

Lower San Antonio River Watershed: TMDL Implementation Status

Date of Status Report: 2020, Year 1

I-Plan Approval Date: August 8, 2018

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Abbreviations

BMP - Best Management Practice

LID - low impact development

NRCS - (USDA) Natural Resources Conservation Service

OSSF - on-site sewage facility

QAPP - Quality Assurance Project 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; educate landowners on appropriate stocking rates and grazing plans.

Responsible Party	Schedule of Implementation	Implementation Milestone	Status
<p>Local stakeholders, AgriLife Extension, TSSWCB, NRCS, Karnes SWCD #343, Goliad SWCD #352, Wilson County SWCD #301</p>	<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>	<p>Since 2018, between Karnes and Goliad counties, there have been 57 conservation plans developed in the watershed, 393 landowner contacts and 244 other contacts, 4 education programs delivered/sponsored, and 1 WQMP developed and 45 WQMP status reviews completed.</p>

Management Measure 2: Remove and manage feral hogs.

Responsible Party	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>In 2019, 64 hogs were removed in Goliad County through the Goliad County Wildlife Management Association trapping program.</p> <p>SARA has purchased 20 loaner gates as a part of their Gate Loaner Program. As of August 2019, 12 gates are in the field with landowners and 8 are in the field with USDA-TWS. In addition, USDA-TWS has decided to keep a technician within the watershed after the success of the loaner program.</p>

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

Responsible Party	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. 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 unauthorized discharges including SSOs; coordinate and expand efforts to reduce stormwater inflow and infiltration; reduce WWTF contributions by meeting half of the permitted bacteria limit; advocate for proper operation and maintenance of sewer lines.

Responsible Party	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>In fiscal year 2019 (Sep 2018 - Aug 2019; FY19), there were no reported SSOs in Goliad and Wilson Counties, and 5 SSOs in Karnes County. All reported SSOs were fully remediated with repairs made as needed.</p> <p>In FY19, data showed the following WWTFs within the watershed below their permitted bacteria limit of 126 cfu/100 mL. In addition, they were sampling near, or below, half the permitted bacteria limit for treated effluent (63 cfu/100 mL). See below for the daily average <i>E. coli</i> treated effluent:</p> <ul style="list-style-type: none"> - City of Kenedy WWTF: 3.2 cfu/100 mL - Karnes City WWTF: 64.5 cfu/100 mL - City of Goliad WWTF: 3.4 cfu/100 mL <p>There was no current available data for Falls City WWTF.</p> <p>As FY19 is the first year of the I-Plan implementation, the daily averages for WWTFs will be used as the baseline for percent reductions going forward.</p>

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

Responsible Party	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>Goliad NRCS conducted follow-up site reviews in March, August, and September of 2019 for the Regional Conservation Partnership Program project at Sulphur Creek, which was completed in March 2018.</p> <p>AgriLife Extension has secured \$520,635 in 319 grant funding to deliver Stream Restoration Training and Demonstration Projects through August 31, 2020.</p> <p>There have been two education programs hosted in the watershed focusing on riparian restoration:</p> <ul style="list-style-type: none"> - Riparian Stream Ecosystem Workshop (April 2018) in Goliad, TX. - Soil Health Short Course (April 2019) in Victoria, TX. <p>In April 2018, two local newspaper articles were published for watershed residents about riparian conservation:</p> <ul style="list-style-type: none"> - Local Plants for Riparian Areas - Tips for Streamside Property Owners

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; advocate for LID BMPs.

Responsible Party	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>SARA offers a \$22,000 yearly Watershed Wise School Grant Program for schools looking to manage stormwater on-site with Low Impact Development (LID) BMPs.</p> <p>Both Goliad Elementary School (Goliad) and Roger E Side Elementary School (Karnes City) have installed bioretention on their campuses that are treating a combined total 10,761 feet of water total.</p> <p>In addition, SARA has drafted sample ordinance documents for municipalities to adopt. SARA also offers yearly watershed wise rebates for new site development or redevelopment utilizing LID BMPs. To find out more go to <www.sara-tx.org/be-river-proud/watershed-wise/rebates>.</p>

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

Responsible Party	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>SARA applied for and was awarded \$15,000 to increase public outreach and advertisement to support Household Hazardous Waste (HHW) Collection events in Wilson and Karnes counties.</p> <p>Between 2018 and 2019, SARA has organized 10 HHW collections in Wilson, Karnes, and Goliad counties. Of the 11,438 households that participated in the tri-county area, the following items were collected:</p> <ul style="list-style-type: none"> - 78.18 tons of HHW - 8,405 tires - 111,759 lbs. of electronic waste

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

Responsible Party	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>Routine watershed monitoring continues to occur as a part of the Coordinated Monitoring Schedule. Routine samples are processed and uploaded to SWQMIS as required by TCEQ-CRP. As of 2019, there have been no additional monitoring sites or projects that have been identified in the watershed. To view more information about SARA and TCEQ-CRP, or to view water quality data, go to <www.sara-tx.org/services/environmental-sciences/clean-rivers-program>.</p> <p>SARA has continued publishing their annual basin highlight report each year. The reports can be viewed on their website at <www.sara-tx.org/services/environmental-sciences/basin-reports>.</p>

Management Measure 9: Re-designate Cabeza Creek.

Responsible Party	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>Based on sampling data collected in Cabeza Creek, SARA submitted to TCEQ that the creek should be split from a single assessment unit (AU) into the following two AUs:</p> <ul style="list-style-type: none"> - Lower Cabeza Creek: From the confluence with Segment 1901, west of Goliad, Goliad County, up to a point approximately 600 meters upstream of FM 2043. - Upper Cabeza Creek: From a point approximately 600 meters upstream of FM 2043 in Goliad County, up to the upper end of the water body. <p>Cabeza Creek will be split into two AUs (1901B_01 and 1901B_02) beginning in the 2022 Integrated Report.</p>

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

Responsible Party	Schedule of Implementation	Implementation Milestone	Status
Falls City, Karnes City, City of Kenedy, and the City of Goliad	Monitoring according to permit requirements.	Annual five percent reductions in non-reported monitoring.	<p>Information for this Control Measure was taken from the EPA ECHO website <echo.epa.gov/> and lists the past five years of compliance history for regulated facilities.</p> <p>In FY19 (Sep 2018 - Aug 2019), all WWTF permitted locations (except for two, listed below) are in compliance, or have resolved their non-compliance, for monitoring requirements.</p> <p>According to ECHO, the City of Falls City (WQ0010398001) and the Riddleville Street WWTF in Karnes City (WQ0010352003) have not submitted their quarterly Discharge Monitoring Report (DMR) for FY19.</p>

Control Measure 2: Improve and upgrade WWTFs.

Responsible Party	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	As of January 2020, four of the five WWTFs in the watershed have pending renewals to their permits. More information will be available upon their issuance.