to the TMDL based upon this comment.

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			Margin of Safety - The commenter stated that she trusts the professionals from SARA to have made reasonable and prudent assessments of this factor.	The TNRCC works closely with staff of the SARA in making these assessments and acknowledges the commenter's statement of support. No changes have been made to the TMDL based upon this comment.
			Loading Allocations - The commenter stated that the Board of Directors of the Salado Creek Foundation had not taken a formal position on the TMDL, but they believe that conditions in Salado Creek will continue to improve with careful continued management and monitoring. They believe that the SAWS discharge of recycled water is a key element in improving conditions in Salado Creek and expressed their hope that SAWS will be allowed to continue the discharge.	The monitoring and management actions necessary to maintain water quality conditions in Salado Creek will be identified and enumerated in the TMDL implementation plan which will be developed by the TNRCC and cooperating partner agencies in the months following the adoption of the TMDL. The commenter is encouraged to participate in the development of the implementation plan for Salado Creek. For further information on the development of the implementation plan for Salado Creek, the commenter should contact Mr. Arthur Talley of the TNRCC at 512/239-4546. No changes have been made to the TMDL based upon this comment.

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05	8/27/01	Member, Technical Advisory Council to the Salado Creek Foundation	The commenter stated that the data presented in the TMDL does not present a true ecological snapshot of Salado Creek. He stated that it would be more technically sound to determine the degree of pollution in Salado Creek by measuring primary nutrient loadings and counts of heterotrophic bacteria rather than dissolved oxygen. He stated that it would be more accurate and technically sound to propose TMDLs for Nitrogen and Phosphorous. He stated he was in favor of increasing flow in Salado Creek with clean water.	The TNRCC has developed the proposed TMDL based upon the state water quality standards which have been adopted by the TNRCC. The changes suggested by the commenter are beyond the scope of this TMDL as it addresses only the dissolved oxygen impairment in Salado Creek. The changes suggested would require changes to the state water quality standards. The TNRCC updates the state water quality standards every three years. The commenter is encouraged to participate in the revision to the state water quality standards during the next cycle. No changes have been made to the TMDL based upon this comment.
06	8/22/01	Texas Parks and Wildlife Department	The commenter stated that he cannot agree with the message he derived from the report, which is that the stream is not impaired.	The TMDL does not state specific conclusions regarding the attainment of designated uses of the stream. The TMDL analyzes the stream and its contributing watershed to determine its assimilative capacity for the constituents of concern relative to the estimated loadings of those constituents. In the case of Salado Creek, the analysis determined that the capacity of the stream to assimilate oxygen demanding materials is greater than the existing loadings of these materials. No changes have been made to the TMDL based upon this comment. It should be noted that the TNRCC is presently conducting a Use Attainability Analysis of Salado Creek which will provide substantial new information regarding the beneficial uses and associated criteria which are appropriate for Salado Creek. The study will be concluded during the summer of 2002.

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			The commenter stated that very little monitoring information is presented to support the conclusions of the TMDL. He stated that the assessment relies heavily of data from a location that is a substantial distance from sites which have shown low dissolved oxygen levels in the past. He stated that insufficient information is provided on the nature of sampling during the baseline surveys. He stated that the TMDL should include a table summarizing baseline survey data and a map of all sample location with habitat descriptions. The number of dissolved oxygen samples collected during summer conditions should be justified.	The conclusions of the TMDL were based upon an analysis of historical data which includes both 24-hour average dissolved oxygen concentrations and grab sample data, limited new monitoring data which included both 24-hour average dissolved oxygen concentrations and grab sample data, and mathematical modeling of the creek attributes and its capacity to assimilate materials. Data were collected during the TMDL project not only to provide insight into ambient water quality conditions but, more importantly, to support the mathematical modeling of the creek and the associated watershed. Three baseline datasets were collected for the Salado Creek TMDL which is more than the generally recommended amount of information needed to support the development of water quality models. Specific information about conditions which existed when individual samples were collected or measurements were made are too lengthy to include in the TMDL report. However, this information can be made available upon request from SARA or the TNRCC. To obtain additional information about the sampling conducted for the TMDL, the commenter should contact Mr. Mike Gonzales of SARA at 210/227-1373 or Mr. Arthur Talley of the TNRCC at 512/239-4546. No changes have been made to the TMDL based upon this comment.

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			The commenter stated that the TPWD had sampled multiple sites in Salado Creek and that several dissolved oxygen measurements were below the water quality standards criteria.	The TNRCC disagrees that several dissolved oxygen measurements cited by the commenter were below the water quality standards. The TPWD data were reviewed by the TNRCC during the development of the TMDL. Two of the dissolved oxygen measurements were below 5 mg/L. However, flow in Salado Creek at the time the measurements were made were below the minimum level at which the state water quality standards are applicable. Therefore, these measurements do not constitute exceedances of state water quality standards. No changes have been made to the TMDL based upon this comment.

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			The commenter stated that abundant trash and a strong sewage odor at one sample site suggested urban impacts on water quality in the creek.	Trash in the stream, sewage odors, or other urban impacts have not caused dissolved oxygen problems in Salado Creek as demonstrated by the analysis presented in the TMDL. The TMDL characterized the attributes of the creek and its capacity to assimilate oxygen demanding materials. The TMDL demonstrated that the capacity of Salado Creek to assimilate oxygen demanding materials (including those associated with urban impacts) is greater than the existing loadings of these materials. The commenter is encouraged to forward his concerns about a possible leaking sewer line to the San Antonio Regional Office of the TNRCC at 210/490-3096 or to the appropriate local authorities. Additional actions that may be necessary to maintain dissolved oxygen levels in the creek can be considered in the TMDL implementation plan for Salado Creek. The commenter is encouraged to participate in the development of this document. For further information about the development of the TMDL implementation plan for Salado Creek, the commenter should contact Mr. Arthur Talley of the TNRCC at 512/239-4546. No changes have been made to the TMDL based upon these comments.
			The commenter stated that Appendix A, Table A-3 referenced on page 8 of the TMDL was not included in the draft report made available for public review.	The reference cited in the comment should not have been included in the TMDL and has been deleted.

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			The commenter questions the use of the modeling approach utilized in the draft TMDL. He states that the model selected does not allow explicit inclusion of nonpoint source loadings and there are no point sources in the watershed. He states that the conclusion that Salado Creek can assimilate about twice the pollutant load that it has at the present time seems "highly suspect."	Modeling was performed to address both point and nonpoint sources of pollutants in the Salado Creek watershed. The QUAL-TX model was applied to address dissolved oxygen under critical, steady state conditions, which the historical database indicates is the most important condition. The QUAL-TX model is appropriate for this application and has been utilized extensively throughout the state. The results of modeling exercises are inherently subject to debate since they rely heavily on assumptions and judgement. TNRCC staff have reviewed and approved the modeling approach used in the Salado Creek TMDL. Since the initial preparation of the draft TMDL a point source discharge has begun on Salado Creek from the SAWS flow augmentation program. The draft TMDL has been revised to recognize this discharge and to include its impact on the analysis. In the revised TMDL analysis, the existing BOD loading is approximately 77% of the estimated assimilative capacity of the creek and the existing ammonia nitrogen loading is approximately 92% of the estimated assimilative capacity of the creek. No changes have been made to the TMDL based upon these comments.

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			The commenter stated that it would be appropriate for the TMDL to investigate problems that may cause localized sags in dissolved oxygen.	Localized sags in dissolved oxygen may not constitute an impairment of uses as defined by the state water quality standards. Attainment of uses is to be determined by monitoring representative locations along the stream. The TMDL has determined that the capacity of Salado Creek to assimilate oxygen demanding materials is greater than the existing loadings of these materials. This determination is based upon data collected from representative locations on the stream and the contributing watershed. More specific information on sampling sites considered in the TMDL can be made available upon request from SARA or the TNRCC. To obtain additional information about the sampling conducted for the TMDL, the commenter should contact Mr. Mike Gonzales of SARA at 210/227-1373 or Mr. Arthur Talley of the TNRCC at 512/239-4546. No changes have been made to the TMDL based upon these comments.

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			The commenter stated that there is no mention of the NPDES storm water permit for the area nor any suggestions of actions that may be taken to bring the stream back into compliance with water quality standards.	Actions that might be taken to maintain dissolved oxygen levels in Salado Creek, including the requirements of the applicable storm water permit, will be considered in the development of the TMDL implementation plan for Salado Creek. The commenter is encouraged to participate in the development of this document. For further information about the development of the TMDL implementation plan for Salado Creek, the commenter should contact Mr. Arthur Talley of the TNRCC at 512/239-4546. The TNRCC recognizes that water quality conditions in Salado Creek have reached a level of concern. The TNRCC is developing agency policies and procedures for management actions that can be undertaken to address water quality concerns in the state. No changes have been made to the TMDL based upon these comments.