Gilleland Creek TMDL Implementation Plan Year 1

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TCEQ TMDL Program
Wednesday, March 28, 2012

A TMDL is…

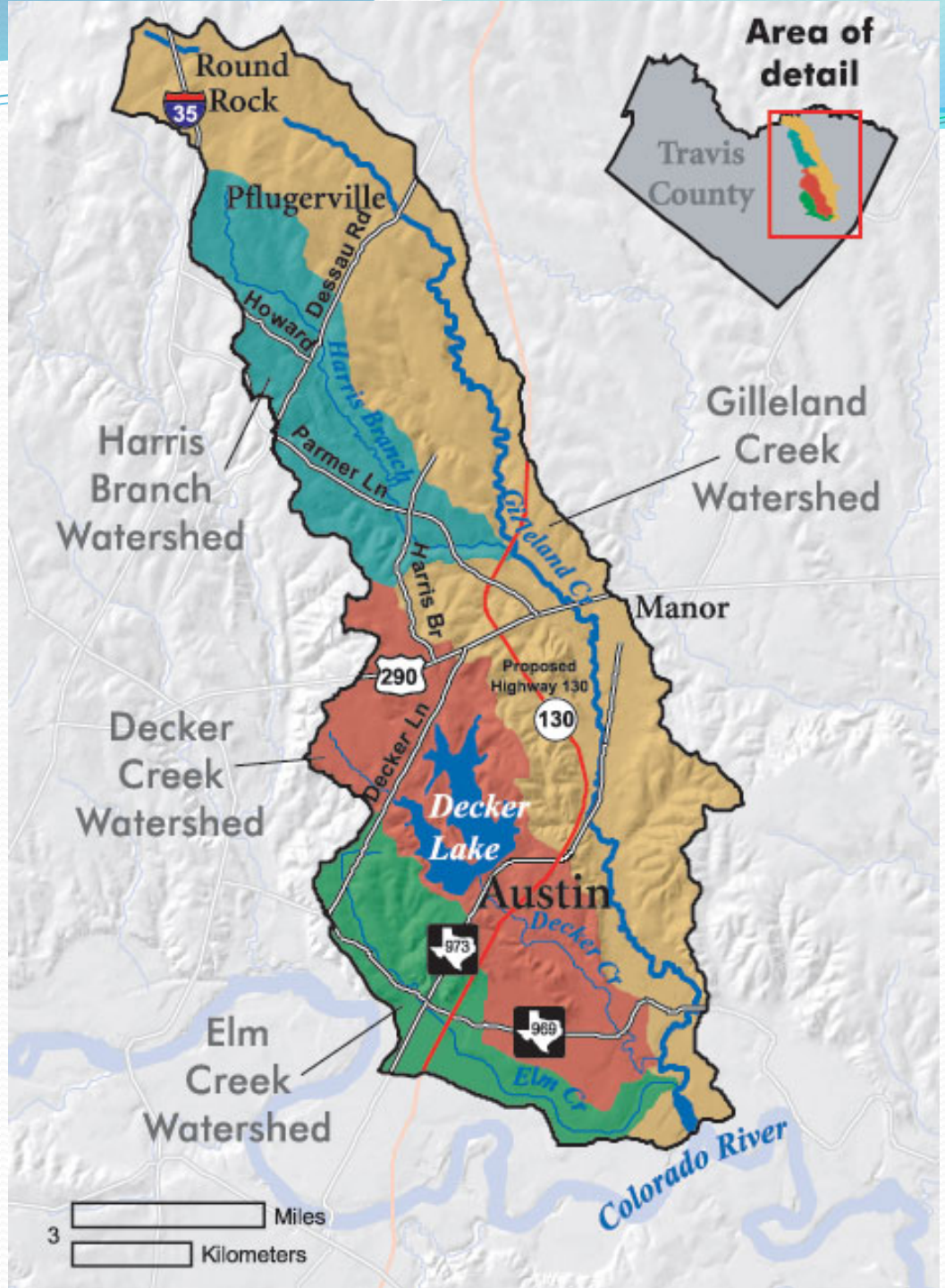
- Total Maximum Daily Load- The amount of pollution (load allocation) a water body can receive and still meet the water quality standards for its uses
- The Report adopted by TCEQ on 8/8/2007 and approved by EPA on 4/21/09. It includes identification of pollutant sources, and allocation of loads to point 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 Gilleland Creek?

- Gilleland Creek was listed on the 2004 303(d) list because elevated *E.coli* densities 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


Area of detail
Travis County
Round Rock
35
Pflugerville
Dessau Rd
Howard
Harris Branch
Parmer Ln
Harris Branch Watershed
Gilleland Creek Watershed
Gilleland Cr
Harris Br
Manor
290
Proposed Highway 130
130
Decker Creek Watershed
Decker Ln
Decker Lake
Austin
973
Decker Cr
969
Elm Creek Watershed
Elm Cr
Colorado River
3
Miles
Kilometers

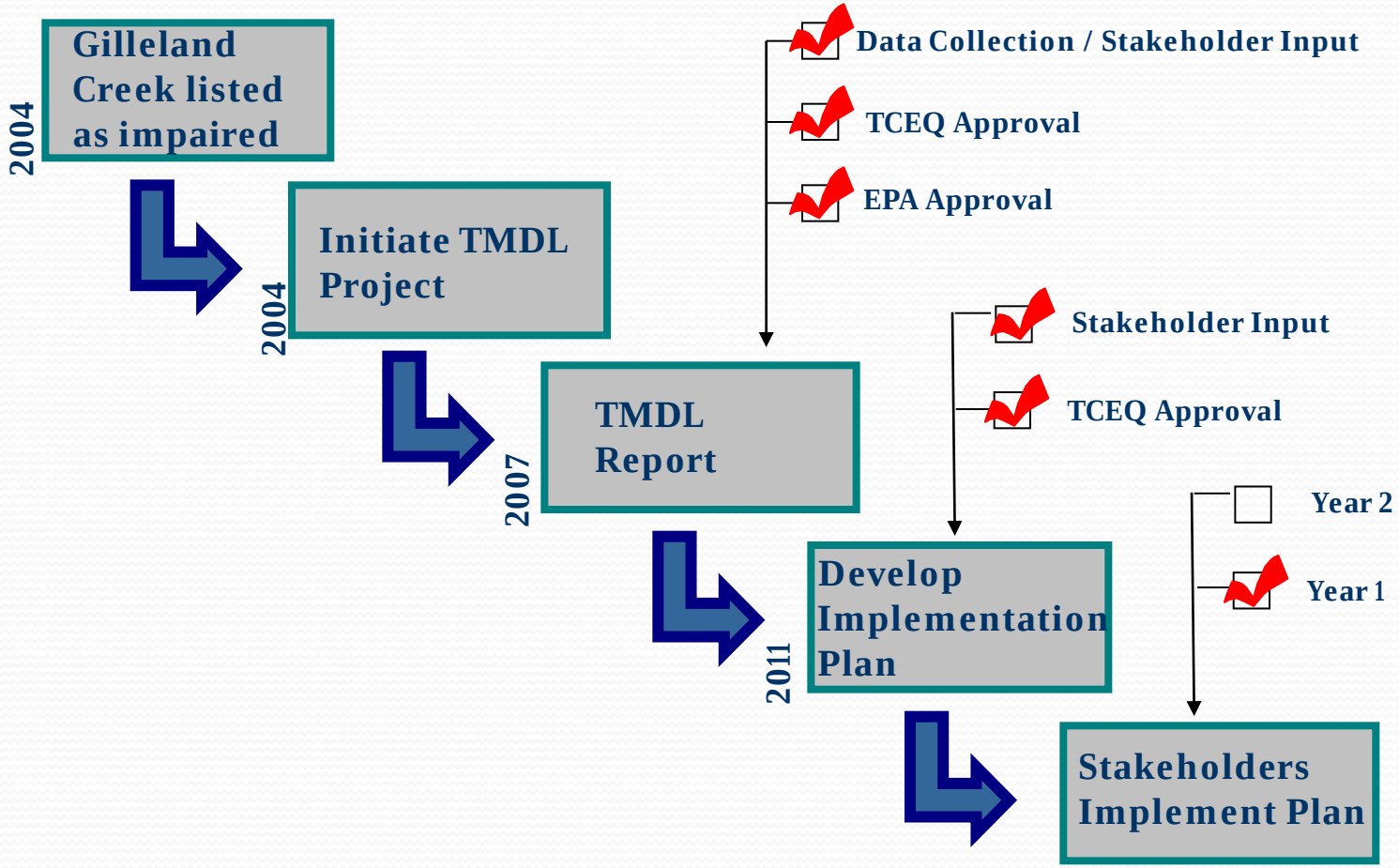
Why do an Implementation Plan?

- TMDL requirement
- Developed by stakeholders
- Approved by TCEQ 2/9/2011

Gilleland Creek Partners

- City of Pflugerville
- Lower Colorado River Authority
- City of Austin
- Travis County
- Austin Water Utility
- Windermere Utilities
- Dessau Fountain Estates
- City of Round Rock
- Center for Research in Water Resources
- Natural Resources Conservation Service
- Texas AgriLife Extension Service
- Texas State Soil and Water Conservation Board
- US Fish and Wildlife Service
- Texas Parks and Wildlife Department
- Texas Stream Team
- Volunteers in the watershed

The TMDL Process



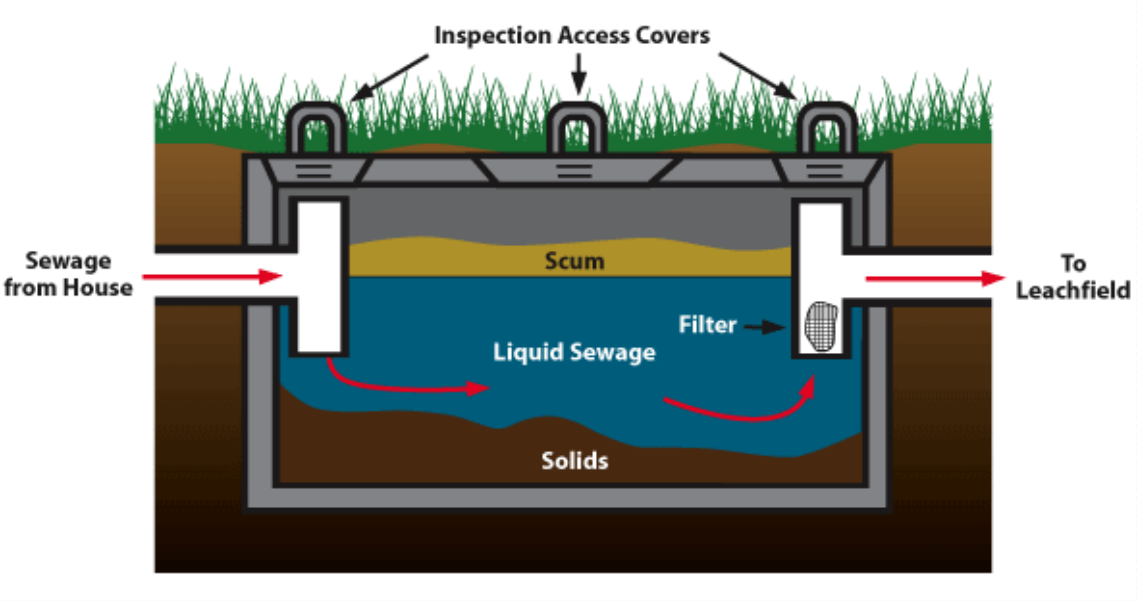
Gilleland Creek Headwaters

OSSFs
Wastewater
Natural Resource Management
Gilleland Creek I-Plan
Ordinance & Planning
Storm Water
Education & Outreach

On-Site Sewage Facilities

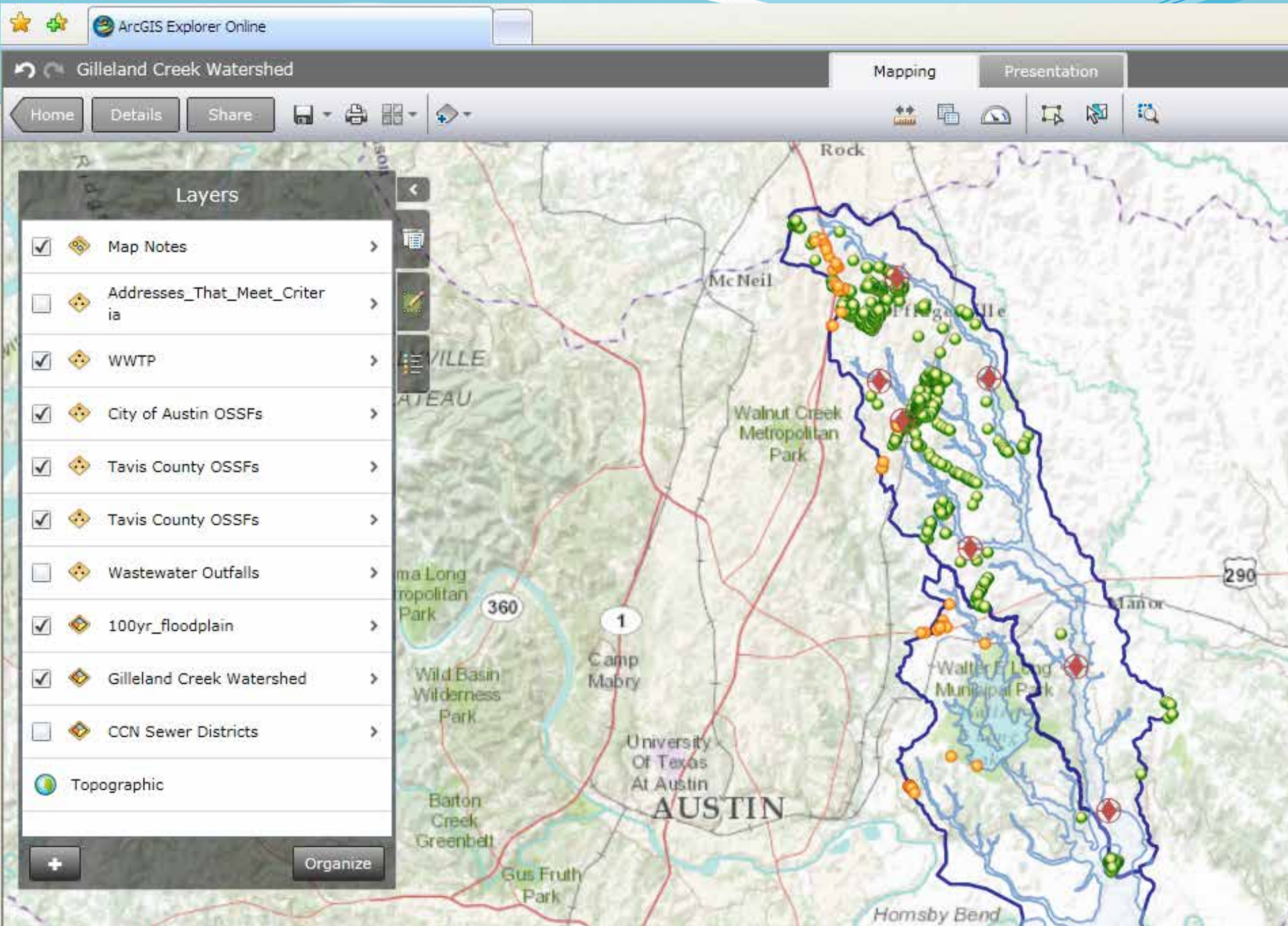
- Identify, prioritize, inspect and bring into compliance malfunctioning on-site sewage facilities

- Partners involved:
  - City of Austin
  - Travis County
  - TCEQ



OSSF Implementation Measures

- Available data mapped and evaluated to identify OSSFs
- Inspect up to 10% of highest priority OSSFs
- Conduct one workshop for OSSF owners
- Provide educational materials to OSSF owners


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
Manor
290
360
1
Homsby Bend

OSSF Workshop

February 28, 2012

Hosted by TCEQ

Presentation by James Maynard, LCRA

Natural Resource Management

- Programs to work with landowners to protect riparian areas

- Partners involved:
  - Governmental and Non-Governmental Programs
  - Local landowners

Implementation Measures

- LCRA Creekside Conservation Program
  - Funding restored for Year 2
- USFWS-Partners for Fish and Wildlife
  - No landowners contacted USFWS for conservation planning assistance
- TSSWCB/SWCD WQMPs developed
  - No landowners contacted TSSWCB for technical assistance with WQMPs
- TPWD site visits
  - Position lost during layoffs in 2011
- TWS feral hog control
  - Worked 4,015 acres and removed 29 feral hogs
- City of Pflugerville
- Texas AgriLife Extension Service
  - Crops and Livestock Clinic
  - Professional Grounds Conference
  - Lone Star Healthy Streams Program

Retrofitting Storm Water Detention Basins

- Determine the effectiveness of retrofitting existing flood control facilities (storm water detention basins) to also perform as water quality facilities

- Partners:
  - Center for Research in Water Resources at the University of Texas
  - City of Pflugerville

Implementation Measures

- Apply for funding
- Secure two detention facilities and appropriate permits
- Detention ponds cleaned and prepared for project.
- Design, retrofit and converts structures from detention facilities to water quality facilities

Current Status

- Project funded
- Verbal permission granted
- Cleaning underway
- Waiting to determine if the basins are successfully restored to proper functioning prior to committing money for the design.

Storm Water Detention Facilities

Source: Dr. Michael Barrett, CRWR

Education and Outreach

- Coordinate with partners to develop a general campaign to raise public awareness of nonpoint-source contributions of bacteria pollution, specifically pet waste

- Partners
  - City of Austin
  - City of Pflugerville
  - City of Round Rock
  - Travis County

Volunteer Monitoring

- LCRA CRWN volunteers
- 6 sites along Gilleland Creek
- 63 monitoring events
- 63 volunteer hours
- $1,323 approximate value

Volunteer Monitoring

Source: LCRA

Pet Waste Implementation Measures

- Survey park users pet waste habits
- Review survey results and construct strategy
- Install additional mutt mitt and waste containers
- Waste receptacles and signage at pilot parks

Water Quality Ordinances

- Develop and adopt equivalent water quality ordinances between government jurisdictions

- Partners:

  City of Austin
  City of Pflugerville
  Round Rock
  Travis County

Wastewater Collection Systems

- Annual visual inspection of collection systems within 100 feet from the centerline of the Gilleland Creek and its tributaries.
- Partners
  - City of Austin inspected 6.64 miles
  - Dessau Fountain Estates
  - City of Pflugerville identified attribute data
  - Windermere Utility inspected 1.42 miles
- Zero failures identified

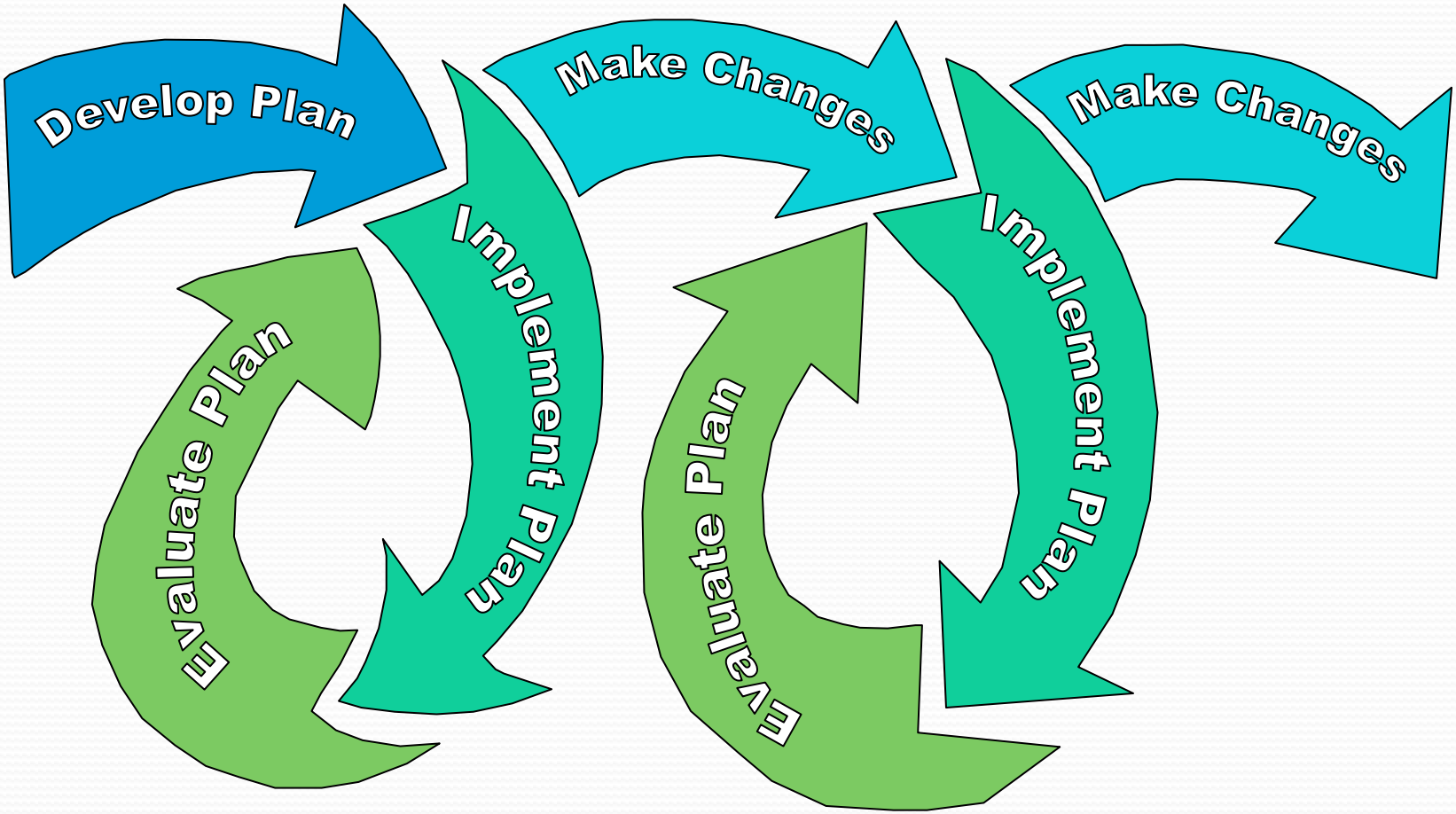
Wastewater Monitoring

- Monitor and report *E. coli* concentrations from wastewater treatment facilities
- Partners
  - City of Austin: all DMRs submitted, operational changes made
  - Dessau Fountain Estates: no response
  - City of Pflugerville: all DMRs submitted, no operational changes made
  - Windermere Utility: all DMRs submitted, no operational changes made
  - TCEQ: 3 ecoli violations from Year 1 from 7 wastewater treatment facilities

What's Next?

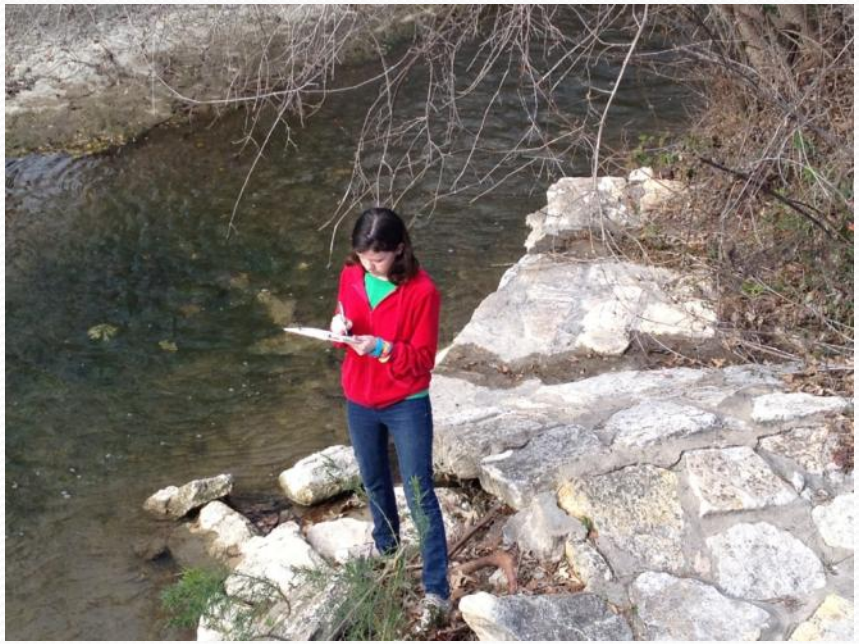
- Year 2
- Adaptive Management

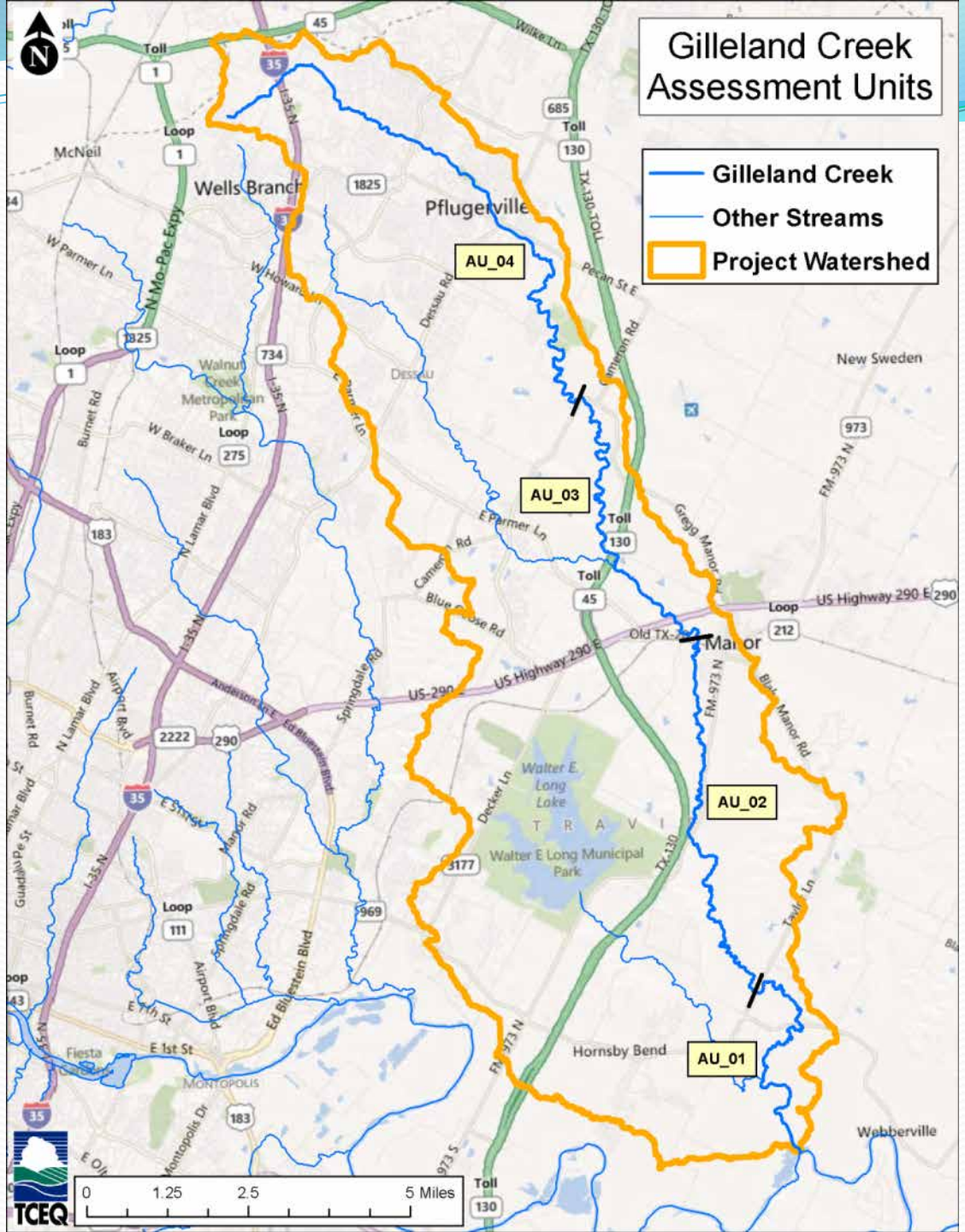
Adaptive Management



Telling Our Story

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




Gilleland Creek Assessment Units
Gilleland Creek
Other Streams
Project Watershed
AU_04
AU_03
AU_02
AU_01
Wells Branch
Pflugerville
New Sweden
Manor
Hornsby Bend
Webberville
Walter E. Long Lake
Walter E Long Municipal Park
Walnut Creek Metropolitan Park
MONTOPOLIS
Fiesta
TRAVIS
0 1.25 2.5 5 Miles
TCEQ

Texas Integrated Reports

	2004	2006	2008	2010
1428C_01	240	170.0	166.35	129.37
1428C_02	NA	NA	147.32	109.43
1428C_03	NA	NA	175.55	175.55
1428C_04	NA	NA	135.20	144.72

Standard:
Geomean
126 cfu/100ml

Questions

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