

TMDL Implementation Status for the Lower San Antonio River Watershed

Date of Status Report: April 2024, Year 4 & 5

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TCEQ Project Manager: Lauren Dawson

Abbreviations

BMP - Best Management Practice

GBRA - Guadalupe-Blanco River Authority

HHW - Household Hazardous Waste

LID - low impact development

NRCS - (USDA) Natural Resources Conservation Service

OSSF - on-site sewage facility

QAPP - Quality Assurance Protection Plan

SARA - San Antonio River Authority

SSO - sanitary sewer overflow

SWCD - Soil and Water Conservation District

SWQMIS - Surface Water Quality Monitoring Information System

TCEQ-CRP - TCEQ Clean Rivers Program

TCEQ-WQS - TCEQ Water Quality Standards

TPWD - Texas Parks and Wildlife Department

TSSWCB - Texas State Soil and Water Conservation Board

TWS - Texas Wildlife Service

USDA - U.S. Department of Agriculture

WWTF - wastewater treatment facility

Management Measures

Management Measure 1: Develop and implement conservation plans in priority areas of the watershed and educate landowners on appropriate stocking rates and grazing plans.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
Local stakeholders, AgriLife Extension, TSSWCB, NRCS, Karnes SWCD #343, Goliad SWCD #352, Wilson County SWCD #301	<p>Year 1: Promote existing conservation programs. Develop 15 conservation plans in the affected watershed. Pursue funding for education programs and financial assistance.</p> <p>Year 2: Continue promotion of existing conservation programs. Develop 15 conservation plans within the watershed. Secure funding for education campaign. Initiate education campaign.</p> <p>Years 3 - 5: Continue promotion of existing conservation programs. Develop an additional 45 conservation plans in the TMDL watershed. Deliver six education programs. Assess overall strategy for implementation.</p>	<p>Years 1 - 5: Annually report on the number of conservation plans developed, the number of landowners contacted, the number of educational materials developed, and the number of educational programs delivered.</p>	<ul style="list-style-type: none"> • FY22 TSSWCB Performed five Status Reviews • FY23 TSSWCB Performed six Status Reviews • These were on existing Water Quality Management Plans and the plans were being followed.

Management Measure 2: Remove and manage feral hogs.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>TWS Feral Hog Abatement Program, AgriLife Extension, Local Stakeholders, SARA, County wildlife associations, USDA, TPWD</p>	<p>Year 1: Contact landowners. Submit proposals for educational programs and local assistance. Continue existing methods and report as appropriate.</p> <p>Year 2: Secure funding for education and local assistance. Develop and disseminate educational materials. Begin providing assistance to landowners locally. Continue contacting landowners. Continue to remove feral hogs and report activity.</p> <p>Years 3 - 4: Continue contacting landowners. Continue disseminating education materials. Provide educational programs. Continue providing local assistance. Continue to remove feral hogs and report activity.</p> <p>Year 5: Continue contacting landowners. Continue to disseminate educational materials. Provide educational programs. Continue providing local assistance. Continue removing feral hogs and reporting activity. Assess strategy for the next phase of implementation.</p>	<p>Year 1: Successful development and submittal of an educational program proposal for feral hog management. Successful submittal of a proposal for local assistance. Remove 1,500 feral hogs from the TMDL watershed.</p> <p>Year 2: Secure funding for educational program. Secure funding for local assistance. Initiate education program. Remove 1,500 feral hogs from TMDL watershed.</p> <p>Years 3 - 4: Track on the number of materials developed and disseminated and the number of persons reach through education. Remove an addition 3,000 feral hogs from the TMDL watershed.</p> <p>Year 5: Track on the number of materials developed and disseminated and the number of persons reach through education. Remove 1,500 feral hogs from TMDL watershed.</p>	<p>SARA is no longer funding hog abatement or the creation of information.</p>

Management Measure 3: Identify, prioritize, and remediate OSSFs.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>OSSF owners, City of Kenedy, Karnes City, City of Goliad, Karnes County, and Goliad County</p>	<p>Year 1: Pursue funds for additional personnel. Pursue funds for education. Pursue funds for OSSF repairs or replacements. Identify priority areas for inspections.</p> <p>Develop OSSF tracking tool. Begin contacting OSSF owners.</p> <p>Years 2 - 5: Secure funding for additional personnel. Secure funding for education. Secure funding for OSSF repairs or replacements. Initiate educational programs. Repair and replace OSSFs. Continue tracking OSSF owners. Inspect one percent of estimated OSSFs each year.</p>	<p>Year 1: Develop and submit proposal to fund OSSF assistance and/or education programs and develop OSSF tracking system.</p> <p>Years 2 - 5: Two percent of OSSF owners contacted each year. One percent of OSSFs inspected each year. Secure funding for personnel and OSSF assistance and incentives. Initiation of education programs. Maintenance of OSSF tracking system. Replace six OSSFs every year.</p>	<p>No update received.</p>

Management Measure 4: Coordinate efforts to reduce SSOs, stormwater inflow and infiltration, and WWTF contributions, and advocate for proper operation and maintenance of sewer lines.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>Falls City, City of Goliad, Karnes City, City of Kenedy, South Central Water Company, City of Runge, City of Nordheim, City of Poth, TCEQ, and AgriLife Extension</p>	<p>Year 1: Evaluate the option of treating effluent to meet half of permitted bacteria limits. Pursue funding for education programs.</p> <p>Year 2: Televising of wastewater lines and identifying upgrades needed at WWTFs.</p> <p>Years 3 - 5: Effluent will be treated to meet half the permitted limit for bacteria (if feasible). Education programs will be developed and delivered (as funding allows).</p>	<p>Year 1: Ability to meet half the permitted bacteria limits in treated effluent evaluated. Pursued grant opportunities and/or education programs.</p> <p>Year 2: Televised wastewater lines and identified upgrades at WWTFs; improved O&M of sewer lines.</p> <p>Years 3 - 5: Treated effluent limits not exceeding half permitted effluent limits for bacteria. Developed and delivered education.</p>	<p>The City of Kenedy WWTP reported 13 SSOs in FY21 and FY22, which were all remediated by the city and caused by grease blockages. Additionally, the City of Goliad reported one SSO due to a line blockage in March 2022, which was remediated.</p>

Management Measure 5: Restore and repair riparian zones, emphasize protection of riparian zones, and advocate for educational and outreach materials.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>Local Stakeholders, SARA, AgriLife Extension, TSSWCB, NRCS, Karnes SWCD #343, Goliad SWCD #352, and Wilson County SWCD #301</p>	<p>Year 1: Secure funding for an educational campaign and initiate the campaign. Promote existing conservation programs throughout the TMDL watershed.</p> <p>Year 2: Continue promoting existing conservation programs.</p> <p>Years 3 – 5: Continue promoting existing conservation programs. Develop two conservation plans each year in the watershed. Deliver educational programs in the watershed to encourage the adoption of conservation plans. In Year 5, assess overall progress without quantifying load reductions, and if necessary, modify existing efforts or develop a new strategy for implementation.</p>	<p>Years 1 – 2: Secure funding and implement educational programs to outreach landowners.</p> <p>Years 3 – 5: Develop conservation plans in the TMDL watershed.</p>	<p>Stream restoration potential has been evaluated for most streams in the watershed using desktop methods. This information is published in the River Authority’s Watershed Master Plan Viewer. Potential project sites have been identified, but landowner interest is limited.</p>

Management Measure 6: Promote the improved quality and management of stormwater, coordinate with new development for reducing runoff pollutants, provide education programs on stormwater management, and advocate for LID BMPs.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>SARA, Falls City, Karnes City, City of Kenedy, City of Runge, City of Goliad, City of Nordheim, City of Poth, Wilson County, Karnes County, and Goliad County.</p>	<p>Year 1: Submit a proposal to fund urban stormwater education and planning. Identify the location of urban BMP installations. Host 10 urban pollution workshops.</p> <p>Year 2: Secure funding for stormwater education and planning activities. Initiate education programs for stormwater. Develop educational materials and comprehensive stormwater assessments. Initiate the installation of BMPs if/where feasible. Host 10 urban pollution workshops.</p> <p>Years 3 – 5: Continue educational and planning activities. Complete urban BMP installation if/where feasible. Host 10 urban pollution workshops per year.</p>	<p>Year 1: Development and submittal of a proposal to fund urban stormwater education and planning. Identified locations for potential urban BMP installations, if/where feasible.</p> <p>Year 2: Secured funding for stormwater education and planning activities. Initiation of education program for urban stormwater management. Development of educational materials. Initiation of BMP installation, if/where feasible.</p> <p>Years 3 – 5: Continuation of educational and planning activities. Number of contacts made through educational activities. Completion of urban BMP installation in the LSAR watershed.</p>	<p>Year 4: SARA participated or organized 25 events in the lower basin (Wilson, Karnes & Goliad Counties) that focused on stormwater pollution and water quality, with 1,409 participants.</p> <p>In addition, SARA held the following LID courses in the lower basin:</p> <ul style="list-style-type: none"> • 11/30/2021 - LID Construction Inspection Course • 2/9/2022 - LID Annual Inspection and Maintenance Course • 5/24/2022 - Design of Common LID Practices • 6/22/2022 - Site Planning for LID <p>Year 5: SARA participated or organized 18 events in the lower basin that focused on stormwater pollution and water quality with 1,207 participants.</p> <p>In addition, SARA held the following LID courses in the southern basin:</p> <ul style="list-style-type: none"> • 9/28/2022 - LID Construction Inspection Course • 11/9/2022 - LID Annual Inspection and Maintenance Course • 3/1/2023 - Site Planning for LID

Management Measure 7: Promote the reduction of illicit dumping and proper disposal of wastes and utilize SARA’s Environmental Investigators.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>SARA, AgriLife Extension, TCEQ, Karnes County, Karnes City, City of Kenedy, City of Runge, Goliad County, City of Goliad, Wilson County, City of Poth, Falls City, and City of Nordheim</p>	<p>Year 1: Develop and submit a grant proposal in pursuit of funding for educational programs, additional personnel, and activities associated with illicit dumping mitigation. Develop a strategy for how to best reduce illicit dumping. Implement activities as resources allow. Increase the number of fines written by five percent. Reduce the number of reports of illicit dumping by five percent.</p> <p>Years 2 – 5: Secure funding for additional personnel, education programs, and/or illicit dumping implementation activities. Initiate and implement educational program.</p>	<p>Year 1: Development and submittal of a grant proposal for additional personnel and educational programs. A five percent increase in the number of fines written for illicit dumping. A five percent reduction in the number of reports/complaints to responsible parties.</p> <p>Year 2: Awarded a grant for additional personnel and educational programs. A five percent reduction in the number of reports/complaints to responsible parties from the previous year.</p> <p>Year 3 – 4: Number of educational materials and programs developed and delivered. A five percent reduction in the number of reports/complaints to responsible parties from the previous year.</p> <p>Year 5: Number of educational materials developed and disseminated. Number of education programs delivered. A five percent reduction in the number of reports/complaints to responsible parties from the previous year.</p>	<p>River Authority environmental investigators perform routine helicopter flyovers of streams and use camera surveillance to help deter illicit dumping in the lower watershed. These programs were initiated in 2010.</p> <p>SARA, along with local partners, hosts six free Household Hazardous Waste (HHW) collection events within Wilson, Karnes, and Goliad Counties. These semi-annual events are held in the spring and fall. County residents may stop by to drop off unwanted HHW, tires, paint, used motor oil & filters, cleaning products, pesticides, computers, small electronics, and pharmaceuticals.</p> <p>SARA hosts these household hazardous waste collection events with the hope that it will lead to a reduction in waste that enters the watershed. These are free events and are first come, first serve due to availability.</p> <p>Year 4 (2022): HHW Collection Data</p> <p>Total # of cars: 1,298 HHW collected: 108,075 lbs Electronic waste: 59,570 lbs Tires: 120.42 tons Pharmaceuticals: 788 lbs</p> <p>Year 5 (2023): HHW Collection Data</p> <p>Total # of cars: 1,277 HHW collected: 154,689 lbs Electronic waste: 76,563 lbs Tires: 82.04 tons Pharmaceuticals: 913 lbs</p>

Management Measure 8: Coordinate and expand existing water quality monitoring in the watershed.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>SARA, TCEQ-CRP, and Stakeholders</p>	<p>Years 1-5: Conduct annual basin water quality monitoring program according to the established TCEQ-approved CRP QAPP and the Coordinated Monitoring Schedule. Transfer routine water quality data to SWQMIS three times per calendar year. Develop QAPPs for additional projects, as needed. Publish annual Basin Highlight Report that discusses water quality concerns affecting human health and aquatic health. Potential sources of pollution will be evaluated according to available water quality information. Develop additional water quality monitoring projects and funding sources, as needed.</p>	<p>Years 1 – 5: Completed annual water quality monitoring program (if funding and environmental conditions allow). Acceptance of water quality data into SWQMIS. Publication of annual Basin Highlight Report.</p>	<p>Year 4: SARA monitored 10 routine sample sites in the lower basin. Eight of the sites are on the main stem of the San Antonio River. In addition, SARA monitored Escondido Creek, Cabeza Creek and Ecleto Creek. SARA also monitored biological communities at two sites on the Lower San Antonio River.</p> <p>GBRA monitors one site on the Lower San Antonio River.</p> <p>Year 5 - SARA monitored nine routine sample sites in the lower basin. Seven of the sites are on the main stem of the San Antonio River. In addition, SARA monitored Escondido Creek and Cabeza Creek. SARA also monitored biological communities at two sites on the Lower San Antonio River.</p> <p>GBRA monitors one site on the Lower San Antonio River.</p> <p>TCEQ-CRP has provided funding, quality analysis oversight, and project management oversight to SARA to enable their ongoing, broad, and successful basin water quality monitoring program. TCEQ-CRP and SARA worked hand-in-hand to develop SARA’s CRP quality assurance protection plans (QAPPs) and monitoring schedules. TCEQ-CRP confirms that SARA has conducted monitoring in adherence with their QAPPs save for a few exceptions where corrective actions have been issued or where avoidance of deficiencies was not possible. SARA has submitted basin highlights reports each fiscal year except for FY23 when they submitted a lengthier and more comprehensive basin summary report. SARA has submitted data to TCEQ-CRP on schedule which is then uploaded to that TCEC Surface Water Quality Monitoring Information System.</p>

Management Measure 9: Re-designate Cabeza Creek.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
<p>SARA, TCEQ-CRP, and TCEQ-WQS</p>	<p>Year 1: SARA staff will conduct six field and flow sampling events at five stations. Data will be submitted to the TCEQ-CRP. TCEQ-WQS will decide if additional field and flow sampling is necessary.</p> <p>Year 2: SARA staff will conduct six field and flow sampling events at five stations if deemed necessary by the TCEQ-WQS group.</p>	<p>Year 1: Delivery of data to the TCEQ-CRP group.</p> <p>Year 2: Delivery of data to the TCEQ-CRP/WQS group if additional sampling is conducted.</p>	<p>Year 4: With the 2022 Texas Integrated Report, TCEQ split Cabeza Creek into two assessment units (AUs): 1901B_01 and 1901B_02.</p> <ul style="list-style-type: none"> • AU 1901B_01: From the confluence with the Lower San Antonio River west of Goliad, in Goliad County to approximately 600 m (1970 ft) upstream of FM 2043. The flow type is intermittent with pools. This AU was identified as not supporting the standard due to elevated <i>E. coli</i> values. • AU 1901B_02: From approximately 600 m (1970 ft) upstream of FM 2043 to the upper end of the stream 9.3 km (5.7 mi) NW of Nordheim in DeWitt County. The flow type is intermittent. This AU was identified as not assessed for <i>E. coli</i> bacteria. <p>Year 5: SARA continued monitoring on Cabeza Creek at FM 2043, station ID 16992.</p>

Control Measure 1: Improve monitoring of WWTF effluent to ensure permit compliance.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
Falls City, Karnes City, City of Kenedy, City of Goliad, and South Central Water Company	Monitoring according to permit requirements.	Annual five percent reductions in non-reported monitoring.	<p>Information for this Control Measure was taken from both the TCEQ Central Registry and the EPA ECHO website.</p> <p>In the FY21-22, notices of violation were issued to the following facilities related to monitoring according to their permit:</p> <ul style="list-style-type: none"> - Riddleville Street WWEP (City of Karnes City)

Control Measure 2: Improve and upgrade WWTFs.

Responsible Parties	Schedule of Implementation	Implementation Milestone	Status
Falls City, Karnes City, City of Kenedy, City of Goliad, City of Runge, City of Nordheim, City of Poth, and South Central Water Company	<p>Years 1 - 2: Identify WWTFs with substandard bacteria treatment systems. Identify improvements that can be made in treatment and WWTF expansion needs. Pursue technical and financial assistance.</p> <p>Years 3 - 5: Begin making upgrades and improvements to WWTFs. Assess and expand capacities.</p>	Years 1 - 5: Identification of wastewater bacteria treatment needs at WWTFs in the TMDL watershed. As funding allows, make upgrades and improvements to WWTFs to ensure adequate treatment of effluent	No update received.