

Response to Public Comment
TMDL for Atrazine in Aquilla Reservoir
March 23, 2001

Tracking Number	Date Recd.	Affiliation of Commentor	Summary of Request or Comment	Summary of Action or Explanation
001	1-9-01 (verbal)	Aquilla Water Supply District	The commentor stated that Aquilla Water Supply District and Novartis have been collecting samples for analysis of atrazine since 1998 rather than 1995 as stated in the TMDL document. The commentor requested that the date be corrected in the TMDL document.	The change has been made as suggested.
002	1-9-01 (verbal)	Agricultural Community	The commentor stated that the watershed agricultural community has improved its atrazine management practices and stated that some atrazine related best management practices have already been implemented in the watershed.	The support of the TMDL is appreciated. No changes have been made to the TMDL based on this comment.
003	1-9-01 (verbal)	Syngenta Crop Protection	The commentor mentioned comments (a)(2), (b), (c) and (d) which were also submitted in writing (see below).	See below.
004	1-9-01 (written)	Syngenta Crop Protection	<p>(a) Supported the TNRCC in its efforts to address the atrazine concentration in Aquilla Reservoir and agreed, in general, with the approach of the TMDL document.</p> <p>(1) We agree that TMDLs can be expressed in other ways instead of loading allocations.</p> <p>(2) A running monthly average based on monthly sampling at the reservoir will provide a more accurate description of the progress of the TMDL.</p> <p>(3) The atrazine maximum contaminant level (MCL) provides a sufficient margin of safety to protect designated use.</p> <p>(4) Loading allocation for atrazine should be associated with nonpoint sources in Aquilla Reservoir.</p>	The support of the TMDL is appreciated. No changes have been made to the TMDL based on this comment.
			<p>(b) Suggested that all atrazine nonpoint source loading has occurred based on agricultural label uses and not by lawn care uses.</p>	The TMDL considers both agricultural label uses and lawn care uses in the nonpoint source component. No changes have been made to the TMDL based on this comment.

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			<p>(c) Suggested that the TMDL should indicate if the document will be modified if there is a change in the MCL for atrazine.</p> <p>(d) Suggested that the implementation period of the TMDL should be referenced in the document.</p> <p>(e) Suggested that if this TMDL is a high priority of the state of Texas, TNRCC funding of the Texas A&M water monitoring and BMP education project should be reestablished.</p>	<p>The endpoint of this TMDL will be 0.003 mg/l, the Texas Surface Water Quality Standard for atrazine as established in 30 TAC §307.6(d)(8). Additional detail and explanation regarding the endpoint has been added to the Endpoint Identification section of the document.</p> <p>The TMDL process involves development of two documents: 1) a TMDL which determines the allowable loading and allocates reductions to point and nonpoint categories source, and 2) an implementation plan that describes management measures and control actions needed to achieve the pollutant reductions. This comment deals with aspects of implementation and will be addressed in the implementation plan for Aquilla Reservoir. Preparation of implementation plans is critical to ensure water quality standards are restored and maintained. Preparation of the implementation plan for Aquilla Reservoir will be initiated upon Commission approval of the TMDL. No changes have been made to the TMDL based on this comment.</p> <p>This TMDL is a high priority of the state of Texas, however, funding will not be reestablished. A more cost effective approach to allow continuation of the monitoring has been developed. TNRCC staff will monitor the atrazine concentration of the reservoir on a monthly basis. No changes have been made to the TMDL based on this comment.</p>
005	1-9-01 (written)	Texas Parks and Wildlife Department (TPWD)	(a) Suggested that in addition to the running annual average target, an action level for single peak maximum is also necessary to protect the living organisms in the environment from a large atrazine spike.	An atrazine criteria for Aquatic Life Protection is not contained within the Texas Surface Water Quality Standards. However, EPA has issued draft guidance for an ambient aquatic water quality atrazine criteria. Exceedance of the recommended chronic criteria or the recommended acute criteria has not been observed. Given the current TNRCC data assessment procedures, an exceedance of the endpoint established in the Endpoint Identification section of the TMDL would be expected to occur before either the recommended chronic or the recommended acute criteria would be exceeded. No changes have been made to the TMDL based on this comment.

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			<p>(b) TPWD staff agrees that atrazine, the contaminant of concern, is from nonpoint sources. Suggested that the TMDL should have a section outlining an action and monitoring plan.</p>	<p>The support of the TMDL is appreciated.</p> <p>As noted above, the TMDL development process involves the preparation of two documents, a TMDL and an implementation plan. This comment deals with aspects of implementation and will be addressed in the implementation plan for Aquilla Reservoir. Preparation of implementation plans is critical to ensure water quality standards are restored and maintained. Preparation of the implementation plan for Aquilla Reservoir will be initiated immediately upon Commission approval of the TMDL. No changes have been made to the TMDL based on this comment.</p>
			<p>(c) Suggests that while a cursory review of the data presented 1998 suggests a reduction in atrazine loading, the apparent reduction may be due to crop rotation and higher levels of atrazine are expected when corn and sorghum crops rotate into production.</p>	<p>As noted above, the TMDL development process involves the preparation of two documents, a TMDL and an implementation plan. This comment deals with aspects of implementation and will be addressed in the implementation plan for Aquilla Reservoir. Preparation of implementation plans is critical to ensure water quality standards are restored and maintained. Preparation of the implementation plan for Aquilla Reservoir will be initiated immediately upon Commission approval of the TMDL. No changes have been made to the TMDL based on this comment.</p>
			<p>(d) Suggests that best management practices be undertaken to improve herbicide application management for agricultural and residential uses. TPWD recommends a coordinated effort from state and federal agencies to educate residents and the agricultural community about herbicide application.</p>	<p>As noted above, the TMDL development process involves the preparation of two documents, a TMDL and an implementation plan. This comment deals with aspects of implementation and will be addressed in the implementation plan for Aquilla Reservoir. Preparation of implementation plans is critical to ensure water quality standards are restored and maintained. Preparation of the implementation plan for Aquilla Reservoir will be initiated immediately upon Commission approval of the TMDL. No changes have been made to the TMDL based on this comment.</p>
006	1-17-01 (written)	Environmental Protection Agency (EPA)	<p>(a) Suggests that in the absence of a quantitative plan, the design and evaluation of future remedial efforts may be difficult or even impossible. Suggested that the state should use reservoir and tributary data to quantify the loads.</p>	<p>All evidence collected by TNRCC suggests that the impairment is primarily the result of atrazine loading from agricultural non-point sources. Therefore, we believe that the design and evaluation of future remedial efforts is possible without a quantitative plan. No changes have been made to the TMDL based on this comment.</p>

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			(b) Suggests that a discussion of the fate and transport of atrazine is needed.	A discussion of the fate and transport of atrazine has been added to the Linkage Between Sources and Receiving Waters section of the document.
			(c) Suggests that additional source information should be included in the source analysis section stating that the section should clearly state whether atmospheric inputs, sediments or pasture, hay, and grassland are a source of atrazine loading.	Additional detail and explanation, including clarification of the identification of sources, has been added to the Source Analysis section of this document.
			(d) Suggests that any measured atrazine values from point source dischargers should be included.	Additional detail and explanation about point source discharges has been added to the document.
			(e) Suggests that lawn care should be quantified as part of the non-point source component and a comparison of lawn care use versus agricultural use should be provided. Also, the TMDL document should address whether certain creeks or sub-watersheds are major sources for atrazine in the lake.	Use of atrazine for lawn care is accounted for in the non-point source component. No changes have been made to the TMDL based on this comment.
			(f) Suggests that the TMDL should allocate loadings or load reductions among subwatersheds. I didn't see where they state this specifically.	The TMDL allocates the load reductions on a watershed basis. No changes have been made to the TMDL based on this comment.

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007	1-18-01 (written)	Texas Department of Agriculture (TDA)	(a) Suggests that a discussion as to the type, quantity, and maintenance needed of the best management practices necessary to provide adequate protection of the water body be included in the TMDL.	As noted above, the TMDL development process involves the preparation of two documents, a TMDL and an implementation plan. This comment deals with aspects of implementation and will be addressed in the implementation plan for Aquilla Reservoir. Preparation of implementation plans is critical to ensure water quality standards are restored and maintained. Preparation of the implementation plan for Aquilla Reservoir will be initiated immediately upon Commission approval of the TMDL. No changes have been made to the TMDL based on this comment.
			(b) Suggests that the preventive efforts that have been coordinated in the Aquilla watershed by Texas Department of Agricultural, Texas Agricultural Experiment Station, Natural Resource Conservation Service, and Novartis be acknowledged within the TMDL.	The TNRCC acknowledges and appreciates preventive efforts that have been made by Texas Department of Agricultural, Texas Agricultural Experiment Station, Natural Resource Conservation Service, and Novartis and encourages those entities to continue those efforts.
			(c) Suggests that the final draft TMDL be routed for comment after both TNRCC and TSSWCB have given their approval on staff recommendations.	For future TMDLs, TNRCC and TSSWCB will coordinate with TDA to ensure that TDA is appropriately involved in the TMDL development. No changes have been made to the TMDL based on this comment.
			(d) Suggests that soil type information should be clarified, identifying the soil types in the majority of the watershed and the dominant soil type.	Additional detail and explanation, including soil type information, has been added to the Linkage Between Sources and Receiving Waters section of the document.
			(e) Suggests that a discussion as to the current state of the Aquilla Reservoir pertaining to siltation and the status of the 100 year life span as estimated by the United States Army Corps of Engineers be included in the TMDL.	The status of siltation and the 100 year life span as estimated by the United States Army Corps of Engineers has no impact on the level of atrazine concentration in the Aquilla Reservoir. No changes have been made to the TMDL based on this comment.
			(f) Suggests that the “great deal” of data that has been collected should be attached in an Appendix to the TMDL with an analysis of the data. Also, suggests that data collected under the guidance of a quality assurance project plan and analyzed with modern modeling techniques would provide a clear indication as to the trend of atrazine contamination in the reservoir.	Water quality data has been collected by different groups within the watershed. The data that the TMDL is based on is included in the TMDL document. Clarification of the water quality data collection activities has been added to the Background Information section of the document.

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			(g) Suggests that a discussion of the chemical nature of atrazine and inclusion of a typical atrazine herbicide label be included in the TMDL.	Additional detail and explanation, including a discussion of the chemical nature of atrazine, has been added to the Linkage Between Sources and Receiving Waters section of the document.
			(h) Suggests that the linkages between sources and receiving waters should be determined by using collected data, including any long term data, in a water quality modeling program as recommended in the document “Developing Total Maximum Daily Load Projects in Texas: A Guide for Lead Organizations” (TNRCC, GI-250, 1999).	All evidence collected by TNRCC suggests that the impairment is primarily the result of atrazine loading from agricultural non-point sources. Therefore, we believe that the linkages between sources and receiving waters is possible without the use of a water quality model. No changes have been made to the TMDL based on this comment.
			(i) Suggests that quantification of nonpoint source loading should be provided with the use of watershed-scale pollutant loading models as recommended in Chapter 7 of the document “Developing Total Maximum Daily Load Projects in Texas: A Guide for Lead Organizations” (TNRCC, GI-250, 1999). Suggests that the recommended approach would better ensure a satisfactory MOS.	All evidence collected by TNRCC suggests that the impairment is primarily the result of atrazine loading from agricultural non-point sources. Therefore, we believe that the design and evaluation of future remedial efforts is possible without a quantitative plan. This TMDL has an implicit margin of safety embodied in the endpoint identification. No changes have been made to the TMDL based on this comment.