

Seventeen Total Maximum Daily Loads for Bacteria, Dissolved Oxygen, and pH in Adams Bayou, Cow Bayou, and Their Tributaries: TMDL Implementation Status 2019

Date of Status Report: 9/09/2019

I-Plan Approval Date: 8/05/2015

TCEQ Project Manager: Roger Miranda

Responsible Parties Abbreviations

NRCS - Natural Resources Conservation Service

OCHD - Orange County Health District

SETRPC - Southeast Texas Regional Planning Commission

SRA - Sabine River Authority

SWCD - Soil and Water Conservation District

TCEQ - Texas Commission on Environmental Quality

TFS - Texas A&M Forest Service

TPWD - Texas Parks and Wildlife Department

TSSWCB - Texas State Soil and Water Conservation Board

WCID - Water Control and Improvement District

WWTFs - Wastewater Treatment Facilities

Management Measures

Management Measure 1: Stormwater

Responsible Party	Implementation Measure	Implementation Milestone	Status
<p>City of Bridge City City of Orange City of Pinehurst City of West Orange Orangefield WSC Orange County WCID #2 (West Orange)</p>	<p>Coordinate and expand efforts to reduce stormwater inflow and infiltration.</p>	<p>Conduct I&I inspections.</p> <p>Make needed repairs or replacements of conveyance systems as funding allows.</p> <p>Distribute educational information through available outlets and participate in local events.</p> <p>Seek grants as well as funds for local Supplemental Environmental Projects (SEPs).</p> <p>Individually or collectively meet with local curriculum coordinators to identify appropriate educational material for delivery in the local schools and discuss incorporating watershed stewardship and stormwater management education into school curricula.</p>	<p>The City of West Orange has been working with Orange County WCID #2 to identify and apply for grants to improve sewer quality, mitigate inflow and infiltration into sewer system lines.</p> <p>The City of West Orange also promotes the prevention of gats, oils, and grease (FOG) and the discarding of foreign substances into drains or waterways via SETRPC television advertising.</p>

Management Measure 2: Agricultural Operations

Responsible Party	Implementation Measure	Implementation Milestone	Status						
TSSWCB Jasper-Newton SWCD #441 Lower Sabine-Neches SWCD #446 NRCS	2.1 Develop and implement Water Quality Management Plans (WQMPs) and other agricultural BMPs in priority areas.	Promote the availability of technical and financial assistance for the development and implementation of WQMPs. Develop and implement WQMPs as requested by the landowners.	Since the adoption of the I-Plan, in Orange County, the Lower Sabine-Neches Soil & Water Conservation District #446 completed the following in Orange County: <ul style="list-style-type: none"> • 5 Conservation Stewardship Plans (707 Acres in the TMDL Watersheds) • 5 Environmental Water Quality Contracts (384 Acres in the TMDL Watersheds) • 3 Water Quality Management Plans (283.4 Acres in the TMDL Watersheds). 						
Agrilife Extension Texas Wildlife Services TPWD	2.2 Protect riparian areas by managing land for wildlife	Promote the availability of technical and financial assistance for the development and implementation of wildlife management plans. Develop and implement land management plans as requested by the landowners.	In 2019 Texas A&M Agrilife carried out the following education activities, in and around the OC Watersheds area, associated with the Texas Riparian Restoration Program. Workshops: <table border="0" style="width: 100%;"> <tr> <td style="text-align: left;"><u>Location</u></td> <td style="text-align: center;"><u>Date</u></td> <td style="text-align: right;"><u>Attendees</u></td> </tr> <tr> <td>Bay City</td> <td style="text-align: center;">Feb 2018</td> <td style="text-align: right;">26</td> </tr> </table>	<u>Location</u>	<u>Date</u>	<u>Attendees</u>	Bay City	Feb 2018	26
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Agrilife Extension Texas Wildlife Services	2.3 Reduce feral hog populations	Promote the availability of feral hog control programs. Implement feral hog control programs as requested by the landowners	No information Reported						

Responsible Party	Implementation Measure	Implementation Milestone	Status									
TSSWCB Jasper-Newton SWCD #441 Lower Sabine-Neches SWCD #446 NRCS Agrilife Extension Texas Wildlife Services TPWD	2.4 Deliver environmental stewardship courses locally	Undertake education and outreach activities to inform landowners about the availability, benefits, and need for conservation plans and good stewardship.	In 2018 and 2019 Texas A&M Agrilife carried out the following education activities, in and around the OC Watersheds area, associated with the Texas Watershed Steward Program. Workshops: <table border="1"> <thead> <tr> <th>Location</th> <th>Date</th> <th>Attendees</th> </tr> </thead> <tbody> <tr> <td>Mont Belvieu</td> <td>Feb 2018</td> <td>26</td> </tr> <tr> <td>Jasper</td> <td>May 2019</td> <td>30</td> </tr> </tbody> </table>	Location	Date	Attendees	Mont Belvieu	Feb 2018	26	Jasper	May 2019	30
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TSSWCB Jasper-Newton SWCD #441 Lower Sabine-Neches SWCD #446 NRCS Agrilife Extension Texas Wildlife Services TPWD	2.5 Promote environmental stewardship	Provide education and outreach to targeted and general audiences	No information Reported									

Management Measure 3: OSSFs

Responsible Party	Implementation Measure	Implementation Milestone	Status
OCHD TCEQ Region 10 City of Bridge City City of Orange City of Pinehurst City of West Orange OSSF owners	3.1 Identify and map all on-site sewage facilities (OSSFs) in Orange County	Identify and map OSSF locations throughout the watershed. Coordinate with the GLO coastal zone project as appropriate.	Since 2015, OCHD has worked with Texas A&M to address and map OSSFs south of the I-10 corridor. This work continues in 2019. OCHD is currently working internally to address and map troubled areas north of the I-10 corridor.

Responsible Party	Implementation Measure	Implementation Milestone	Status
OCHD TCEQ Region 10 City of Bridge City City of Orange City of Pinehurst City of West Orange OSSF owners	3.2 Identify and prioritize problematic systems or system clusters	Prioritize areas for management by conducting OSSF inspections. Work with system owners to bring deficient systems into compliance.	On an ongoing basis, OCHD continues to identify and address problematic OSSF areas through grants for individual systems as well as pursuing grants for expansion of coverage of sewer utilities to address larger areas. In 2019, OCHD submitted SRA's Regional Waste Water Plan for a second round of funding possibilities (under RESTORE Bucket 2).
OCHD TCEQ Region 10 City of Bridge City City of Orange City of Pinehurst City of West Orange OSSF owners	3.3 Promote environmental awareness and stewardship	Identify education and outreach needs and audiences to be targeted. Deliver education and outreach to targeted audiences.	On an ongoing basis Orange County, an Authorized Agent, continues to promote awareness of OSSF issue's through its permitting process; OCHD educates individuals as they apply for OSSF permits. SRA makes "SepticSmart" brochures available to the public <ul style="list-style-type: none"> ▪ SRA ESD laboratory lobby ▪ Booth at Shangri La's EcoFest ▪ Sabine Basin TCRP Steering Committee Meetings held in Orange, TX <ul style="list-style-type: none"> • 2017 - 14 in attendance • 2018 - 19 in attendance • 2019 - 23 in attendance

Management Measure 4: Forestry Practices

Responsible Party	Implementation Measure	Implementation Milestone	Status
<p>TFS Local Landowners Loggers Logging Contractors Foresters</p>	<p>Continue promoting sustainable forestry practices throughout the watershed</p>	<p>The TFS will continue to deliver outreach and technical assistance to forestry interests in or near the Adams Bayou and Cow Bayou watersheds.</p> <p>Forest owners, managers, and harvesters will apply BMPs as appropriate to mitigate adverse effects on water quality.</p> <ul style="list-style-type: none"> • Delivery of education and outreach in and near the watershed • Documentation of landowner and forestry personnel participation • Documentation of BMP implementation through survey feedback 	<p>For Jasper, Newton, and Orange counties, TFS:</p> <ul style="list-style-type: none"> • Wrote 83 Forest Stewardship Plans covering 11,236 acres. • Wrote 172 timber management plans covering 3,719 acres. • Conducted 45 landowner technical assistance visits – covering topics in general forestry, SMZs, and reforestation. • Gave assistance 1,447 times by phone, email, or other communications. • Gave 23 forestry presentations to landowners and other members of the public. • Conducted 30 Conservation Education programs, reaching a total of 4,467 people. • Conducted 5 forest landowner workshops involving 115 landowners. • Gave 419 referrals for forestry consultants and vendors. • Conducted 4 forest health monitoring visits. <p>For Jasper and Newton counties:</p> <ul style="list-style-type: none"> • Accomplished 17 Forestry Best Management Practices Implementation Monitoring site visits. <ul style="list-style-type: none"> - Average overall implementation rate for these 17 sites = 95% - Average implementation rate on proper SMZs for the 16 sites having streams = 96%

Management Measure 5: Stormwater Ordinances

Responsible Party	Implementation Measure	Implementation Milestone	Status
<p>City of Bridge City City of Orange City of Pinehurst City of West Orange</p>	<p>Explore the feasibility of developing and adopting ordinances for improved stormwater runoff management that are consistent across the watershed. If determined feasible, work on developing ordinances.</p>	<p>Responsible parties will convene to discuss the feasibility of developing a uniform stormwater management ordinance framework.</p> <p>If feasible, they will proceed with developing a uniform ordinance framework collectively.</p> <p>Staff of the responsible parties will educate local officials about the importance and benefits of such ordinances.</p> <p>If determined to be feasible in Year 1, responsible parties may begin to develop specific ordinance language to meet their respective stormwater management needs.</p> <p>Staff of the responsible organizations will educate local officials about the benefits of such ordinances.</p> <p>If feasible, ordinances will be drafted and brought before appropriate officials to consider for adoption.</p> <ul style="list-style-type: none"> • Deliver educational materials to target audiences • Develop uniform ordinance framework developed • Develop organization-specific ordinance language and recommend for adoption 	<p>As of December 2014, all four cities have developed and adopted stormwater quality ordinances. The ordinances prohibit illicit discharges to the stormwater system.</p> <p>Also, during the four-year term, field crews inspected the storm sewer system, identifying and mapping each stormwater outfall and looking for discharges that should not be entering the system. Below are the number of outfalls identified during the term.</p> <p>Bridge City- 245 outfalls Pinehurst - 49 outfalls Orange - 227 outfalls West Orange - 113 outfalls</p> <p>All four cities are participants in a regional Stormwater Management Plan approved by TCEQ.</p>

Management Measure 6: Future WWTFs

Responsible Party	Implementation Measure	Implementation Milestone	Status
Cow and Adams Bayou TMDL Stakeholder Advisory Group	6.1 Relocate outfalls of existing facilities.	WWTF outfalls relocated to the Sabine River.	In 2016 the small (0.003 MGD) WWTF operated by SRA (TPDES No. WQ0012134-001) was closed. The waste stream is now being sent to the Orangefield WSC WWTF system (TPDES No. WQ0014772-001).
Cow and Adams Bayou TMDL Stakeholder Advisory Group	6.2 Plan for regionalizing wastewater treatment.	Apply for grants and/or loans for regional planning. Secure funding for regional wastewater collection and treatment system.	In 2009, the Sabine River Authority completed Regional Wastewater Plan for dischargers in Orange County. In 2019, Orange County submitted SRA's Regional Waste Water Plan for a second round of funding possibilities (under RESTORE Bucket 2).

Control Action 1: Existing WWTFs

Responsible Party	Implementation Measure	Implementation Milestone	Status
TCEQ	1.1 Issue or renew municipal and industrial permits consistent with the TMDLs	Regulated WWTF permits issued or renewed with revised permit limits	WWTF permits in the TMDL watersheds have been administratively continued pending the adoption of the revised TMDL.

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TCEQ	1.2 Enforce permit compliance	Regulated WWTFs monitoring and reporting within permit limits	<p>Between January 2016 and December 2018, exceedances of permit limits by WWTFs in the TMDL watersheds occurred as follows:</p> <table border="1"> <thead> <tr> <th data-bbox="1318 282 1556 313"><u>TPDES Permit No.</u></th> <th data-bbox="1734 282 1992 313"><u>No. of Exceedances</u></th> </tr> </thead> <tbody> <tr><td>WQ0010597-001</td><td>7</td></tr> <tr><td>WQ0010240-001</td><td>7</td></tr> <tr><td>WQ0010626-001</td><td>0</td></tr> <tr><td>WQ0001167-000</td><td>2</td></tr> <tr><td>WQ0000670-000</td><td>2</td></tr> <tr><td>WQ0000454-000</td><td>8</td></tr> <tr><td>WQ0000359-000</td><td>1</td></tr> <tr><td>WQ0002858-000</td><td>9</td></tr> <tr><td>WQ0010051-001</td><td>67</td></tr> <tr><td>WQ0014772-001</td><td>9</td></tr> <tr><td>WQ0013488-001</td><td>2</td></tr> <tr><td>WQ0011916-001</td><td>2</td></tr> <tr><td>WQ0002835-001</td><td>14</td></tr> <tr><td>WQ0010808-001</td><td>8</td></tr> </tbody> </table>	<u>TPDES Permit No.</u>	<u>No. of Exceedances</u>	WQ0010597-001	7	WQ0010240-001	7	WQ0010626-001	0	WQ0001167-000	2	WQ0000670-000	2	WQ0000454-000	8	WQ0000359-000	1	WQ0002858-000	9	WQ0010051-001	67	WQ0014772-001	9	WQ0013488-001	2	WQ0011916-001	2	WQ0002835-001	14	WQ0010808-001	8
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WWTF Owners	1.3 Reduce or Eliminate Wastewater Collection System Overflows	WWTFs report all sanitary sewer overflows (SSOs) to the TCEQ	Between January 2016 and December 2018, 55 SSOs totaling 1.23 MG were reported by permitted WWTFs in the Cow and Adams Bayous.																														