Carters Creek Watershed TMDL Implementation Plan Year 1

Lauren Young
TCEQ TMDL Program
Tuesday, August 28, 2012

A TMDL is…

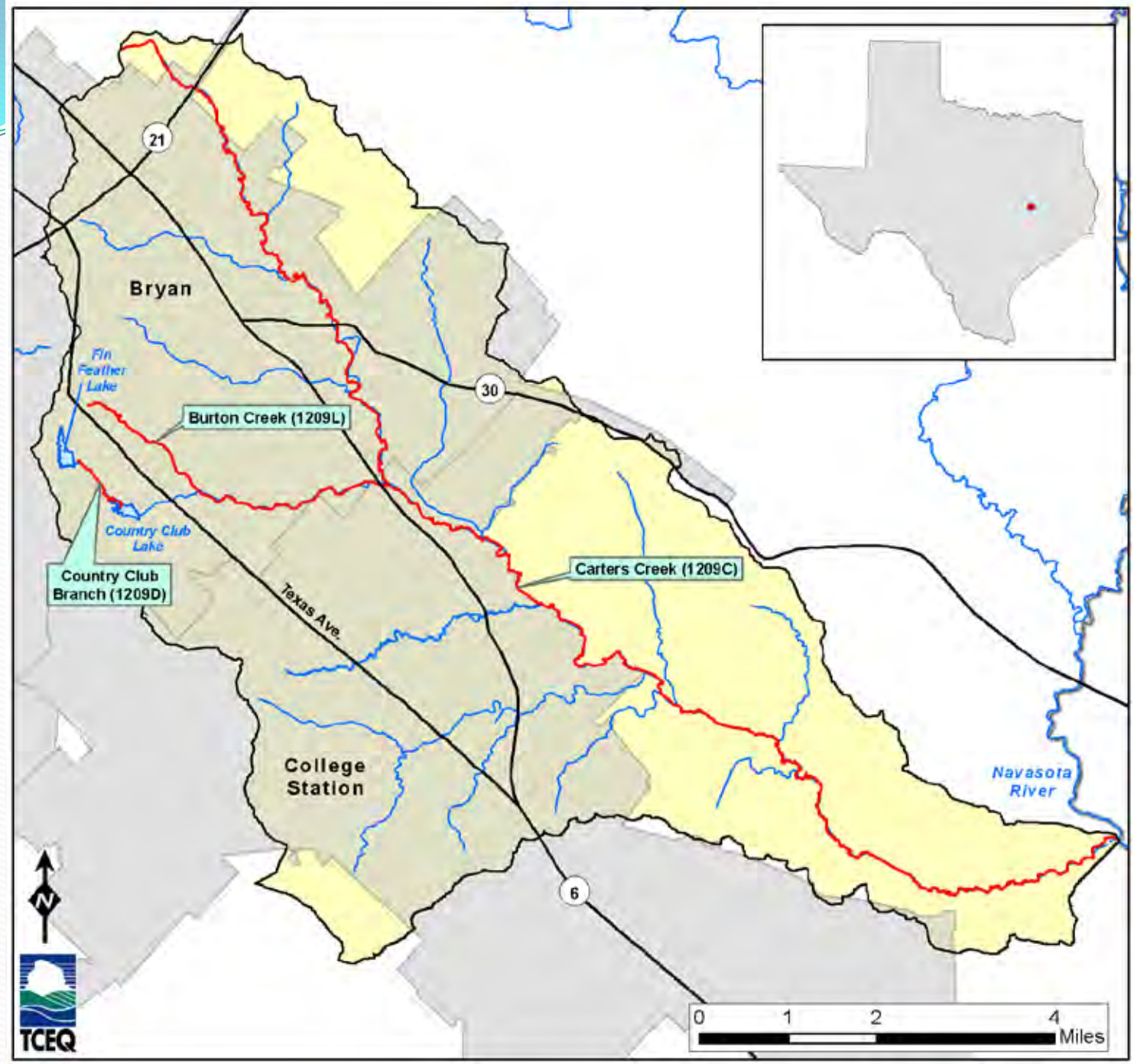
- Total Maximum Daily Load- The amount of pollution (load allocation) a water body can receive daily and still meet the water quality standards for its uses
- The Report adopted by TCEQ on 8/22/2012 and EPA approval pending. It includes identification of pollutant sources, and allocation of loads to point and nonpoint sources.
- A process for restoring water quality.

Why do a TMDL?

- Restore water quality in rivers, lakes, and bays affected by pollutants
- An effective tool for determining sources and necessary actions
- Required under Section 303(d) of the federal Clean Water Act (CWA) for water bodies that do not meet water quality standards

Why Carters Creek Watershed?

- Carters Creek was listed on the 1999 303(d) list because elevated *E.coli* concentrations did not meet the contact recreation standard
- *E.coli* are bacteria commonly found in human and animal waste, and often indicate the presence of disease-causing microorganisms, which can pose a threat to public health


Bryan
College Station
Fin Feather Lake
Burton Creek (1209L)
Country Club Lake
Country Club Branch (1209D)
Carters Creek (1209C)
Texas Ave.
Navasota River
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30
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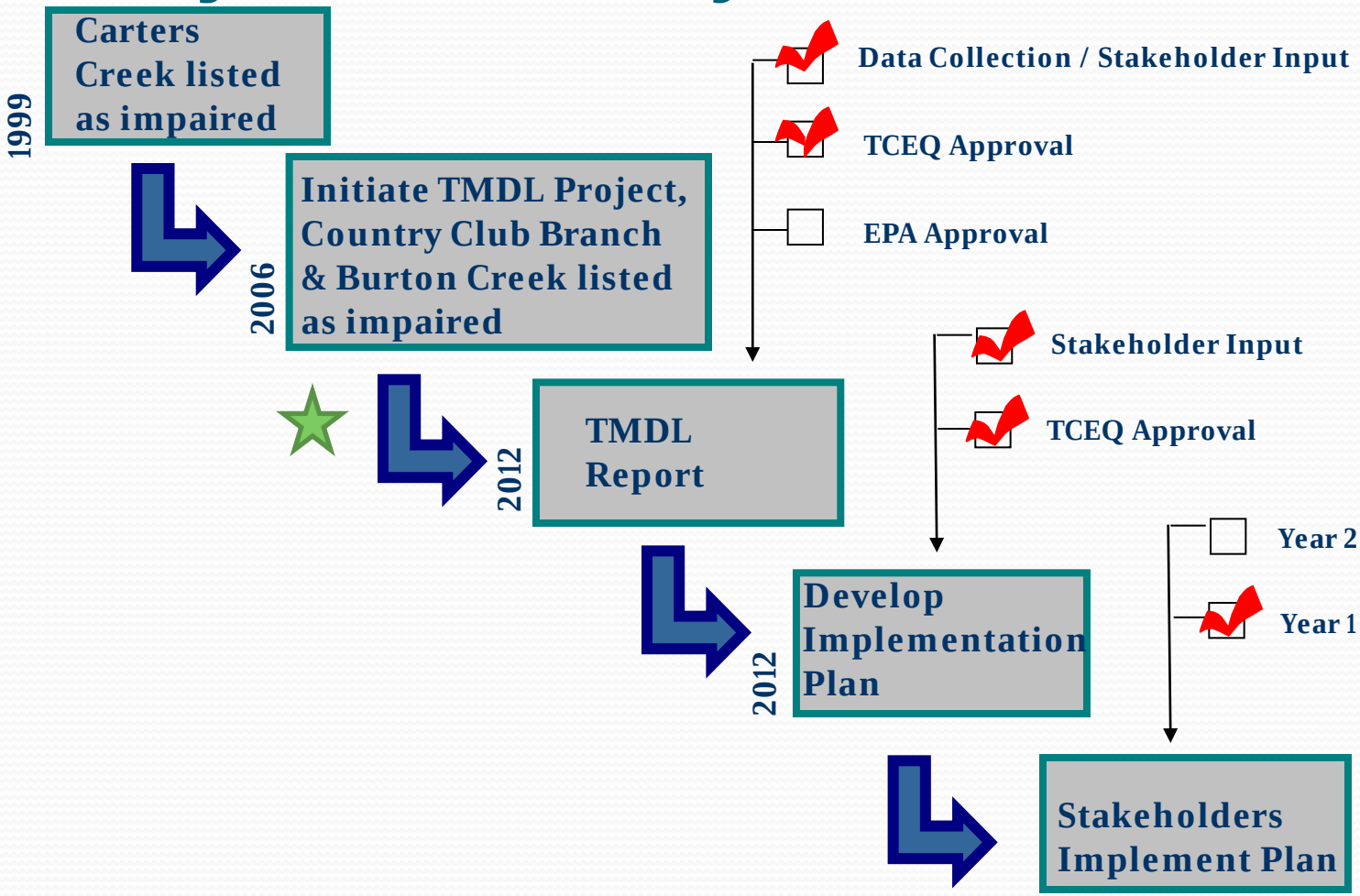
TCEQ
0 1 2 4
Miles
Legend
Impaired Segments
Streams
Lakes
Major Roads
Cities
This map was developed by the TMDL Program of the TCEQ. No claims are made to the accuracy or completeness of the data or to its suitability for a particular use. For more information concerning this map contact the TMDL Team at 512-239-6457.

Project History



2008 Country Club Branch and Burton Creek added to the project

Why do an Implementation Plan?

- TMDL requirement
- Developed by stakeholders
- Approved by TCEQ 08-22-2012
- Improves water quality in your streams
- Improves the watershed

Carters Creek Partners

- Brazos County
- Brazos County Appraisal District
- Brazos County Health Department
- USDA Natural Resources Conservation Service, Brazos County Field Office
- Brazos County Road and Bridge Department
- Brazos County Soil and Water Conservation District #450
- Brazos River Authority
- City of Bryan
- City of College Station
- Clean Rivers Program
- Glen Oaks WWTF
- Texas A&M University
- Texas AgriLife Extension Service
- Texas Department of Transportation, Bryan District
- Texas State Soil & Water Conservation Board
- Texas Parks and Wildlife Department
- Texas Water Resources Institute
- Volunteers in the watershed


Watershed Monitoring & Assessment
Tax Valuation Amendments
OSSFs
SSO Initiative
Voluntary Agricultural BMPs
Water Quality Mitigation
Individual MS4 Phase II SWMPs
WWTF
Carters Creek I-Plan

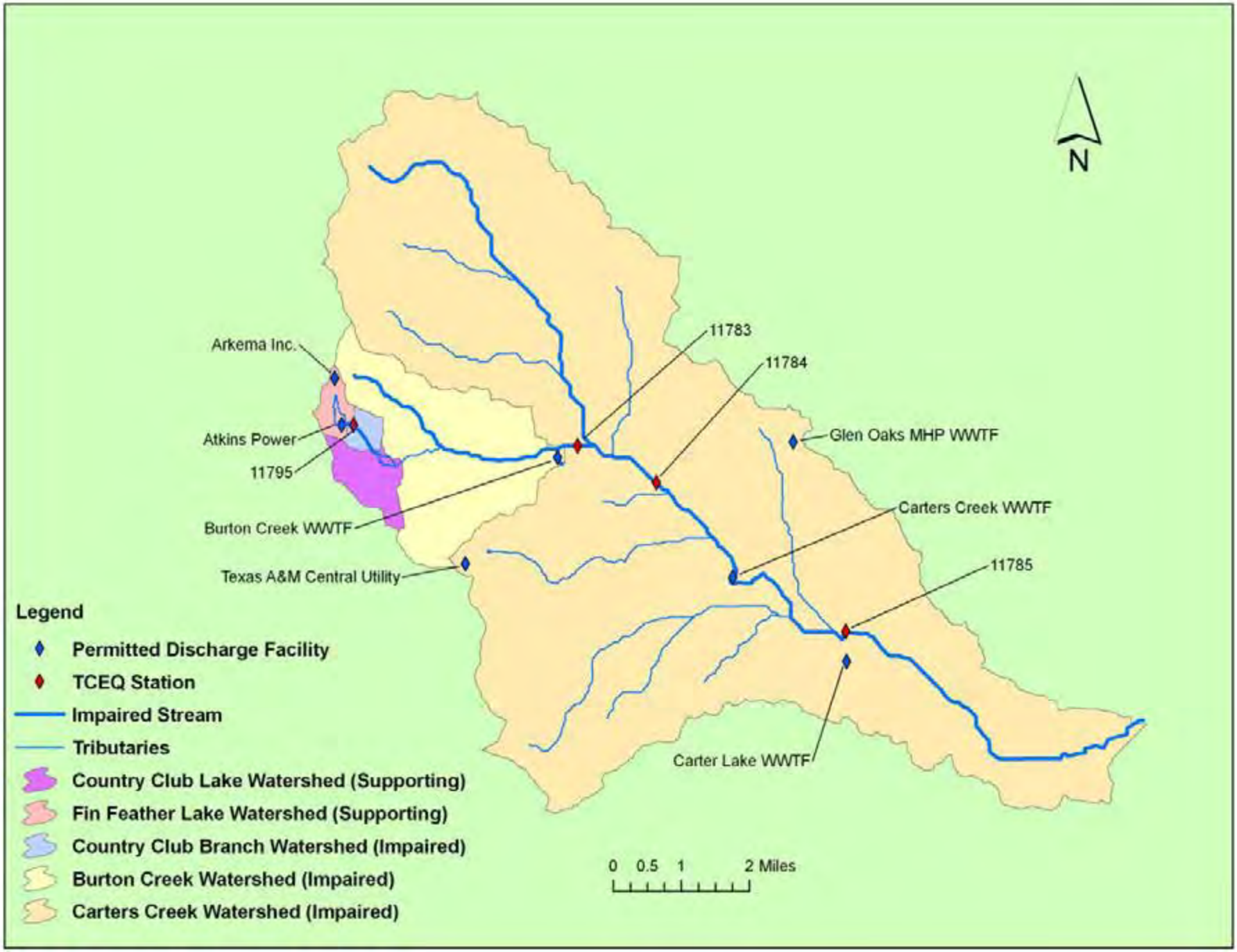
Watershed Monitoring & Assessment

- Coordinate and expand existing water quality monitoring in the watershed and conduct watershed bacteria source survey.

- Partners:
  BRA – Clean Rivers Program
  COB
  COCS
  Texas AgriLife Extension Service
  TCEQ –CWA §319(h) Nonpoint Source Grant Program funding
  TCEQ – Regional Office
  TCEQ – Clean Rivers Program
  TWRI
  Watershed volunteers

Primary Goals of Monitoring

- Better define where problem loading areas are in the watershed
- Monitor long-term trends in water quality following BMP implementation


N
Arkema Inc.
Atkins Power
11795
Burton Creek WWTF
Texas A&M Central Utility
11783
11784
Glen Oaks MHP WWTF
Carters Creek WWTF
11785
Carter Lake WWTF
Legend
Permitted Discharge Facility
TCEQ Station
Impaired Stream
Tributaries
Country Club Lake Watershed (Supporting)
Fin Feather Lake Watershed (Supporting)
Country Club Branch Watershed (Impaired)
Burton Creek Watershed (Impaired)
Carters Creek Watershed (Impaired)
0 0.5 1 2 Miles

Measurable Milestones, Year 1

- TWRI will facilitate the establishment of appropriate contracts between the TCEQ and entities receiving funding to conduct watershed monitoring
- TWRI will organize monitoring efforts and develop the project QAPP
- TCEQ and BRA continue CRP monitoring efforts in the watershed

Tax Valuation Amendments

- Determine feasibility of modifying tax valuation requirements for agricultural lands and quantify expected water quality impacts of modifications and impacts of transitioning from agriculture to wildlife valuations.

- Partners:

  BCAD

  Brazos County Soil & Water Conservation District (SWCD) #450

  NRCS – Brazos County Field Office

  Texas AgriLife Extension Service

  Texas A&M – Agricultural Economics Department

  TWRI

Measurable Milestones, Year 1

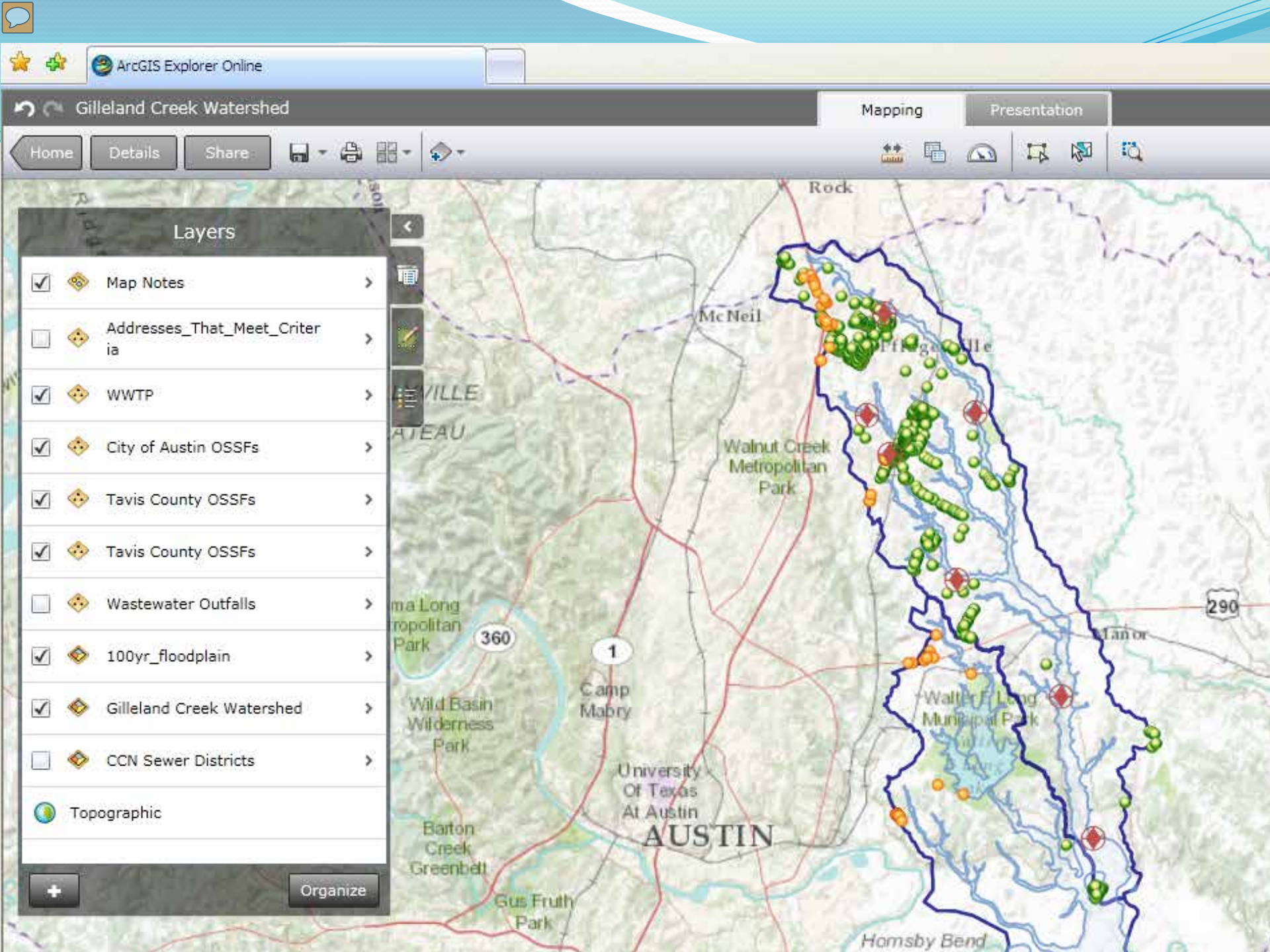
- Completed discussions to evaluate agriculture valuation requirements for areas where modifications can be made to improve water quality
- If feasible, work will begin to modify requirements for agricultural tax valuations
- Discussions completed with Appraisal District on the ability to send educational materials to landowners receiving agricultural and wildlife valuations along with annual tax statements from the Appraisal District
- Begin seeking funding to assess water quality impacts resulting from a shift from agricultural land uses to wildlife land uses

On-Site Sewage Facilities

- Work to improve OSSF identification, inspection, pre-installation planning, education, operation, maintenance and tracking to ensure proper system functioning.
- Partners involved:
  - Brazos County GIS Coordinator
  - Brazos County Health Department
  - COB
  - COCS
  - Texas AgriLife Extension Service
  - TWRI

Measurable Milestones, Year 1

- Continue to ensure that required OSSF inspections are completed, develop a mechanism to verify that OSSF inspections occur as documented
- Evaluate ways in which E&O material delivery to homeowners with OSSFs can be improved, develop a strategy for implementing the approach
- Transfer GIS information as needed for use in OSSF identification efforts
- OSSF identification and documentation will begin as funding and personnel time exists


ArcGIS Explorer Online
Gilleland Creek Watershed
Mapping
Presentation
Home
Details
Share
Layers
Map Notes
Addresses_That_Meet_Criteria
WWTP
City of Austin OSSFs
Tavis County OSSFs
Tavis County OSSFs
Wastewater Outfalls
100yr_floodplain
Gilleland Creek Watershed
CCN Sewer Districts
Topographic
Organize
Rock
McNeil
Walnut Creek Metropolitan Park
Wild Basin Wilderness Park
Camp Mabry
University Of Texas At Austin
AUSTIN
Barton Creek Greenbelt
Gus Fruth Park
Hornsby Bend
Manor
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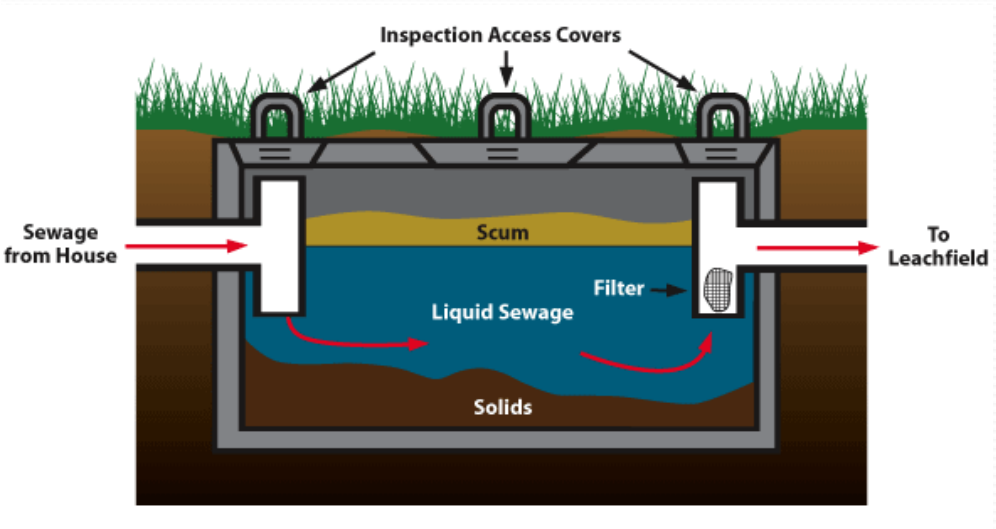
OSSF Workshop



- Hosted by TCEQ
- Presentation by James Maynard, LCRA

SSO Initiative

- Implement sanitary sewer overflow (SSO) initiatives as appropriate across the watershed.
- Partners involved:

  COB

  COCS

Measurable Milestones, Year 1

- COB will continue to implement the components of its SSO initiative and tracks SSO events, repairs, and replacements
- COCS will work to establish its SSO initiative and begin to implement it once funded

Voluntary Agricultural BMPs

- Voluntary BMP implementation on agricultural or undeveloped properties.

- Partners involved:
  - Brazos County SWCD #450
  - Local landowners
  - Texas AgriLife Extension Service
  - TPWD
  - TSSWCB
  - USDA NRCS

Measurable Milestones, Year 1

- Natural resource managers will develop a property prioritization system to identify properties where voluntary BMP implementation will likely have the greatest affect on mitigating water quality
- Contact information for each identified property will be compiled
- The need for watershed-specific education will be evaluated and a listing of E&O needs will be developed

Water Quality Mitigation

- Continue existing efforts and work to establish new mechanisms that encourage and promote future development and redevelopment that will mitigate adverse water quality impacts in the watershed.

- Partners involved:

  Brazos County

  COB

  COCS

Measurable Milestones, Year 1

- Assess the feasibility of and make a determination regarding the establishment of a local awards program that recognizes the activities of developers and other businesses that excel in environmental stewardship and protecting/improving local water quality
- As needed in support of entity-specific MS4 Phase II SWMPs, respective entities will work to amend or develop ordinances to better protect instream water quality
- Continue existing efforts to protection riparian areas as funds and support of local government leaders allow
- Determine educational needs, establish plan for their delivery, and deliver events according to plan
- Conduct local involvement efforts such as stream cleanups as needed

Individual MS4 Phase II SWMPs

- Implement entity-specific MS4 Phase II SWMPs throughout the watershed.

- Partners involved:

  Brazos County

  COB

  COCS

  Texas A&M University

  Texas Department of Transportation Bryan District

  TCEQ

Measurable Milestones, Year 1

- Entity-specific
- Reported individually to the TCEQ in each MS4 entity's annual report.

WWTF

- Continue monitoring WWTF effluent E. coli levels according to individual permit requirements.

- Partners involved:

  COB

  COCS

  Glen Oaks WWTF Owner/Operator

  Texas A&M University

  TCEQ

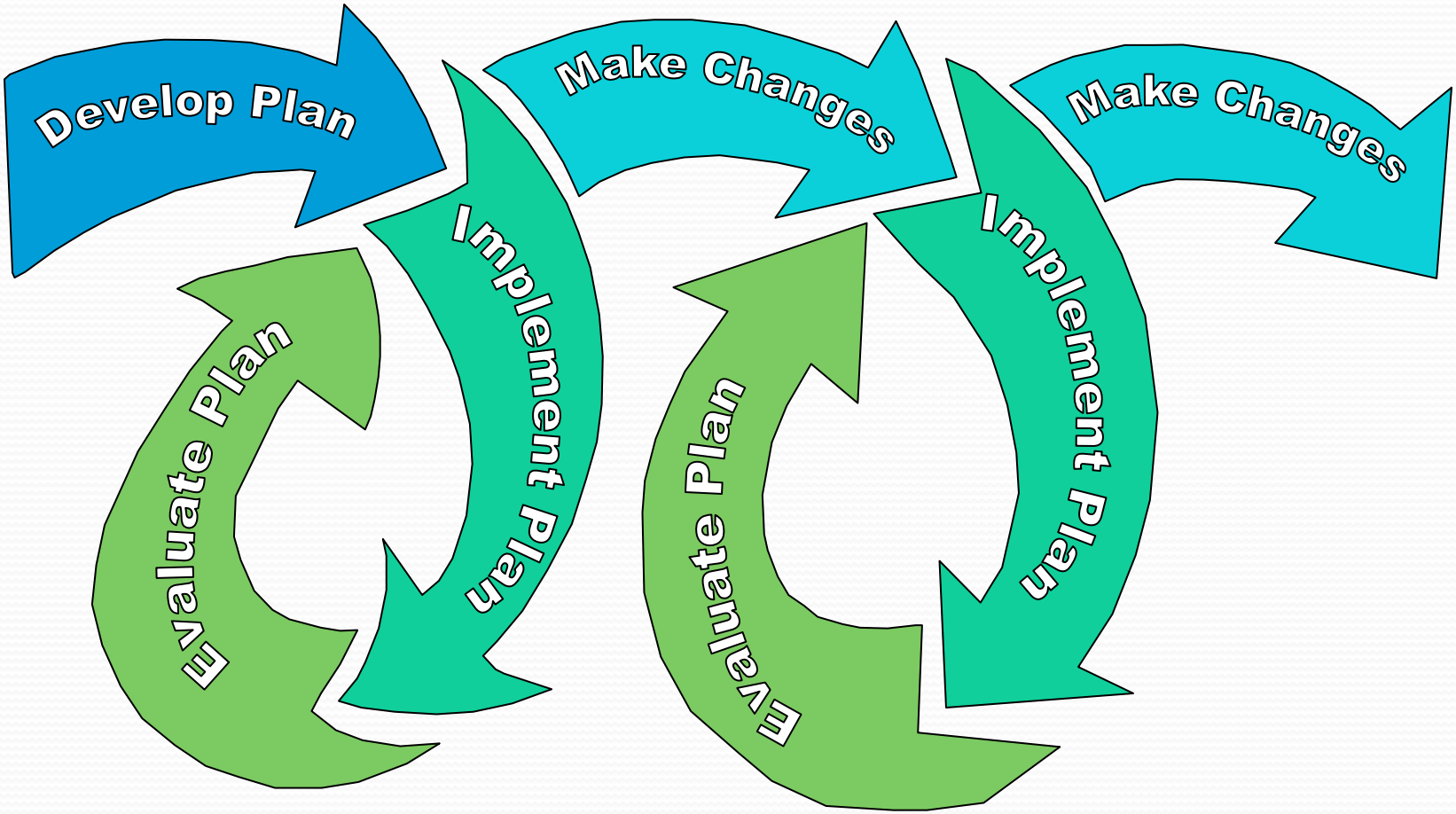
Measurable Milestones, Year 1

- Each entity will:
  - Operate their permitted systems in accordance and in compliance with their individual permits
  - Report *E. coli* levels in effluent as required by permit

What's Next?

- Year 1
- Adaptive Management

Adaptive Management



Telling Our Story

- Other events, activities, tasks
- Hyperlinks to project pages, maps, news stories
- PSAs
- Press releases
- Photos
- Graphs, charts

- Cleanups, Remediation
- Emergency Response
- Licensing
- Permits, Registrations
- Preventing Pollution
- Recycling
- Reporting
- Rules

Data
Forms
Maps
Public Notices
Publications
Records
Webcasts

- About Us
- Contact Us

How 's our Customer Service? Please fill out our Customer Satisfaction Survey

COPY Gilleland Creek: A TMDL Project for Bacteria

A project to improve water quality by reducing bacteria in Gilleland Creek. The TMDL is adopted and the I-Plan is approved.

Back to TMDL Projects

Watershed County: Travis
Parameter: Bacteria
River Basin: Colorado River
Segment: 1428C

Click map to see monitoring stations, permitted discharges, flood control project sites, and educational inititatives

Overview
Participate
Partners
Activities & Status
Media
Library
TMDLs & I-Plan
Contact Us

Overview

Water quality testing found that that bacteria concentrations are elevated in Gilleland Creek, located in northeastern Travis county. High bacteria concentrations might pose a risk to people who swim or wade in the creek. Swimming and wading are called "contact recreation" in the state's standards for water quality; the term refers to all recreation in which people are likely to swallow natural waters.

The goal of this project is to reduce bacteria concentrations to within acceptable risk levels for contact recreation.

The TCEQ is working with the Lower Colorado River Authority Exit... to coordinate project activities.

- Print a Project Overview

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Participate

The TCEQ worked with a stakeholder group coordinated by the Lower Colorado River Authority to develop the TMDL and I-Plan. Find out more about what it means to participate in TMDL projects.

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Partners

The organizations listed below are partners in improving the water quality in Gilleland Creek. All of the links in this section exit the TCEQ website Exit....

- Caldwell–Travis Soil and Water Conservation District #304
- Center for Research in Water Resources
- City of Austin
- City of Pflugerville
- City of Round Rock
- County of Travis
- Dessau Fountain Estates
- LCRA Colorado River Watch Network
- LCRA Creekside Conservation Program
- Natural Resources Conservation Service
- TCEQ Field Operations
- Texas AgriLife Extension Service
- Texas Parks and Wildlife Department
- Texas State Soil and Water Conservation Board
- Texas Wildlife Services Feral Hog Program
- U.S. Fish and Wildlife Service
- Windermere Utilities

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Activities and Status

Each year, stakeholders meet to evaluate compliance with the I-Plan and to assess progress toward water quality goals.

- Year One: Status Summary

Media

Several news stories, videos, maps, and photos highlight the progress made in the Gilleland Creek watershed or support public education elements of the I-Plan. All of the links in this section exit the TCEQ website Exit...

Videos

- Gilleland Creek
- Austin Scoop the Poop–English
- Austin Scoop the Poop–Spanish

News Stories

- Gilleland Creek Watershed Stakeholders Making Progress, 04/2012
- Regulating Travis County's Creeks, 01/2012
- Community Comes Together to Update Conservation Plan, 09/23/2011
- New Creeks Ordinance Could Affect Austin Growth, 07/2011

Maps

- Gilleland Creek Watershed, ArcGIS Explorer Online
- Gilleland Creek Watershed Poster, LCRA

Photos

- 2008 Gilleland Bacteria Survey, Texas Stream Team
- Site 367, Gilleland Creek at Edgemere, LCRA
- Site 364, Gilleland Creek at Grand Avenue Parkway, LCRA
- Site 363, Gilleland Creek at Picadilly Lane, LCRA
- Site 28, Gilleland Creek at Railroad Avenue, LCRA
- Site 369, Gilleland Creek at Swenson Farms, LCRA

Library

The stakeholders formed six work groups to develop management measures. Their reports and publications are provided below.

All of the links in this section other than the final reports exit the TCEQ website Exit...

- Education and Outreach Work Group
- Natural Resource Management Work Group
- On-Site Sewage Work Group
- Ordinance and Planning Work Group
- Stormwater Work Group
- Wastewater Work Group

Education and Outreach Work Group

- Final Report
- Clean Creek Campaign
- Green City Challenge
- Green Garden
- Grow Green

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Natural Resource Management Work Group

- Final Report
- Feral Hog Publications by AgriLife Extension
- Lone Star Healthy Streams Website
- Lone Star Healthy Streams Fact Sheet

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On-Site Sewage Work Group

- Final Report
- Environmental Protection Agency
  - Homeowner's Guide to Septic Systems-English
  - Homeowner's Guide to Septic Systems-Spanish
- Texas Agricultural Extension Service
  - Aerobic Treatment Unit
  - Alternative Collection Systems
  - Evapotranspiration Bed

TMDL and Implementation Plan

Implementation Plan

The commission approved the implementation plan on February 9, 2011.

- Implementation Plan for One TMDL for Bacteria in Gilleland Creek

TMDL

The commission adopted this TMDL on August 8, 2007.

- One TMDL for Bacteria in Gilleland Creek, Segment 1428C (Help with PDF.)
- Response to Public Comment on the Gilleland Creek TMDL

The EPA approved the TMDL on April 21, 2009, at which time it became part of the state's Water Quality Management Plan.

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Updates to TMDLs

From time to time, it is necessary to revise TMDLs to account for changing conditions in the watershed, such as new or amended permits, or urban growth, or to correct oversights in the original TMDL report. Revisions to the load allocations in TMDLs are made via the state's WQMP, which is updated quarterly.

The WQMP provides projected effluent limits for use in planning and permitting activities under the Texas Pollutant Discharge Elimination System (TPDES). The TCEQ reviews all applications for new and amended permits for conformance with applicable portions of the WQMP, including adopted TMDLs.

Revisions to the TMDLs are documented in the approved WQMP updates listed below.

- January 2008, pages 12-13
- April 2009, Appendix II, pages 16-17
- October 2009, Appendix I, page 13
- July 2011, Appendix II, page 13

Learn more about WQMP updates and about opportunities to comment on revisions to them.

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Contact Us

Please e-mail us at tmdl@tceq.texas.gov, and reference the Gilleland Creek bacteria project in the subject line. Or call us at 512-239-6682.

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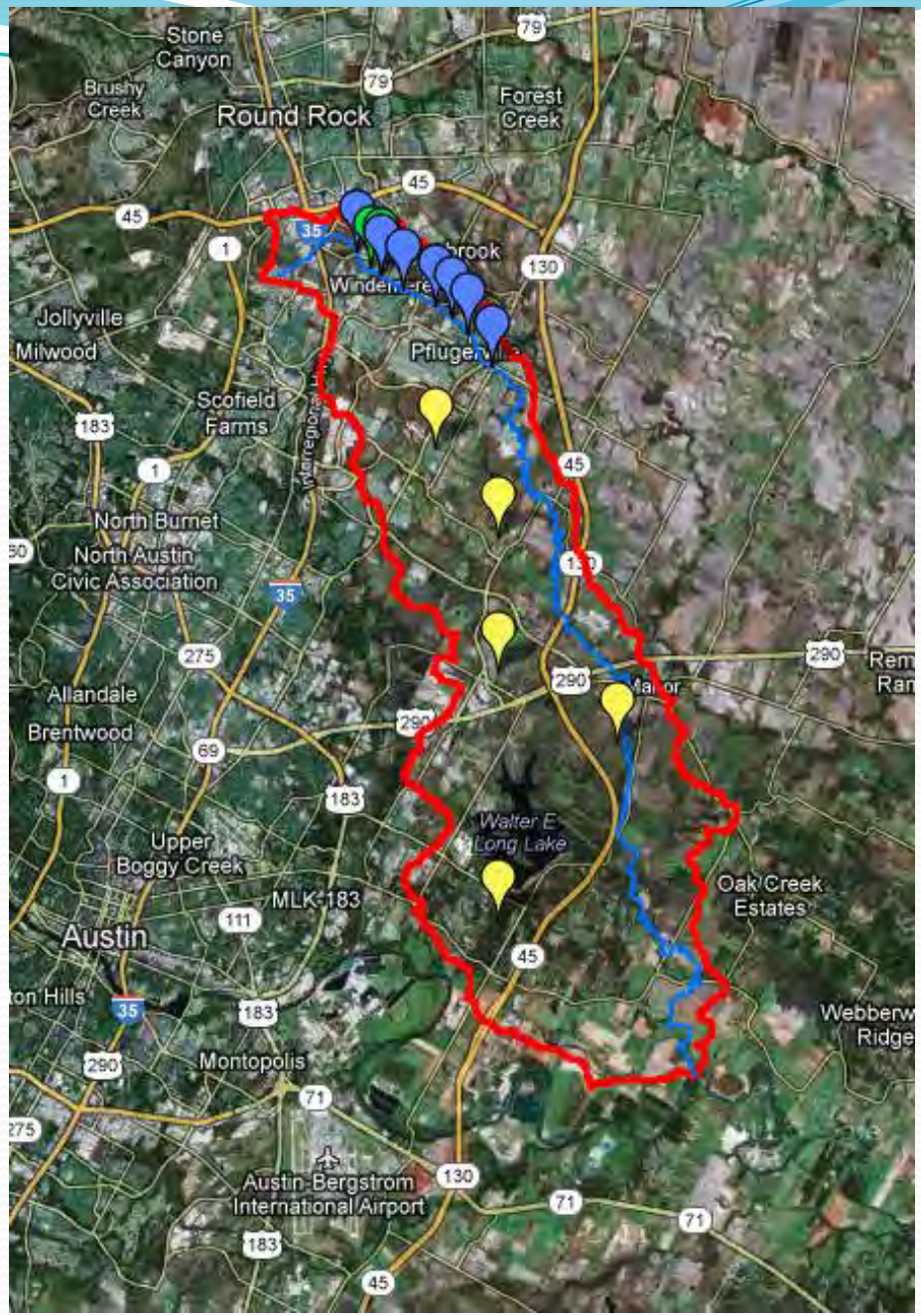
Google maps

Displaying content from www.tceq.texas.gov
The content displayed below and overlaid onto this map is provided by a third party, and Google is not responsible for it. Information you enter below may become available to the third party.

Contents

- Gilleland Creek
  - Gilleland-AUs
    - Features
  - Gilleland Creek Watershed
    - Features
      - Watershed Outline
  - Monitoring Stations
  - General Information
    - Gilleland - General Information
      - Pet Waste
        Pet Waste Travis County and City of Pflu
    - Gilleland - General Information
      - Water Quality Ordinances
        Water Quality Ordinances The Travis Coun
    - Gilleland - General Information
      - Wastewater
        Wastewater City of Austin, City of Pflug
    - Gilleland - General Information
      - Riparian Zones
        Riparian Zones Texas Wildlife Service
    - Gilleland - General Information
      - Septic Systems
        Septic Systems The authorized agents (Tr
  - Retrofitting Flood Control



LCRA CRWN Site 369

Gilleland Creek at Swenson Farms

LCRA's Colorado River Watch Network (CRWN) is the first and largest regional volunteer network of water quality monitors in Texas. Trained volunteers submit water quality data that is reviewed and analyzed by CRWN staff, creating an early warning system that alerts LCRA to potential water quality threats.

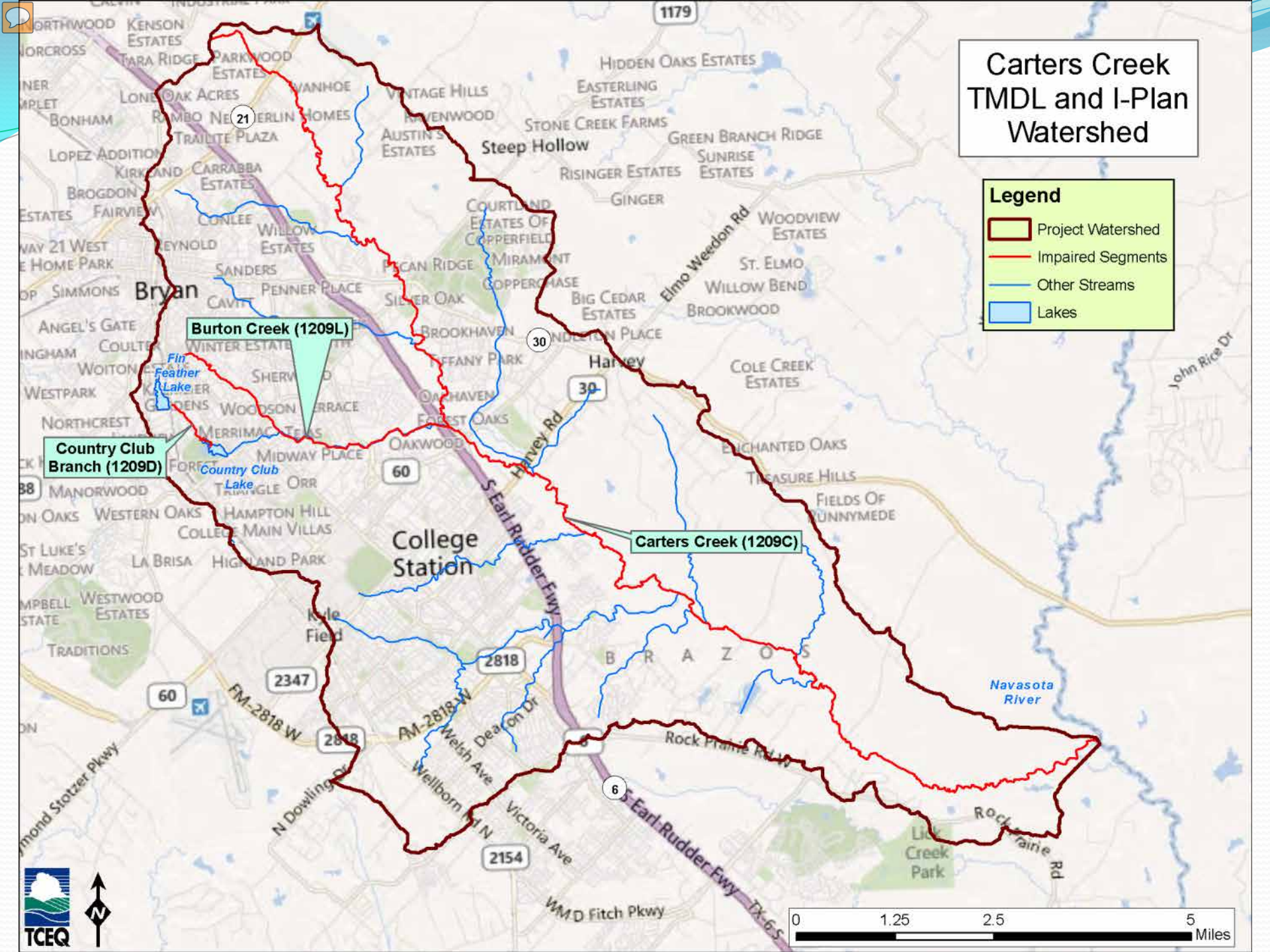
Project Web Page

Directions Search nearby Save to map more

Status Updates

- Submit calendar events for web page
- Send current news, press releases, pictures, etc. when available
- Annual request for information based on I-Plan Matrix (Appendix A)
- Looking toward an annual, public meeting

Responsible Parties	Implementation Measure	Implementation Milestones	Current Status
BCHD, COB, COCS	Begin identifying all OSSFs in watershed	•GIS info coordinated between entities •Develop approach for identifying undocumented OSSFs •# of OSSFs identified and added to database	
BCHD, AgriLife Extension	Evaluate mechanisms for better delivering E&O to OSSF owners	•Improved E&O mechanisms identified	
BCHD, COCB, COCS	Continue monitoring OSSF inspections as required by county ordinance	•Document inspection follow ups •# inspections finding improperly operating OSSFs	
BCHD, AgriLife Extension	Deliver OSSF E&O as needed through identified mechanisms	•# E&O materials delivered •# OSSF owners contacted thru E&O efforts	


Carters Creek TMDL and I-Plan Watershed
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Project Watershed
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Harvey
Fin Feather Lake
Country Club Lake
Navasota River
S Earl Rudder Fwy
Harvey Rd
Elmo Weedon Rd
FM-2818 W
AM-2818 W
Rock Prairie Rd W
Rock Prairie Rd
Victoria Ave
Welsh Ave
Dearborn Dr
N Dowling St
Wellborn Rd N
WMD Fitch Pkwy
Lick Creek Park
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Miles
TCEQ
N

Questions

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